

EDWARD F. POOLOS
DIRECTOR

JEFFERY W. KITCHENS
DEPUTY DIRECTOR



KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

MAY 22 2026

MR. JOHNNY SJOSTROM, PRESIDENT AND CEO
SSAB SPECIAL STEELS
11 N WATER ST.
SUITE 17000
MOBILE, AL 36602

**RE: DRAFT PERMIT
NPDES PERMIT NUMBER AL0072109**

Dear Mr. Sjostrom:

Transmitted herein is a draft of the referenced permit.

We would appreciate your comments on the permit within **30 days** of the date of this letter. Please direct any comments of a technical or administrative nature to the undersigned.

By copy of this letter and the draft permit, we are also requesting comments within the same time frame from EPA.

Our records indicate that you have utilized the Department's web-based electronic environmental (E2) reporting system for submittal of discharge monitoring reports (DMRs). The Department transitioned from the E2 Reporting System to the Alabama Environmental Permitting and Compliance System (AEPACS) for the submittal of DMRs on November 15, 2021. AEPACS is an electronic system that allows facilities to apply for and maintain permits as well as submit other required applications, registrations, and certifications. In addition, the system allows facilities to submit required compliance reports or other information to the Department. The Department has used the E2 User account information to set up a similar User Profile in AEPACS based on the following criteria:

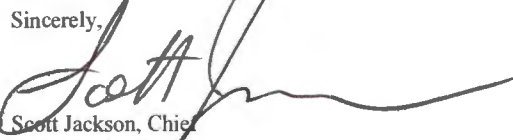
1. The user has logged in to E2 since October 1, 2019; and
2. The E2 user account is set up using a unique email address.

E2 users that met the above criteria will only need to establish an ADEM Web Portal account (<https://prd.adem.alabama.gov/awp>) under the same email address as their E2 account to have the same permissions in AEPACS as they did in E2. They will also automatically be linked to the same facilities they were in E2.

The Alabama Department of Environmental Management encourages you to voluntarily consider pollution prevention practices and alternatives at your facility. Pollution Prevention may assist you in complying with effluent limitations, and possibly reduce or eliminate monitoring requirements.

If you have questions regarding this permit or monitoring requirements, please contact Rachel Lounsberry by e-mail at restanaland@adem.alabama.gov or by phone at (334) 394-4366.

Sincerely,


Scott Jackson, Chief
Industrial Section
Industrial/Municipal Branch
Water Division

Enclosure: Draft Permit

pc via website: Montgomery Field Office
EPA Region IV
U.S. Fish & Wildlife Service
AL Historical Commission
Advisory Council on Historic Preservation
Department of Conservation and Natural Resources



Birmingham Office
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Office
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Coastal Office
1615 South Broad Street
Mobile, AL 36605
(251) 450-3400
(251) 479-2593 (FAX)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: SSAB ALABAMA INC.

FACILITY LOCATION: SSAB ALABAMA INC.
12400 HWY 43
AXIS, ALABAMA 36505
MOBILE COUNTY

PERMIT NUMBER: AL0072109

RECEIVING WATERS: 001 - MOBILE RIVER
002 - CARTER BRANCH
003 - CARTER BRANCH
004 - CARTER BRANCH

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-17, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.

ISSUANCE DATE:

EFFECTIVE DATE:

EXPIRATION DATE:

DRAFT

Alabama Department of Environmental Management
Water Division Chief

Table of Contents

PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS	1
A. Discharge Limitations and Monitoring Requirements	1
B. Discharge Monitoring and Record Keeping Requirements	6
1. Representative Sampling	6
2. Test Procedures	6
3. Recording of Results	6
4. Records Retention and Production	6
5. Monitoring Equipment and Instrumentation	7
C. Discharge Reporting Requirements	7
1. Reporting of Monitoring Requirements	7
2. Noncompliance Notification	9
D. Other Reporting and Notification Requirements	10
1. Anticipated Noncompliance	10
2. Termination of Discharge	10
3. Updating Information	10
4. Duty to Provide Information	10
5. Cooling Water and Boiler Water Additives	10
6. Permit Issued Based on Estimated Characteristics	11
E. Schedule of Compliance	11
PART II: OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES	12
A. Operational and Management Requirements	12
1. Facilities Operation and Maintenance	12
2. Best Management Practices	12
3. Spill Prevention, Control, and Management	12
B. Other Responsibilities	12
1. Duty to Mitigate Adverse Impacts	12
2. Right of Entry and Inspection	12
C. Bypass and Upset	12
1. Bypass	12
2. Upset	13
D. Duty to Comply with Permit, Rules, and Statutes	13
1. Duty to Comply	13
2. Removed Substances	14
3. Loss or Failure of Treatment Facilities	14
4. Compliance with Statutes and Rules	14
E. Permit Transfer, Modification, Suspension, Revocation, and Reissuance	14
1. Duty to Reapply or Notify of Intent to Cease Discharge	14
2. Change in Discharge	14
3. Transfer of Permit	15
4. Permit Modification and Revocation	15
5. Permit Termination	16
6. Permit Suspension	16
7. Request for Permit Action Does Not Stay Any Permit Requirement	16
F. Compliance with Toxic Pollutant Standard or Prohibition	16
G. Discharge of Wastewater Generated by Others	16
PART III: OTHER PERMIT CONDITIONS	17
A. Civil and Criminal Liability	17
1. Tampering	17
2. False Statements	17
3. Permit Enforcement	17
4. Relief from Liability	17
B. Oil and Hazardous Substance Liability	17
C. Property and Other Rights	17

Table of Contents (continued)

D. Availability of Reports	18
E. Expiration of Permits for New or Increased Discharges	18
F. Compliance with Water Quality Standards	18
G. Groundwater	18
H. Definitions	18
I. Severability	21
PART IV: ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS.....	22
A. Best Management Practices (BMP) Plan Requirements.....	22
B. Stormwater Flow Measurement and Sampling Requirements	23
C. Effluent Toxicity Limitations and Biomonitoring Requirements	24
D. Cooling Water Intake Structure (CWIS) Requirements	26

PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS**A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS**

DSN0011: Discharge from DSN01A, non-contact cooling water and rolling mill non-contact cooling water system blowdown, and storm water runoff associated with the production of steel 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	95 Maximum Daily	deg F	Daily	Grab	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Weekly	Grab	All Months
Nitrogen, Total (As N) (00600) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Ammonia Nitrogen, Total, (As N) 30Day (00609) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	All Months
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Nitrite Plus Nitrate Total 1 Det. (As N) (00630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct
Chloride (As Cl) (00940) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Weekly	Totalizer	All Months
Solids, Total Dissolved (TDS) (70296) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN001T: Discharge from DSN01A, non-contact cooling water and rolling mill non-contact cooling water system blowdown, and storm water runoff associated with the production of steel
3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
Toxicity, Ceriodaphnia Acute (61425) Effluent Gross Value	*****	0 Single Sample	pass=0; fail=1	*****	*****	*****	*****	Annually	Composite	All Months
Toxicity, Pimephales Acute (61427) Effluent Gross Value	*****	0 Single Sample	pass=0; fail=1	*****	*****	*****	*****	Annually	Composite	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ See Part IV.C for Effluent Toxicity Limitation and Biomonitoring Requirements

DSN002S: Groundwater from well commissioning and storm water runoff from scrap yard, slag storage & processing area, the scrap bucket loading area (lime & carbon), and railroad marshalling yard 3/ 4/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Monthly	mg/l	Semi-Annually	Grab	All Months
Chromium, Total (As Cr) (01034) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Lead, Total (As Pb) (01051) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Zinc, Total (As Zn) (01092) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Estimate	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.
- 4/ See Part IV.B for Stormwater Measurement and Sampling Requirements.

DSN003S: Groundwater from well commissioning and storm water runoff from the bulk of the steel manufacturing operations and the outside storage yards for steel plate, slab & coil 3/ 4/ 5/

DSN004S: Groundwater from well commissioning and storm water runoff from the melt shop operations area and the alloy storage area 3/ 4/ 5/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Monthly	mg/l	Semi-Annually	Grab	All Months
Chromium, Total (As Cr) (01034) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Lead, Total (As Pb) (01051) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Zinc, Total (As Zn) (01092) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Estimate	All Months

**THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE
OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.**

- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.
- 3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.
- 4/ See Part IV.B for Stormwater Measurement and Sampling Requirements.
- 5/ DSN003S shall be the representative sampling point for DSN004S. Monitoring is not required at DSN004S.

DSN01A1: Contact cooling water associated with the manufacture of steel

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency ²	Sample Type ¹	Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Weekly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	117.90 Monthly Average	320.62 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Oil & Grease (00556) Effluent Gross Value	44.79 Monthly Average	75.40 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Grab	All Months
Lead, Total (As Pb) (01051) Effluent Gross Value	0.27 Monthly Average	0.82 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Zinc, Total (As Zn) (01092) Effluent Gross Value	0.41 Monthly Average	1.23 Maximum Daily	lbs/day	*****	*****	*****	*****	Weekly	Composite	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Weekly	Totalizer	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

- 1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.
- 2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this permit.

2. Test Procedures

For the purpose of reporting and compliance, permittees shall use one of the following procedures:

- a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h). If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance; however, should EPA approve a method with a lower minimum level during the term of this permit the permittee shall use the newly approved method.
- b. For pollutants parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

- c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures A and B above shall be reported on the permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The facility name and location, point source number, date, time and exact place of sampling;
- b. The name(s) of person(s) who obtained the samples or measurements;
- c. The dates and times the analyses were performed;
- d. The name(s) of the person(s) who performed the analyses;
- e. The analytical techniques or methods used, including source of method and method number; and
- f. The results of all required analyses.

4. Records Retention and Production

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the above reports or the application for this permit, for a period of at least three years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director or his designee, the

permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records shall not be submitted unless requested.

All records required to be kept for a period of three years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

5. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

C. DISCHARGE REPORTING REQUIREMENTS

1. Reporting of Monitoring Requirements

- a. The permittee shall conduct the required monitoring in accordance with the following schedule:

MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this permit and every month thereafter.

QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this permit, but it should be submitted with the last DMR due for the quarter, i.e., (March, June, September and December DMR's).

SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The permittee shall conduct the semiannual monitoring during the first complete calendar semiannual period following the effective date of this permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this permit, but it should be submitted with the last DMR for the month of the semiannual period, i.e. (June and December DMR's).

ANNUAL MONITORING shall be conducted at least once during the period of January through December. The permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this permit, but it should be submitted with the December DMR.

- b. The permittee shall submit discharge monitoring reports (DMRs) on the forms provided by the Department and in accordance with the following schedule:

REPORTS OF MORE FREQUENTLY THAN MONTHLY AND MONTHLY TESTING shall be submitted on a **monthly** basis. The first report is due on the **28th day of (MONTH, YEAR)**. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF QUARTERLY TESTING shall be submitted on a **quarterly** basis. The first report is due on the **28th day of [Month, Year]**. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF SEMIANNUAL TESTING shall be submitted on a semiannual basis. The reports are due on the 28th day of JANUARY and the 28th day of JULY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF ANNUAL TESTING shall be submitted on an annual basis. The first report is due on the 28th day of JANUARY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

- c. Except as allowed by Provision I.C.1.c.(1) or (2), the permittee shall submit all Discharge Monitoring Reports (DMRs) required by Provision I.C.1.b electronically.

- (1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's electronic system (this could include entry/submittal issues with an entire set of DMRs or individual parameters), the permittee is not relieved of their obligation to submit DMR data to the Department by the date specified in Provision I.C.1.b, unless otherwise directed by the Department.

If the Department's electronic system is down on the 28th day of the month in which the DMR is due or is down for an extended period of time, as determined by the Department, when a DMR is required to be submitted, the permittee may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within 5 calendar days of the Department's electronic system resuming operation, the permittee shall enter the data into the Department's electronic system, unless an alternate timeframe is approved by the Department. A comment should be included on the electronic DMR submittal verifying the original submittal date (date of the fax, copy of the dated e-mail, or hand-delivery stamped date), if applicable.

- (2) The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable.

Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The permittee shall submit the Department-approved DMR forms to the address listed in Provision I.C.1.e.

- (3) If a permittee is allowed to submit a hard copy DMR, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this permit.
 - (4) If the permittee, using approved analytical methods as specified in Provision I.B.2. monitors any discharge from a point source for a limited substance identified in Provision I.A. of this permit more frequently than required by this permit, the results of such monitoring shall be included in the calculation and reporting of values on the DMR and the increased frequency shall be indicated on the DMR.
 - (5) In the event no discharge from a point source identified in Provision I.A. of this permit and described more fully in the permittee's application occurs during a monitoring period, the permittee shall report "No Discharge" for such period on the appropriate DMR.
- d. All reports and forms required to be submitted by this permit, the AWPCA and the Department's Rules, shall be electronically signed (or, if allowed by the Department, traditionally signed) by a "responsible official" of the permittee as defined in ADEM Administrative Code Rule 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Administrative Code Rule 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- e. Discharge Monitoring Reports required by this permit, the AWPCA, and the Department's Rules that are being submitted in hard copy shall be addressed to:

**Alabama Department of Environmental Management
Water Division
Office of Water Services
Post Office Box 301463
Montgomery, Alabama 36130-1463**

Certified and Registered Mail containing Discharge Monitoring Reports shall be addressed to:

**Alabama Department of Environmental Management
Water Division
Office of Water Services
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400**

- f. All other correspondence and reports required to be submitted by this permit, the AWPCA, and the Department's Rules shall be addressed to:

**Alabama Department of Environmental Management
Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463**

Certified and Registered Mail shall be addressed to:

**Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400**

- g. If this permit is a re-issuance, then the permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.C.1.b above.

2. Noncompliance Notification

a. 24-Hour Noncompliance Reporting

The permittee shall report to the Director, within 24-hours of becoming aware of the noncompliance, any noncompliance which may endanger health or the environment. This shall include but is not limited to the following circumstances:

- (1) does not comply with any daily minimum or maximum discharge limitation for an effluent characteristic specified in Provision I. A. of this permit which is denoted by an "(X)";
- (2) threatens human health or welfare, fish or aquatic life, or water quality standards;
- (3) does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a);
- (4) contains a quantity of a hazardous substance which has been determined may be harmful to public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. Section 1321(b)(4);
- (5) exceeds any discharge limitation for an effluent characteristic as a result of an unanticipated bypass or upset; and
- (6) is an unpermitted direct or indirect discharge of a pollutant to a water of the state (unpermitted discharges properly reported to the Department under any other requirement are not required to be reported under this provision).

The permittee shall orally report the occurrence and circumstances of such discharge to the Director within 24-hours after the permittee becomes aware of the occurrence of such discharge. In addition to the oral report, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c no later than five (5) days after becoming aware of the occurrence of such discharge.

- b. If for any reason, the permittee's discharge does not comply with any limitation of this permit, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c below, such report shall be submitted with the next Discharge Monitoring Report required to be submitted by Part I.C.1 of this permit after becoming aware of the occurrence of such noncompliance.
- c. Any written report required to be submitted to the Director or Designee by Part I.C.2 a. or b. shall be submitted using a Noncompliance Notification Form (ADEM Form 421) available on the Department's website (<http://adem.alabama.gov/DeptForms/Form421.pdf>) and include the following information:

- (1) A description of the discharge and cause of noncompliance;

- (2) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
- (3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

The permittee shall notify the Director, in writing, when all discharges from any point source(s) identified in Provision I. A. of this permit have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for modification or termination of the permit.

3. Updating Information

- a. The permittee shall inform the Director of any change in the permittee's mailing address, telephone number or in the permittee's designation of a facility contact or office having the authority and responsibility to prevent and abate violations of the AWPCA, the Department's Rules, and the terms and conditions of this permit, in writing, no later than ten (10) days after such change. Upon request of the Director or his designee, the permittee shall furnish the Director with an update of any information provided in the permit application.
- b. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for modifying, revoking and re-issuing, suspending, or terminating this permit, in whole or in part, or to determine compliance with this permit.

5. Cooling Water and Boiler Water Additives

- a. The permittee shall notify the Director in writing not later than thirty (30) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in a cooling or boiler system, not identified in the application for this permit, from which discharge is allowed by this permit. Notification is not required for additives that do not contain a heavy metal(s) as an active ingredient and that pass through a wastewater treatment system prior to discharge nor is notification required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the permittee. Such notification shall include:
 - (1) name and general composition of biocide or chemical;
 - (2) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach;
 - (3) quantities to be used;
 - (4) frequencies of use;
 - (5) proposed discharge concentrations; and
 - (6) EPA registration number, if applicable.
- b. The use of a biocide or additive containing tributyl tin, tributyl tin oxide, zinc, chromium or related compounds in cooling or boiler system(s), from which a discharge regulated by this permit occurs, is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this permit or in the

application for this permit or not exempted from notification under this permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

6. Permit Issued Based on Estimated Characteristics

- a. If this permit was issued based on estimates of the characteristics of a process discharge reported on an EPA NPDES Application Form 2D (EPA Form 3510-2D), the permittee shall complete and submit an EPA NPDES Application Form 2C (EPA Form 3510-2C) no later than two years after the date that discharge begins. Sampling required for completion of the Form 2C shall occur when a discharge(s) from the process(s) causing the new or increased discharge is occurring. If this permit was issued based on estimates concerning the composition of a stormwater discharge(s), the permittee shall perform the sampling required by EPA NPDES Application Form 2F (EPA Form 3510-2F) no later than one year after the industrial activity generating the stormwater discharge has been fully initiated.
- b. This permit shall be reopened if required to address any new information resulting from the completion and submittal of the Form 2C and or 2F.

E. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II: OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit.

2. Best Management Practices

- a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director or his designee has granted prior written authorization for dilution to meet water quality requirements.
- b. The permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Section 112 if required thereby.
- c. The permittee shall prepare, submit for approval and implement a Best Management Practices (BMP) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a significant potential for discharge, if so required by the Director or his designee. When submitted and approved, the BMP Plan shall become a part of this permit and all requirements of the BMP Plan shall become requirements of this permit.

3. Spill Prevention, Control, and Management

The permittee shall provide spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a water of the state or a publicly or privately owned treatment works. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and which shall prevent the contamination of groundwater and such containment system shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided.

B. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

The permittee shall promptly take all reasonable steps to mitigate and minimize or prevent any adverse impact on human health or the environment resulting from noncompliance with any discharge limitation specified in Provision I. A. of this permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as necessary to determine the nature and impact of the noncomplying discharge.

2. Right of Entry and Inspection

The permittee shall allow the Director, or an authorized representative, upon the presentation of proper credentials and other documents as may be required by law to:

- a. enter upon the permittee's premises where a regulated facility or activity or point source is located or conducted, or where records must be kept under the conditions of the permit;
- b. have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- c. inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and
- d. sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

C. BYPASS AND UPSET

1. Bypass

- a. Any bypass is prohibited except as provided in b. and c. below:
- b. A bypass is not prohibited if:

- (1) It does not cause any discharge limitation specified in Provision I. A. of this permit to be exceeded;
 - (2) It enters the same receiving stream as the permitted outfall; and
 - (3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system.
- c. A bypass is not prohibited and need not meet the discharge limitations specified in Provision I. A. of this permit if:
- (1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and
 - (3) The permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the permittee is granted such authorization, and the permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass.
- d. The permittee has the burden of establishing that each of the conditions of Provision II.C.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in a. and an exemption, where applicable, from the discharge limitations specified in Provision I. A. of this permit.

2. Upset

- a. A discharge which results from an upset need not meet the discharge limitations specified in Provision I. A. of this permit if:
- (1) No later than 24-hours after becoming aware of the occurrence of the upset, the permittee orally reports the occurrence and circumstances of the upset to the Director or his designee; and
 - (2) No later than five (5) days after becoming aware of the occurrence of the upset, the permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, or other relevant evidence, demonstrating that (i) an upset occurred; (ii) the permittee can identify the specific cause(s) of the upset; (iii) the permittee's facility was being properly operated at the time of the upset; and (iv) the permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.
- b. The permittee has the burden of establishing that each of the conditions of Provision II. C.2.a. of this permit have been met to qualify for an exemption from the discharge limitations specified in Provision I.A. of this permit.

D. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES

1. Duty to Comply

- a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the AWPCA and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification; or denial of a permit renewal application.
- b. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of the permit shall not be a defense for a permittee in an enforcement action.
- c. The discharge of a pollutant from a source not specifically identified in the permit application for this permit and not specifically included in the description of an outfall in this permit is not authorized and shall constitute noncompliance with this permit.
- d. The permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this permit or to minimize or prevent any adverse impact of any permit violation.
- e. Nothing in this permit shall be construed to preclude and negate the permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, Federal, State, or Local Government permits, certifications, licenses, or other approvals.

2. Removed Substances

Solids, sludges, filter backwash, or any other pollutant or other waste removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department Rules.

3. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facilities, including but not limited to the loss or failure of the primary source of power of the treatment facility, the permittee shall, where necessary to maintain compliance with the discharge limitations specified in Provision I. A. of this permit, or any other terms or conditions of this permit, cease, reduce, or otherwise control production and/or all discharges until treatment is restored. If control of discharge during loss or failure of the primary source of power is to be accomplished by means of alternate power sources, standby generators, or retention of inadequately treated effluent, the permittee must furnish to the Director within six months a certification that such control mechanisms have been installed.

4. Compliance with Statutes and Rules

- a. This permit has been issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter, that are applicable to this permit, are hereby made a part of this permit. A copy of this chapter may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36130.
- b. This permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

E. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE**1. Duty to Reapply or Notify of Intent to Cease Discharge**

- a. If the permittee intends to continue to discharge beyond the expiration date of this permit, the permittee shall file a complete permit application for reissuance of this permit at least 180 days prior to its expiration. If the permittee does not intend to continue discharge beyond the expiration of this permit, the permittee shall submit written notification of this intent which shall be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Administrative Code Rule 335-6-6-.09.
- b. Failure of the permittee to apply for reissuance at least 180 days prior to permit expiration will void the automatic continuation of the expiring permit provided by ADEM Administrative Code Rule 335-6-6-.06 and should the permit not be reissued for any reason any discharge after expiration of this permit will be an unpermitted discharge.

2. Change in Discharge

- a. The permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants or increase the quantity of a discharged pollutant such that existing permit limitations would be exceeded or that could result in an additional discharge point. This requirement applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.
- b. The permittee shall notify the Director as soon as it is known or there is reason to believe:
 - (1) That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - (i) one hundred micrograms per liter;
 - (ii) two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - (iii) five times the maximum concentration value reported for that pollutant in the permit application; or
 - (2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

- (i) five hundred micrograms per liter;
- (ii) one milligram per liter for antimony;
- (iii) ten times the maximum concentration value reported for that pollutant in the permit application.

3. Transfer of Permit

This permit may not be transferred or the name of the permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership or control of the permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. Permit Modification and Revocation

- a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:
 - (1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit;
 - (2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or
 - (3) If modification or revocation and reissuance is requested by the permittee and cause exists, the Director may grant the request.
- b. This permit may be modified during its term for cause, including but not limited to, the following:
 - (1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;
 - (2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;
 - (3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;
 - (4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;
 - (5) Errors in calculation of discharge limitations or typographical or clerical errors were made;
 - (6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;
 - (7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;
 - (8) To agree with a granted variance under 301(c), 301(g), 301(h), 301(k), or 316(a) of the FWPCA or for fundamentally different factors;
 - (9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;
 - (10) When required by the reopener conditions in this permit;
 - (11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);

- (12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;
- (13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or
- (14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules.

5. Permit Termination

This permit may be terminated during its term for cause, including but not limited to, the following:

- a. Violation of any term or condition of this permit;
- b. The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;
- c. Materially false or inaccurate statements or information in the permit application or the permit;
- d. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;
- e. The permittee's discharge threatens human life or welfare or the maintenance of water quality standards;
- f. Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge;
- g. New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee; or
- h. Any other cause allowed by the ADEM Administrative Code, Chapter 335-6-6.

6. Permit Suspension

This permit may be suspended during its term for noncompliance until the permittee has taken action(s) necessary to achieve compliance.

7. Request for Permit Action Does Not Stay Any Permit Requirement

The filing of a request by the permittee for modification, suspension or revocation of this permit, in whole or in part, does not stay any permit term or condition.

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), for a toxic pollutant discharged by the permittee and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Provision I. A. of this permit, or controls a pollutant not limited in Provision I. A. of this permit, this permit shall be modified to conform to the toxic pollutant effluent standard or prohibition and the permittee shall be notified of such modification. If this permit has not been modified to conform to the toxic pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the permittee shall attain compliance with the requirements of the standard or prohibition within the time period required by the standard or prohibition and shall continue to comply with the standard or prohibition until this permit is modified or reissued.

G. DISCHARGE OF WASTEWATER GENERATED BY OTHERS

The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the permittee or not identified in the application for this permit or not identified specifically in the description of an outfall in this permit is not authorized by this permit.

PART III: OTHER PERMIT CONDITIONS**A. CIVIL AND CRIMINAL LIABILITY****1. Tampering**

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under the permit shall, upon conviction, be subject to penalties as provided by the AWPCA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties as provided by the AWPCA.

3. Permit Enforcement

a. Any NPDES permit issued or reissued by the Department is a permit for the purpose of the AWPCA and the FWPCA and as such any terms, conditions, or limitations of the permit are enforceable under state and federal law.

b. Any person required to have a NPDES permit pursuant to ADEM Administrative Code Chapter 335-6-6 and who discharges pollutants without said permit, who violates the conditions of said permit, who discharges pollutants in a manner not authorized by the permit, or who violates applicable orders of the Department or any applicable rule or standard of the Department, is subject to any one or combination of the following enforcement actions under applicable state statutes.

(1) An administrative order requiring abatement, compliance, mitigation, cessation, clean-up, and/or penalties;

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

c. If the permittee is not in compliance with the conditions of an expiring or expired permit the Director may choose to do any or all of the following provided the permittee has made a timely and complete application for reissuance of the permit:

(1) initiate enforcement action based upon the permit which has been continued;

(2) issue a notice of intent to deny the permit reissuance. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) reissue the new permit with appropriate conditions; or

(4) take other actions authorized by these rules and AWPCA.

4. Relief from Liability

Except as provided in Provision II.C.1 (Bypass) and Provision II.C.2 (Upset), nothing in this permit shall be construed to relieve the permittee of civil or criminal liability under the AWPCA or FWPCA for noncompliance with any term or condition of this permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the FWPCA, 33 U.S.C. Section 1321.

C. PROPERTY AND OTHER RIGHTS

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of federal, state, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the state or of the United States.

D. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, Section 22-22-9(c), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential.

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

1. If this permit was issued for a new discharger or new source, this permit shall expire eighteen months after the issuance date if construction of the facility has not begun during the eighteen-month period.
2. If this permit was issued or modified to allow the discharge of increased quantities of pollutants to accommodate the modification of an existing facility and if construction of this modification has not begun during the eighteen month period after issuance of this permit or permit modification, this permit shall be modified to reduce the quantities of pollutants allowed to be discharged to those levels that would have been allowed if the modification of the facility had not been planned.
3. Construction has begun when the owner or operator has:
 - a. begun, or caused to begin as part of a continuous on-site construction program:
 - (1) any placement, assembly, or installation of facilities or equipment; or
 - (2) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
 - b. entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

F. COMPLIANCE WITH WATER QUALITY STANDARDS

1. On the basis of the permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this permit should assure compliance with the applicable water quality standards.
2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require abatement action to be taken by the permittee in emergency situations or modify the permit pursuant to the Department's Rules, or both.
3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the discharge until the permit has been modified.

G. GROUNDWATER

Unless specifically authorized under this permit, this permit does not authorize the discharge of pollutants to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

H. DEFINITIONS

1. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).
2. Average weekly discharge limitation - means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

3. Arithmetic Mean – means the summation of the individual values of any set of values divided by the number of individual values.
4. AWPCA - means the Alabama Water Pollution Control Act.
5. BOD – means the five-day measure of the pollutant parameter biochemical oxygen demand.
6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.
7. CBOD – means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.
8. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.
9. Daily maximum - means the highest value of any individual sample result obtained during a day.
10. Daily minimum - means the lowest value of any individual sample result obtained during a day.
11. Day - means any consecutive 24-hour period.
12. Department - means the Alabama Department of Environmental Management.
13. Director - means the Director of the Department.
14. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other wastes into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(8).
15. Discharge Monitoring Report (DMR) - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.
16. DO – means dissolved oxygen.
17. 8HC – means 8-hour composite sample, including any of the following:
 - a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
 - b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
18. EPA - means the United States Environmental Protection Agency.
19. FC – means the pollutant parameter fecal coliform.
20. Flow – means the total volume of discharge in a 24-hour period.
21. FWPCA - means the Federal Water Pollution Control Act.
22. Geometric Mean – means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).
23. Grab Sample – means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.
24. Indirect Discharger – means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.
25. Industrial User – means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.
26. MGD – means million gallons per day.

27. Monthly Average – means, other than for fecal coliform bacteria, the arithmetic mean of the entire composite or grab samples taken for the daily discharges collected in one month period. The monthly average for fecal coliform bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period.
28. New Discharger – means a person, owning or operating any building, structure, facility or installation:
 - a. from which there is or may be a discharge of pollutants;
 - b. that did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and
 - c. which has never received a final effective NPDES permit for dischargers at that site.
29. NH3-N – means the pollutant parameter ammonia, measured as nitrogen.
30. Permit application - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.
31. Point source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, . . . from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).
32. Pollutant - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision I. A. of this permit.
33. Privately Owned Treatment Works – means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".
34. Publicly Owned Treatment Works – means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.
35. Receiving Stream – means the "waters" receiving a "discharge" from a "point source".
36. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
37. Significant Source – means a source which discharges 0.025 MGD or more to a POTW or greater than five percent of the treatment work's capacity, or a source which is a primary industry as defined by the U.S. EPA or which discharges a priority or toxic pollutant.
38. Solvent – means any virgin, used or spent organic solvent(s) identified in the F-Listed wastes (F001 through F005) specified in 40 CFR 261.31 that is used for the purpose of solubilizing other materials.
39. TKN – means the pollutant parameter Total Kjeldahl Nitrogen.
40. TON – means the pollutant parameter Total Organic Nitrogen.
41. TRC – means Total Residual Chlorine.
42. TSS – means the pollutant parameter Total Suspended Solids.
43. 24HC – means 24-hour composite sample, including any of the following:
 - a. the mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;
 - b. a sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or
 - c. a sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

44. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
45. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.
46. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.
47. Weekly (7-day and calendar week) Average - is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

I. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART IV: ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS**A. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS****1. BMP Plan**

The permittee shall develop and implement a Best Management Practices (BMP) Plan which prevents, or minimizes the potential for, the release of pollutants from ancillary activities, including material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas, to the waters of the State through plant site runoff; spillage or leaks; sludge or waste disposal; or drainage from raw material storage.

2. Plan Content

The permittee shall prepare and implement a best management practices (BMP) plan, which shall:

- a. Establish specific objectives for the control of pollutants:
 - (1) Each facility component or system shall be examined for its potential for causing a release of significant amounts of pollutants to waters of the State due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.
 - (2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g. precipitation), or circumstances to result in significant amounts of pollutants reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.
- b. Establish specific best management practices to meet the objectives identified under paragraph a. of this section, addressing each component or system capable of causing a release of significant amounts of pollutants to the waters of the State, and identifying specific preventative or remedial measures to be implemented;
- c. Establish a program to identify and repair leaking equipment items and damaged containment structures, which may contribute to contaminated stormwater runoff. This program must include regular visual inspections of equipment, containment structures and of the facility in general to ensure that the BMP is continually implemented and effective;
- d. Prevent the spillage or loss of fluids, oil, grease, gasoline, etc. from vehicle and equipment maintenance activities and thereby prevent the contamination of stormwater from these substances;
- e. Prevent or minimize stormwater contact with material stored on site;
- f. Designate by position or name the person or persons responsible for the day to day implementation of the BMP;
- g. Provide for routine inspections, on days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general. Routine inspections should be done at a frequency to ensure that the BMP is continually implemented and effective and in no case less frequent than once per year;
- h. Provide for the use and disposal of any material used to absorb spilled fluids that could contaminate stormwater;
- i. Develop a solvent management plan, if solvents are used on site. The solvent management plan shall include as a minimum lists of the solvents on site; the disposal method of solvents used instead of dumping, such as reclamation, contract hauling; and the procedures for assuring that solvents do not routinely spill or leak into the stormwater;
- j. Provide for the disposal of all used oils, hydraulic fluids, firefighting foams, solvent degreasing material, etc. in accordance with good management practices and any applicable state or federal regulations;
- k. Include a diagram of the facility showing the locations where stormwater exits the facility, the locations of any structure or other mechanisms intended to prevent pollution of stormwater or to remove pollutants from stormwater, the locations of any collection and handling systems;
- l. Provide control sufficient to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with the water quality standard for turbidity applicable to the waterbody(s) receiving discharge(s) under this permit;
- m. Provide spill prevention, control, and/or management sufficient to prevent or minimize contaminated stormwater runoff. Any containment system used to implement this requirement shall be constructed of materials compatible with the

substance(s) contained and shall prevent the contamination of groundwater. The containment system shall also be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided;

- n. Provide and maintain curbing, diking or other means of isolating process areas to the extent necessary to allow segregation and collection for treatment of contaminated stormwater from process areas;
- o. Be reviewed by plant engineering staff and the plant manager; and
- p. Bear the signature of the plant manager.

3. Compliance Schedule

The permittee shall have reviewed (and revised if necessary) and fully implemented the BMP plan as soon as practicable but no later than six months after the effective date of this permit.

4. Department Review

- a. When requested by the Director or his designee, the permittee shall make the BMP available for Department review.
- b. The Director or his designee may notify the permittee at any time that the BMP is deficient and require correction of the deficiency.
- c. The permittee shall correct any BMP deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

5. Administrative Procedures

- a. A copy of the BMP shall be maintained at the facility and shall be available for inspection by representatives of the Department.
- b. A log of the routine inspection required above shall be maintained at the facility and shall be available for inspection by representatives of the Department. The log shall contain records of all inspections performed for the last three years and each entry shall be signed by the person performing the inspection.
- c. The permittee shall provide training for any personnel required to implement the BMP and shall retain documentation of such training at the facility. This documentation shall be available for inspection by representatives of the Department. Training shall be performed prior to the date that implementation of the BMP is required.
- d. BMP Plan Modification. The permittee shall amend the BMP plan whenever there is a change in the facility or change in operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.
- e. BMP Plan Review. The permittee shall complete a review and evaluation of the BMP plan at least once every three years from the date of preparation of the BMP plan. Documentation of the BMP Plan review and evaluation shall be signed and dated by the Plant Manager.

B. STORMWATER FLOW MEASUREMENT AND SAMPLING REQUIREMENTS

1. Stormwater Flow Measurement

- a. All stormwater samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches.
- b. The total volume of stormwater discharged for the event must be monitored, including the date and duration (in hours) and rainfall (in inches) for storm event(s) sampled. The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event must be a minimum of 72 hours. This information must be recorded as part of the sampling procedure and records retained according to Part I.B. of this permit.
- c. The volume may be measured using flow measuring devices, or estimated based on a modification of the Rational Method using total depth of rainfall, the size of the drainage area serving a stormwater outfall, and an estimate of the runoff coefficient of the drainage area. This information must be recorded as part of the sampling procedure and records retained according to Part I.B. of this permit.

2. Stormwater Sampling

- a. A grab sample, if required by this permit, shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable); and a flow-weighted composite sample, if required by this permit, shall be taken for the entire event or for the first three hours of the event.
- b. All test procedures will be in accordance with part I.B. of this permit.

C. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS

1. The permittee shall perform 48-hour acute toxicity tests on the wastewater discharges required to be tested for acute toxicity by Part I of this permit.
 - a. Test Requirements,
 - (1) The samples shall be diluted, using an appropriate control water, to the Instream Waste Concentration (IWC) which is 11% effluent. The IWC is the actual concentration of effluent, after mixing, in the receiving stream during a 1-day, 10-year flow period.
 - (2) Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this permit
 - c. General Test Requirements
 - (1) A 24-hour composite sample shall be obtained for use in above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the permittee and approved by the Department.
 - (2) Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the permittee shall rerun the tests as soon as practical within the monitoring period.
 - (3) In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.
 - d. Reporting Requirements
 - (1) The permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).
 - (2) Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 2. of this part, an effluent toxicity report containing the information in Section 2. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.
 - e. Additional Testing Requirements
 - (1) If acute toxicity is indicated (noncompliance with permit limit), the permittee shall perform four additional valid acute toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks following the date on which the permittee became aware of the permit noncompliance and the results of these tests shall be submitted no later than 28 days following the month in which the tests were performed.
 - (2) After evaluation of the results of the follow-up tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).
 - f. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

2. Effluent toxicity testing reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease the frequency of submittals.

- a. Introduction
 - (1) Facility Name, location and county

- (2) Permit number
 - (3) Toxicity testing requirements of permit
 - (4) Name of receiving water body
 - (5) Contract laboratory information (if tests are performed under contract)
 - (i) Name of firm
 - (ii) Telephone number
 - (iii) Address
 - (6) Objective of test
- b. Plant Operations
- (1) Discharge operating schedule (if other than continuous)
 - (2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)
 - (3) Design flow of treatment facility at time of sampling
- c. Source of Effluent and Dilution Water
- (1) Effluent samples
 - (i) Sampling point
 - (ii) Sample collection dates and times (to include composite sample start and finish times)
 - (iii) Sample collection method
 - (iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)
 - (v) Sample temperature when received at the laboratory
 - (vi) Lapsed time from sample collection to delivery
 - (vii) Lapsed time from sample collection to test initiation
 - (2) Dilution Water Samples
 - (i) Source
 - (ii) Collection date(s) and time(s) (where applicable)
 - (iii) Pretreatment
 - (iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductance, etc.)
- d. Test Conditions
- (1) Toxicity test method utilized
 - (2) End point(s) of test
 - (3) Deviations from referenced method, if any, and reason(s)
 - (4) Date and time test started
 - (5) Date and time test terminated
 - (6) Type and volume of test chambers
 - (7) Volume of solution per chamber
 - (8) Number of organisms per test chamber
 - (9) Number of replicate test chambers per treatment

- (10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)
- (11) Feeding frequency, and amount and type of food
- (12) Light intensity (mean)
- e. Test Organisms
 - (1) Scientific name
 - (2) Life stage and age
 - (3) Source
 - (4) Disease treatment (if applicable)
- f. Quality Assurance
 - (1) Reference toxicant utilized and source
 - (2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)
 - (3) Dilution water utilized in reference toxicant test
 - (4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.
 - (5) Physical and chemical methods utilized
- g. Results
 - (1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate
 - (2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)
 - (3) Indicate statistical methods used to calculate endpoints
 - (4) Provide all physical and chemical data required by method
 - (5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD).
- h. Conclusions and Recommendations
 - (1) Relationship between test endpoints and permit limits
 - (2) Action to be taken

Adapted from "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", Fifth Edition, October 2002 (EPA 821-R-02-012), Section 12, Report Preparation

D. COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS

The facility utilizes well water for water supply purposes, and therefore, 316(b) requirements does not apply.

ADEM PERMIT RATIONALE

PREPARED DATE: April 30, 2026
PREPARED BY: Rachel Lounsberry

Permittee Name: SSAB Alabama Inc.

Facility Name: SSAB Alabama Inc.

Permit Number: AL0072109

PERMIT IS REISSUANCE DUE TO EXPIRATION

DISCHARGE SERIAL NUMBERS (DSN) & DESCRIPTIONS:

DSN	Description
001	Discharge from DSN01A, non-contact cooling water and rolling mill non-contact cooling water system blowdown, and storm water runoff associated with the production of steel.
002	Groundwater from well commissioning and storm water Runoff from scrap yard, slag storage & processing area, the scrap bucket loading area (lime & carbon), and railroad marshalling yard.
003	Groundwater from well commissioning and stormwater Runoff from the bulk of the steel manufacturing operations and the outside storage yards for steel plate, slab & coil.
004	Groundwater from well commissioning and stormwater runoff from the melt shop operations area and the alloy storage areas.
01A	Contact cooling water associated with the manufacture of steel

INDUSTRIAL CATEGORY: 40 CFR 420 Iron and Steel Manufacturing Point Source Category
40 CFR 420.54 Subpart E – Vacuum Degassing Subcategory – NSPS
40 CFR 420.64 Subpart F – Continuous Casting Subcategory – NSPS
40 CFR 420.74 Subpart G – Hot Forming Subcategory – NSPS

MAJOR: No

STREAM INFORMATION:

Receiving Stream: Mobile River (DSN001)
Classification: Fish & Wildlife
River Basin: Mobile River
7Q10: 2207.4 cfs
7Q2: 3922.84 cfs
1Q10: 1655.65 cfs
Annual Average Flow: 24629.32 cfs
303(d) List: YES
Impairment: Mercury
TMDL: NO

Receiving Stream:	Carter Branch (DSN002, DSN003, and DSN004)
Classification:	Fish & Wildlife
River Basin:	Mobile River
7Q10:	0.0 cfs
7Q2:	0.0 cfs
1Q10:	0.0 cfs
Annual Average Flow:	0.0 cfs
303(d) List:	NO
Impairment:	N/A
TMDL:	NO

DISCUSSION:

SSAB Alabama, Inc. (SSAB) is a steel manufacturing mill that produces slab, plate, and coil products. Scrap metal is the primary raw material used in the steel manufacturing process. Scrap metal is melted in an electric arc furnace and refined according to the desired properties of the alloy. Uniform steel cooling is achieved using chilled water.

ADEM Administrative Rule 335-6-10-.12 requires applicants to new or expanded discharges to Tier II waters demonstrate that the proposed discharge is necessary for important economic or social development in the area in which the waters are located. The application submitted by the facility is not for a new or expanded discharge. Therefore, the applicant is not required to demonstrate that the discharge is necessary for economic and social development.

DSN0011: Discharge from DSN01A, non-contact cooling water and rolling mill non-contact cooling water system blowdown, and storm water runoff associated with the production of steel.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	95 Maximum Daily	deg F	Daily	Grab	All Months	WQBEL
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Weekly	Grab	All Months	WQBEL
Nitrogen, Total (As N) (00600) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Ammonia Nitrogen, Total, (As N) 30Day (00609) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	All Months	BPJ
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Nitrite Plus Nitrate Total 1 Det. (As N) (00630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Composite	Apr, May, Jun, Jul, Aug, Sep, Oct	BPJ
Chloride (As Cl) (00940) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Weekly	Totalizer	All Months	BPJ
Solids, Total Dissolved (TDS) (70296) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Monthly	Grab	All Months	BPJ

DSN001T: Discharge from DSN01A, non-contact cooling water and rolling mill non-contact cooling water system blowdown, and storm water runoff associated with the production of steel.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Toxicity, Ceriodaphnia Acute (61425) Effluent Gross Value	*****	0 Single Sample	pass=0;fail=1	*****	*****	*****	*****	Annually	Composite	All Months	WQBEL
Toxicity, Pimephales Acute (61427) Effluent Gross Value	*****	0 Single Sample	pass=0;fail=1	*****	*****	*****	*****	Annually	Compoite	All Months	WQBEL

DSN002S: Groundwater from well commissioning and storm water runoff from scrap yard, slag storage & processing area, the scrap bucket loading area (lime & carbon), and railroad marshalling yard.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Monthly	mg/l	Semi-Annually	Grab	All Months	BPJ
Chromium, Total (As Cr) (01034) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Lead, Total (As Pb) (01051) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Zinc, Total (As Zn) (01092) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Estimate	All Months	BPJ

DSN003S: Groundwater from well commissioning and stormwater runoff from the bulk of the steel manufacturing operations and the outside storage yards for steel plate, slab & coil.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Monthly	mg/l	Semi-Annually	Grab	All Months	BPJ
Chromium, Total (As Cr) (01034) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Lead, Total (As Pb) (01051) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Zinc, Total (As Zn) (01092) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Estimate	All Months	BPJ

DSN004S: Groundwater from well commissioning and stormwater runoff from the melt shop operations area and the alloy storage areas.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	****	****	****	(Report) Minimum Daily	****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	****	****	****	****	****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	****	****	****	****	****	15.0 Maximum Monthly	mg/l	Semi-Annually	Grab	All Months	BPJ
Chromium, Total (As Cr) (01034) Effluent Gross Value	****	****	****	****	****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Lead, Total (As Pb) (01051) Effluent Gross Value	****	****	****	****	****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Zinc, Total (As Zn) (01092) Effluent Gross Value	****	****	****	****	****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	****	(Report) Maximum Daily	MGD	****	****	****	****	Semi-Annually	Estimate	All Months	BPJ

DSN01A1: Contact cooling water associated with the manufacture of steel

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	****	****	****	6.0 Minimum Daily	****	9.0 Maximum Daily	S.U.	Weekly	Grab	All Months	EGL
Solids, Total Suspended (00530) Effluent Gross Value	117.90 Monthly Average	320.62 Maximum Daily	lbs/day	****	****	****	****	Weekly	Composite	All Months	EGL
Oil & Grease (00556) Effluent Gross Value	44.79 Monthly Average	75.40 Maximum Daily	lbs/day	****	****	****	****	Weekly	Grab	All Months	EGL
Lead, Total (As Pb) (01051) Effluent Gross Value	0.27 Monthly Average	0.82 Maximum Daily	lbs/day	****	****	****	****	Weekly	Composite	All Months	EGL
Zinc, Total (As Zn) (01092) Effluent Gross Value	0.41 Monthly Average	1.23 Maximum Daily	lbs/day	****	****	****	****	Weekly	Composite	All Months	EGL
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	****	****	****	****	Weekly	Totalizer	All Months	BPJ

***Basis for Permit Limitation**

- BPJ – Best Professional Judgment
- WQBEL – Water Quality Based Effluent Limits
- EGL – Federal Effluent Guideline Limitations
- 303(d) – 303(d) List of Impaired Waters
- TMDL – Total Maximum Daily Load Requirements

Discussion

DSN001: Discharge from DSN01A, non-contact cooling water and rolling mill non-contact cooling water system blowdown, and storm water runoff associated with the production of steel.

Best Professional Judgment (BPJ)

The parameters of concern for this facility are based on the parameters of concern listed in EPA form 2C and from the current permit. These parameters are consistent with similar facilities in the state and have been proven to be reflective of the operations at this facility. The parameters with specific limits are discussed below:

Total Dissolved Solids (TDS) & Total Chlorides

Total Dissolved Solids (TDS) and Total Chlorides monitoring will be continued on a monthly basis based on BPJ. No limitations are proposed at this time. However, the data will be used to develop limitations if determined necessary to protect water quality.

Flow

Flow shall continue to be monitored once per week.

Nutrients

The facility requested that Ammonia as Nitrogen, Nitrates + Nitrites, TKN, and Total Phosphorus as P be removed from the permit due to the values being consistently low. However, to be consistent with other facilities discharging process wastewater, Nitrates + Nitrites, TKN, and Total Phosphorus shall be required to be monitored during the growing season (April-October). Ammonia shall be monitored every month year-round as it can be an indicator of potential toxicity issues.

Water Quality Based Effluent Limits (WQBEL)

Temperature

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)(3)(i) – Specific Water Quality for Fish & Wildlife classified streams states: “The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.” Based on the available dilution in the receiving stream, a daily maximum of 95° F shall be required at DSN0011 with daily monitoring, and is protective of the Water Quality Criteria.

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)(2) – Specific Water Quality for Fish & Wildlife classified streams states: “Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from then normal or natural pH, nor be less than 6.0, nor greater than 8.5 standard units.” The guideline standard of 6.0 to 9.0 s.u. should continue to be protective of the receiving stream.

Biomonitoring

In order to evaluate the whole effluent toxicity, 48-hour acute toxicity monitoring is proposed to continue in this permit issuance. Acute toxicity monitoring for freshwater species is appropriate based on the receiving stream’s water use classification and the ratio of flow in the receiving stream at low conditions to the effluent flow being greater than 100:1. The in-stream waste concentration shall be based on the 5/25/2018 CORMIX (see attached) and will be set at 11% effluent. The monitoring frequency shall continue to be annually.

Numeric Reasonable Potential Analysis (RPA)

A numeric reasonable potential analysis was performed for this discharge point. The reasonable potential analysis indicated that the pollutants of concern were not being discharged at levels that could impact water quality; therefore water quality based limits included in the reasonable potential analysis are not necessary. Available background data was utilized in the analysis. For the above reasons, permit limitations and monitoring requirements below were based on Best Professional Judgment (BPJ).

DSN01A1: Contact cooling water associated with the manufacture of steel.

Federal Effluent Guideline Limitations (EGL)

Discharges from this outfall are regulated under 40 Part 420 – Iron and Steel Manufacturing Point Source Category, specifically Subparts E, F, and G. Proposed limitations shall be based on the more stringent of existing limits and the attached guideline allocation calculations. Lead and Zinc shall be based on existing permit limitations. The calculated TSS and Oil & Grease requirements are more stringent and shall be updated in the draft permit. All parameters shall be monitored on a weekly basis. The following is a summary of existing and new limitations:

Parameters	Limit Type	New Calculations	Existing Allocation
TSS	Daily Max	320.62	329.95
	Monthly Avg	117.90	121.41
Oil and Grease	Daily Max	75.40	77.99
	Monthly Avg	44.79	44.82
Total Lead	Daily Max	1.62	0.82
	Monthly Avg	0.54	0.27
Total Zinc	Daily Max	2.44	1.23
	Monthly Avg	0.81	0.41

Best Professional Judgment (BPJ) Oil & Grease Monthly Average Allocation

A BPJ allocation was created for the O&G monthly allocation because of the lack of guideline allocation for monthly average oil and grease in two of the three guidelines applicable to the facility. In addition, treatability was considered in allowing this allocation.

DSN002: Groundwater from well commissioning and storm water runoff from scrap yard, slag storage & processing area, the scrap bucket loading area (lime & carbon), and railroad marshalling yard.

DSN003: Groundwater from well commissioning and storm water runoff from the bulk of the steel manufacturing operations and the outside storage yards for steel plate, slab & coil.

DSN004: Groundwater from well commissioning and storm water runoff from the melt shop operations area and the alloy storage areas.

Groundwater

Groundwater continues to be included in these discharges because the facility requested in pervious permits the addition of a provision to the Permit allowing for direct discharge of groundwater to stormwater detention ponds during the commissioning of wells. In accordance with 40 CFR 122.2, this discharge does not meet the definition of process water. Therefore, no additional monitoring requirements are being added as a result of this discharge.

Best Professional Judgment (BPJ)

The parameters of concern for this facility are based on the parameters of concern listed in EPA form 2F and from the current permit. These parameters are consistent with similar facilities in the state and have been proven to be reflective of the operations at this facility. The parameters with specific limits are discussed below:

Representative Outfall

The pollutants of concern based on facility operations are: Flow, pH, Oil & Grease, Total Suspended Solids, Chromium, Lead, and Zinc. Monitoring requirements will only apply to DSN002 & DSN003. DSN003 shall be representative of outfall DSN004.

pH

No limitation is proposed for pH at these outfalls as there should be no process addition to the storm water outfalls. Monitoring will continue to be required semi-annually.

Oil & Grease

The daily maximum limit for Oil and Grease should prevent the occurrence of a visible sheen in the stream and has been shown to be achievable through the use of proper BMPs.

Total Suspended Solids, Total Lead, Total Chromium, and Total Zinc.

Requirements to monitor these parameters is proposed to be continued in this draft permit to evaluate BMP effectiveness at these three outfalls. These pollutants are considered to be indicator pollutants based on operations at the site. Monitoring will continue to be required semi-annually.

303(d) List of Impaired Waters/Total Maximum Daily Load (TMDL)

The Mobile River is listed on the 303(d) List of Impaired Waters for mercury. Total Mercury has not been monitored because the facility has historically shown low levels of mercury in the discharge.

Cooling Water Intake Requirements

The facility utilizes well water for water supply purposes, and therefore, 316(b) requirements does not apply.

Best Management Practices (BMP) Plan

Best Management Practices (BMPs) are believed to be the most effective way to control the contamination of stormwater from areas of industrial activities. This facility is required to maintain a BMP plan. The requirements of the BMP plan call for minimization of stormwater contact with waste materials, products and by-products, and for prevention of spills or loss of fluids from equipment maintenance activities. The effectiveness of the BMPs will be measured through the monitoring of the pollutants of concern.

The Department has updated the BMP language, located in Part IV.A.2.g of the Permit. The Permit Condition now states "Provide for routine inspections, or days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general. Routine inspections should be done at a frequency to ensure that the BMP is continually implemented and effective and in no case less frequent than once per year." This clarification was added to be consistent with 40 CFR Part 122.43(c).

SSAB Alabama Inc. EGL Calculations 2025

Vacuum Degasser

Subpart E
NSPS - 40 CFR 420.54

		Production(1000 lbs/day)	X	GL Factor (lb/1000 lb of product)	=	Guideline Effluent Limitation (ppd)
TSS	Daily Max	8693.653		0.0073		63.4636669
	Monthly Avg	8693.653		0.00261		22.69043433
Lead	Daily Max	8693.653		0.0000939		0.816334017
	Monthly Avg	8693.653		0.0000313		0.272111339
Zinc	Daily Max	8693.653		0.000141		1.225805073
	Monthly Avg	8693.653		0.0000469		0.407732326

Continuous Casting

Subpart F (Continuous Casting)
NSPS - 40 CFR 420.64

		Production (1000 lbs/day)	X	GL Factor (lb/1000 lb of product)	=	Guideline Effluent Limitation (ppd)
TSS	Daily Max	8580.767		0.0073		62.6395991
	Monthly Avg	8580.767		0.00261		22.39580187
Oil and Grease	Daily Max	8580.767		0.00313		26.85780071
	Monthly Avg	8580.767		0.00104		8.92399768
Total Lead	Daily Max	8580.767		0.0000939		0.805734021
	Monthly Avg	8580.767		0.0000313		0.268578007
Total Zinc	Daily Max	8580.767		0.000141		1.209888147
	Monthly Avg	8580.767		0.0000469		0.402437972

Hot Forming

Subpart G (Hot Forming)

NSPS - 40 CFR 420.74 (Flat Mills - Carbon Plate Mills)

		Production(1000 lbs/day)	X	GL Factor (lb/1000 lb of product)	=	Guideline Effluent Limitation (ppd)
TSS	Daily Max	8312.632		0.0234		194.5155888
	Monthly Avg	8312.632		0.00876		72.81865632
Oil and Grease	Daily Max	8312.632		0.00584		48.54577088
	Monthly Avg	N/A		N/A		N/A

Best Professional Judgment (BPJ) Oil & Grease Monthly Average Allocation

		Flow(MG/day)	X	BPJ Allocation (mg/l)	=	Guideline Effluent Limitation (ppd)
Oil and Grease	Monthly Avg	0.43		10		35.862

Total Allocation

Total Allocation from Subparts E, F & G (ppd)

TSS (NSPS)	Daily Max	320.62
	Monthly Avg	117.90
Oil and Grease (NSPS)	Daily Max	75.40
	Monthly Avg	44.79
Total Lead (NSPS)	Daily Max	1.62
	Monthly Avg	0.54
Total Zinc (NSPS)	Daily Max	2.44
	Monthly Avg	0.81

$Q_d \cdot C_d + Q_{d2} \cdot C_{d2} + Q_s \cdot C_s = Q_r \cdot C_r$							Enter Max Daily Discharge as reported by Applicant (C _d) Max	Enter Avg Daily Discharge as reported by Applicant (C _d) Ave	Partition Coefficient (Stream / Lake)
ID	Pollutant	Carcinogen Yes*	Type	Background from upstream source (C _{d2}) Daily Max	Background from upstream source (C _{d2}) Monthly Avg	Background Instream (C _s) Daily	Background Instream (C _s) Monthly Ave		
1	Antimony		Metals	0	0	0	0	9.44	9.44
2	Arsenic**	YES	Metals	0	0	0	0	19.6	19.6
3	Beryllium		Metals	0	0	0	0	0	0
4	Cadmium**		Metals	0	0	0	0	0	0
5	Chromium / Chromium III**		Metals	0	0	0	0	7.13	7.13
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0
11.5	Copper**		Metals	0	0	0	0	11.5	11.5
8	Lead**		Metals	0	0	0	0	0	0
9	Mercury**		Metals	0	0	0	0	0.0037	0.0037
10	Nickel**		Metals	0	0	0	0	15.3	15.3
11	Selenium		Metals	0	0	0	0	3.74	3.74
12	Silver		Metals	0	0	0	0	0	0
13	Thallium		Metals	0	0	0	0	0	0
14	Zinc**		Metals	0	0	0	0	0	0
15	Cyanide		Metals	0	0	0	0	0	0
16	Total Phenolic Compounds		Metals	0	0	0	0	0	0
17	Hardness (As CaCO3)		Metals	0	0	0	0	0	0
18	Acrolein		VOC	0	0	0	0	0	0
19	Acrylonitrile*	YES	VOC	0	0	0	0	0	0
20	Aldrin	YES	VOC	0	0	0	0	0	0
21	Benzene*	YES	VOC	0	0	0	0	0	0
22	Bromofarm*	YES	VOC	0	0	0	0	0	0
23	Carbon Tetrachloride*	YES	VOC	0	0	0	0	0	0
24	Chlordane	YES	VOC	0	0	0	0	0	0
25	Chlorobenzene	YES	VOC	0	0	0	0	0	0
26	Chlorodibromo-Methane*	YES	VOC	0	0	0	0	0	0
27	Chloroethane	YES	VOC	0	0	0	0	0	0
28	2-Chloro-Ethylvinyl Ether	YES	VOC	0	0	0	0	0	0
29	Chloroform*	YES	VOC	0	0	0	0	0	0
30	4,4'-DDD	YES	VOC	0	0	0	0	0	0
31	4,4'-DDE	YES	VOC	0	0	0	0	0	0
32	4,4'-DDT	YES	VOC	0	0	0	0	0	0
33	Dichlorobromo-Methane*	YES	VOC	0	0	0	0	0	0
34	1, 1-Dichloroethane	YES	VOC	0	0	0	0	0	0
35	1, 2-Dichloroethane*	YES	VOC	0	0	0	0	0	0
36	Trans-1, 2-Dichloro-Ethylene	YES	VOC	0	0	0	0	0	0
37	1, 1-Dichloroethylene*	YES	VOC	0	0	0	0	0	0
38	1, 2-Dichloropropane	YES	VOC	0	0	0	0	0	0
39	3-Dichloro-Propylene	YES	VOC	0	0	0	0	0	0
40	Dieldrin	YES	VOC	0	0	0	0	0	0
41	Ethylbenzene	YES	VOC	0	0	0	0	0	0
42	Methyl Bromide	YES	VOC	0	0	0	0	0	0
43	Methyl Chloride	YES	VOC	0	0	0	0	0	0
44	Methylene Chloride*	YES	VOC	0	0	0	0	0	0
45	1, 1, 2, 2-Tetrachloro-Ethane*	YES	VOC	0	0	0	0	0	0
46	Tetrachloro-Ethylene*	YES	VOC	0	0	0	0	0	0
47	Toluene	YES	VOC	0	0	0	0	0	0
48	Toxaphene	YES	VOC	0	0	0	0	0	0
49	Tributyltin (TBT)	YES	VOC	0	0	0	0	0	0
50	1, 1, 1-Trichloroethane	YES	VOC	0	0	0	0	0	0
51	1, 1, 2-Trichloroethane*	YES	VOC	0	0	0	0	0	0
52	Trichlorethylene*	YES	VOC	0	0	0	0	0	0
53	Vinyl Chloride*	YES	VOC	0	0	0	0	0	0
54	p-Chloro-m-Cresol	YES	Acids	0	0	0	0	0	0
55	2-Chlorophenol	YES	Acids	0	0	0	0	0	0
56	2, 4-Dichlorophenol	YES	Acids	0	0	0	0	0	0
57	2, 4-Dimethylphenol	YES	Acids	0	0	0	0	0	0
58	4, 6-Dinitro-O-Cresol	YES	Acids	0	0	0	0	0	0
59	2, 4-Dinitrophenol	YES	Acids	0	0	0	0	0	0
60	4,6-Dinitro-2-methylphenol	YES	Acids	0	0	0	0	0	0
61	Dioxin (2,3,7,8-TCDD)	YES	Acids	0	0	0	0	0	0
62	2-Nitrophenol	YES	Acids	0	0	0	0	0	0
63	4-Nitrophenol	YES	Acids	0	0	0	0	0	0
64	Pentachlorophenol*	YES	Acids	0	0	0	0	0	0
65	Phenol	YES	Acids	0	0	0	0	0	0
66	2, 4, 6-Trichlorophenol*	YES	Acids	0	0	0	0	0	0
67	Acenaphthene	YES	Bases	0	0	0	0	0	0
68	Acenaphthylene	YES	Bases	0	0	0	0	0	0
69	Anthracene	YES	Bases	0	0	0	0	0	0
70	Benzo(a)Anthracene*	YES	Bases	0	0	0	0	0	0
71	Benzo(a)Pyrene*	YES	Bases	0	0	0	0	0	0
72	Benzo(b)Fluoranthene	YES	Bases	0	0	0	0	0	0
73	3, 4-Benzo-Fluoranthene	YES	Bases	0	0	0	0	0	0
74	Benzo(GH)Perylene	YES	Bases	0	0	0	0	0	0
75	Benzo(K)Fluoranthene	YES	Bases	0	0	0	0	0	0
76	Bis (2-Chloroethoxy) Methane	YES	Bases	0	0	0	0	0	0
77	Bis (2-Chloroethyl)-Ether*	YES	Bases	0	0	0	0	0	0
78	Bis (2-Chloroisopropyl) Ether	YES	Bases	0	0	0	0	0	0
79	Bis (2-Ethylhexyl) Phthalate*	YES	Bases	0	0	0	0	0	0
80	4-Bromophenyl Phenyl Ether	YES	Bases	0	0	0	0	0	0
81	Butyl Benzyl Phthalate	YES	Bases	0	0	0	0	0	0
82	2-Chloronaphthalene	YES	Bases	0	0	0	0	0	0
83	4-Chlorophenyl Phenyl Ether	YES	Bases	0	0	0	0	0	0
84	Chrysene*	YES	Bases	0	0	0	0	0	0
85	Di-N-Butyl Phthalate	YES	Bases	0	0	0	0	0	0
86	Di-N-Octyl Phthalate	YES	Bases	0	0	0	0	0	0
87	Dibenz(a,h)Anthracene*	YES	Bases	0	0	0	0	0	0
88	1, 2-Dichlorobenzene	YES	Bases	0	0	0	0	0	0
89	1, 3-Dichlorobenzene	YES	Bases	0	0	0	0	0	0
90	1, 4-Dichlorobenzene	YES	Bases	0	0	0	0	0	0
91	3, 3-Dichlorobenzidine*	YES	Bases	0	0	0	0	0	0
92	Diethyl Phthalate	YES	Bases	0	0	0	0	0	0
93	Dimethyl Phthalate	YES	Bases	0	0	0	0	0	0
94	2, 4-Dinitrotoluene*	YES	Bases	0	0	0	0	0	0
95	2, 6-Dinitrotoluene	YES	Bases	0	0	0	0	0	0
96	1,2-Dichloroethydrate	YES	Bases	0	0	0	0	0	0
97	Endosulfan (alpha)	YES	Bases	0	0	0	0	0	0
98	Endosulfan (beta)	YES	Bases	0	0	0	0	0	0
99	Endosulfan sulfate	YES	Bases	0	0	0	0	0	0
100	Endrin	YES	Bases	0	0	0	0	0	0
101	Endrin Alderhyde	YES	Bases	0	0	0	0	0	0
102	Fluoranthene	YES	Bases	0	0	0	0	0	0
103	Fluorene	YES	Bases	0	0	0	0	0	0
104	Heptachlor	YES	Bases	0	0	0	0	0	0
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	0
106	Hexachlorobenzene*	YES	Bases	0	0	0	0	0	0
107	Hexachlorobutadiene*	YES	Bases	0	0	0	0	0	0
108	Hexachlorocyclohexan (alpha)	YES	Bases	0	0	0	0	0	0
109	Hexachlorocyclohexan (beta)	YES	Bases	0	0	0	0	0	0
110	Hexachlorocyclohexan (gamma)	YES	Bases	0	0	0	0	0	0
111	Hexachlorocyclopentadiene	YES	Bases	0	0	0	0	0	0
112	Hexachloroethane	YES	Bases	0	0	0	0	0	0
113	Indeno(1,2,3-CD)Pyrene*	YES	Bases	0	0	0	0	0	0
114	Isophorone	YES	Bases	0	0	0	0	0	0
115	Naphthalene	YES	Bases	0	0	0	0	0	0
116	Nitrobenzene	YES	Bases	0	0	0	0	0	0
117	N-Nitrosodi-N-Propylamine*	YES	Bases	0	0	0	0	0	0
118	N-Nitrosodi-N-Methylamine*	YES	Bases	0	0	0	0	0	0
119	N-Nitrosodi-N-Phenylamine*	YES	Bases	0	0	0	0	0	0
120	PCB-1016	YES	Bases	0	0	0	0	0	0
121	PCB-1221	YES	Bases	0	0	0	0	0	0
122	PCB-1232	YES	Bases	0	0	0	0	0	0
123	PCB-1242	YES	Bases	0	0	0	0	0	0
124	PCB-1248	YES	Bases	0	0	0	0	0	0
125	PCB-1254	YES	Bases	0	0	0	0	0	0
126	PCB-1260	YES	Bases	0	0	0	0	0	0
127	Phenanthrene	YES	Bases	0	0	0	0	0	0
128	Pyrene	YES	Bases	0	0	0	0	0	0
129	1, 2, 4-Trichlorobenzene	YES	Bases	0	0	0	0	0	0

0.515	Enter Q _w = wastewater discharge flow from facility (MGD)
0.797	Q _w = wastewater discharge flow (cfs) (this value is calculated from the MGD)
0	Enter flow from upstream discharge Q _{d2} = background stream flow in MGD above point of discharge
0	Q _{d2} = background stream flow from upstream source (cfs)
2,207.40	Enter TQ10, Q _s = background stream flow in cfs above point of discharge
1,655.65	Enter or estimated, TQ10, Q _s = background stream flow in cfs above point of discharge (TQ10 estimated at 75% of TQ10)
24,629.32	Enter Mean Annual Flow, Q _s = background stream flow in cfs above point of discharge
3,922.84	Enter TQ2, Q _s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter to Left	Enter C _s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q _w + Q _{d2} + Q _s	Q _s = resultant in-stream flow, after discharge
Calculated on other	C _s = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
50.00	Enter, Background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, Background pH above point of discharge
yes	Enter, Is discharge to a stream? "YES" Other option would be to a Lake. (This changes the partition coefficients for the metals)

** Using Partition Coefficients

April 30, 2028

Freshwater F&W classification				Freshwater Acute (µg/l) C _a = 1Q10				Freshwater Chronic (µg/l) C _a = 7Q10				Human Health Consumption Fish only (µg/l)							
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (C _u) Daily Max	Max Daily Discharge as reported by Applicant (C _{max})	Water Quality Criteria (C _w)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?	Background from upstream source (C _u) Monthly Ave	Avg Daily Discharge as reported by Applicant (C _{avg})	Water Quality Criteria (C _w)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C _w)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?
1	Antimony			0	9.44					0	9.44					3.73E+02	1.03E+06	2.07E+05	No
2	Arsenic		YES	0	19.8	592.334	1231353.352	246270.670	No	0	19.8	291.324	724194.666	144839.933	No	0.303	9399.786	1873.358	No
3	Beryllium			0	0					0	0								No
4	Cadmium			0	0	4.347	9036.674	1807.375	No	0	0	0.844	1783.604	356.721	No				No
5	Chromium/ Chromium III			0	7.13	1537.913	3197035.182	639407.038	No	0	7.13	200.051	554391.300	110878.260	No				No
6	Chromium/ Chromium VI			0	0	18.000	33261.027	6652.205	No	0	0	11.000	30463.787	6096.753	No				No
7	Copper			0	11.5	18.028	37473.486	7494.697	No	0	11.5	12.766	35378.603	7075.321	No				No
8	Lead			0	0	148.201	304111.479	60822.296	No	0	0	5.701	15708.196	3158.639	No				No
9	Mercury			0	0.004	2.408	4899.154	979.831	No	0	0.004	0.912	33.255	6.651	No	0.042	117.568	23.514	No
10	Nickel			0	15.3	915.824	1072302.987	214460.597	No	0	15.3	57.292	158770.991	31754.198	No	9.93E+02	2.79E+06	5.59E+05	No
11	Selenium			0	3.74	26.000	41576.264	8315.257	No	0	3.74	5.000	13856.258	2771.252	No	2.43E+03	6.74E+06	1.35E+06	No
12	Silver			0	0	0.816	2029.843	405.969	No	0	0								No
13	Thallium			0	0					0	0					2.74E+01	7.58E+02	1.52E+02	No
14	Zinc			0	0	107.395	410293.082	82058.616	No	0	0	198.663	551432.726	110286.545	No	14893.6	41273959.8	8254792.0	No
15	Cyanide			0	0	22.000	45733.912	9146.782	No	0	0	5.200	14410.508	2882.102	No	9.23E+03	2.59E+07	5.17E+06	No
16	Total Phenolic Compounds			0	0					0	0								No
17	Hardness (As CaCO3)			0	0					0	0								No
18	Acrolein			0	0					0	0					5.43E+00	1.50E+04	3.01E+03	No
19	Acrylonitrile		YES	0	0					0	0					1.64E+01	4.45E+03	8.90E+02	No
20	Alidin		YES	0	0	3.000	6236.443	1247.289	No	0	0					9.04E+05	9.08E+01	1.82E+01	No
21	Benzene		YES	0	0					0	0					1.92E+01	3.35E+04	6.71E+03	No
22	Bromoform		YES	0	0					0	0					2.43E+06	2.43E+06	4.87E+05	No
23	Carbon Tetrachloride		YES	0	0					0	0					9.07E+01	2.89E+04	5.82E+03	No
24	Chlordane		YES	0	0	2.400	4899.154	979.831	No	0	0	0.0043	11.816	2.383	No	4.73E+04	1.46E+01	2.92E+00	No
25	Chlorobenzene			0	0					0	0					9.00E+02	2.51E+06	5.02E+05	No
26	Chlorodibromo-Methane		YES	0	0					0	0					7.41E+03	2.28E+05	4.58E+04	No
27	Chloroethane			0	0					0	0								No
28	2-Chloro-Ethylvinyl Ether			0	0					0	0								No
29	Chloroform		YES	0	0					0	0					1.83E+02	3.19E+06	6.31E+05	No
30	4,4' - DDD		YES	0	0					0	0					5.61E+00	5.61E+00	1.12E+00	No
31	4,4' - DDE		YES	0	0					0	0					1.29E+04	3.98E+00	7.92E-01	No
32	4,4' - DDT		YES	0	0	1.100	2288.696	457.339	No	0	0	0.001	2.771	0.554	No	1.29E+04	3.98E+00	7.92E-01	No
33	Dichlorobromo-Methane		YES	0	0					0	0					1.00E+01	3.10E+05	6.20E+04	No
34	1,1-Dichloroethane			0	0					0	0								No
35	1,2-Dichloroethane		YES	0	0					0	0					2.14E+01	6.80E+05	1.32E+05	No
36	Trans-1,2-Dichloro-Ethylene			0	0					0	0					9.91E+03	1.64E+07	3.27E+06	No
37	1,1-Dichloroethylene		YES	0	0					0	0					4.77E+03	1.29E+08	2.58E+07	No
38	1,2-Dichloropropane			0	0					0	0					8.96E+01	2.35E+04	4.71E+03	No
39	1,3-Dichloro-Propylene			0	0					0	0					3.23E+01	3.40E+04	6.81E+03	No
40	Dieldrin		YES	0	0	0.240	489.915	97.983	No	0	0	0.026	155.190	31.036	No	3.12E+08	9.85E+01	1.93E+01	No
41	Ethylbenzene			0	0					0	0					1.24E+03	3.45E+06	6.90E+05	No
42	Methyl Bromide			0	0					0	0					6.71E+00	2.41E+06	4.83E+05	No
43	Methyl Chloride			0	0					0	0								No
44	Methylene Chloride		YES	0	0					0	0					3.44E+02	1.07E+07	2.14E+06	No
45	1,1,1,2,2-Tetrachloro-Ethane		YES	0	0					0	0					2.33E+00	7.21E+04	1.44E+04	No
46	Tetrachloro-Ethylene		YES	0	0					0	0					1.62E+03	5.89E+04	1.19E+04	No
47	Toluene			0	0					0	0					8.78E+02	2.42E+07	4.83E+06	No
48	Toxaphene		YES	0	0	0.736	1517.534	303.507	No	0	0	0.0002	0.554	0.111	No	1.82E+04	5.01E+00	1.00E+00	No
49	Tributyltin (TBT)		YES	0	0	0.400	856.255	181.251	No	0	0	0.072	199.530	39.906	No				No
50	1,1,1-Trichloroethane			0	0					0	0								No
51	1,1,2-Trichloroethane		YES	0	0					0	0					9.10E+00	2.81E+06	5.62E+04	No
52	Trichloroethylene		YES	0	0					0	0					1.76E+01	5.40E+05	1.08E+05	No
53	Vinyl Chloride		YES	0	0					0	0					1.42E+00	4.40E+04	8.81E+03	No
54	p-Chloro-m-Cresol			0	0					0	0								No
55	2-Chlorophenol			0	0					0	0					8.71E+01	2.41E+05	4.83E+04	No
56	4-Chlorophenol			0	0					0	0					1.72E+02	4.77E+05	9.53E+04	No
57	4-Dimethylphenol			0	0					0	0					4.98E+02	1.38E+06	2.76E+05	No
58	4,6-Dinitro-O-Cresol			0	0					0	0								No
59	4,6-Dinitrophenol			0	0					0	0					1.11E+03	6.82E+06	1.72E+06	No
60	4,6-Dinitro-2-methylphenol			0	0					0	0					1.89E+02	5.11E+08	1.02E+08	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0					0	0					7.97E+04	8.24E+04	1.65E+04	No
62	2-Nitrophenol			0	0					0	0								No
63	4-Nitrophenol			0	0					0	0								No
64	Pentachlorophenol		YES	0	0	0.724	14134.163	2826.833	No	0	0	0.993	18548.833	3709.367	No	1.77E+08	5.46E+04	1.09E+04	No
65	Phenol			0	0					0	0					3.08E+03	1.30E+06	2.77E+06	No
66	2,4,6-Trichlorophenol		YES	0	0					0	0					1.11E+03	4.37E+04	8.74E+03	No
67	Acenaphthene			0	0					0	0					5.79E+02	1.80E+06	3.21E+06	No
68	Acenaphthylene			0	0					0	0								No
69	Anthracene			0	0					0	0					2.31E+04	6.47E+07	1.29E+07	No
70	Benzidine			0	0					0	0					1.06E+04	3.21E+01	6.43E+02	No
71	Benzo(a)Anthracene		YES	0	0					0	0					1.07E+03	3.29E+02	6.59E+01	No
72	Benzo(a)Pyrene		YES	0	0					0	0					1.07E+02	3.29E+02	6.59E+01	No
73	Benzo(b)fluoranthene			0	0					0	0					1.07E+02	2.95E+01	5.91E+00	No
74	Benzo(g)H)Perylene			0	0					0	0								No
75	Benzo(k)Fluoranthene			0	0					0	0					1.07E+02	2.95E+01	5.91E+00	No
76	Bis (2-Chloroethoxy) Methane			0	0					0	0								No
77	Bis (2-Chloroethyl)-Ether		YES	0	0					0	0					1.07E+01	9.50E+03	1.90E+03	No
78	Bis (2-Chloroisopropyl) Ether			0	0					0	0					3.98E+04	1.05E+06	2.09E+07	No
79	Bis (2-Ethoxyethyl) Phthalate		YES	0	0					0	0					1.21E+03	3.95E+04	7.93E+03	No
80	4-Bromophenyl Phenyl Ether			0	0					0	0								No
81	Butyl Benzyl Phthalate			0	0					0	0					1.19E+03	3.12E+06	6.25E+05	No
82	2-Chloronaphthalene			0	0					0	0					8.24E+02	2.59E+06	5.12E+05	No
83	4-Chlorophenyl Phenyl Ether			0	0					0	0								No
84	Chrysene			0	0					0	0					1.07E+03	3.29E+02	6.59E+01	No
85	Di-N-Butyl Phthalate			0	0					0	0					2.82E+03	7.27E+06	1.45E+06	No
86	Di-N-Octyl Phthalate			0	0					0	0								No
87	DiBenzo(a,h)Anthracene		YES	0	0														

Mixing Zone Analysis Summary

Comments included

☒ Yes ☐ No

General Information

Request
Number

3473

Page 1

Information
Verified By

BCH

Date of MZ Response 5/25/2018

Year File Was Started 2018

Name of Receiving Stream Mobile River

Previous stream name:

Or-AKA (If applicable)

Facility Name

SSAB Alabama, Inc.

Previous Name of Discharger

Or-AKA (If applicable)

Other Point Sources?

☐ Yes☒ No

12 Digit HUC Code 031602040202

Sources Included in the Model:

River Basin Mobile River - Mobile B v

County Mobile v

Use Classification F&W v

Discharge Latitude 30.963400

Discharge Longitude -87.985160

Site Visit Completed?

☒ Yes☐ No

Date of Site Visit 3/28/2018

Permit Information

Type of Discharger

☒ Municipal☐ Industrial☐ Semipublic/Private

Permit Number AL0072109

Permit Status Active v

Hydrology

Drainage Area 43000 sq mi

Stream 7Q10 2089.49 cfs

Stream 1Q10 1567.12 cfs

Stream 7Q2 3939.65 cfs

Annual Average 24370.38 cfs

Date of MZ Analysis 4/27/2018

Discharge Design Flow 1.41 MGD

Method Used to Calculate

ADEM Estimate w/USGS Gage Data v

75% of 7Q10 v

ADEM Estimate w/USGS Gage Data v

ADEM Estimate w/USGS Gage Data v

Model Completed by Wood PLC

Seasonal?

☒ Yes☐ No

Mixing Zone Analysis Summary - Page 2

WET Parameters

Summer

Acute

Ambient Streamflow 1567.12 cfs
ZID Length 3.38 Meters
ZID IWC 11 %

Chronic

Ambient Streamflow cfs
Mixing Zone Length Meters
Mixing Zone IWC %

Winter

Acute

Ambient Streamflow cfs
ZID Length 3.38 Meters
ZID IWC %

Chronic

Ambient Streamflow cfs
Mixing Zone Length Meters
Mixing Zone IWC %

Thermal Parameters

Summer

Ambient Streamflow cfs
Mixing Zone Length Meters
Max. Effluent Temp °C

Winter

Ambient Streamflow cfs
Mixing Zone Length Meters
Max. Effluent Temp °C

Pathogen Parameters

Summer

Ambient Streamflow cfs
ZID Length Meters
Max. Effluent Fecal Conc Cols/100 mls
Max. Effluent E. coli Conc Cols/100 mls
Monthly Average Effluent E. coli Conc Cols/100 mls
Max. Effluent Enterococci Conc (for coastal waters) Cols/100 mls

Winter

Ambient Streamflow cfs
ZID Length Meters
Max. Effluent Fecal Conc Cols/100 mls
Max. Effluent E. coli Conc Cols/100 mls
Monthly Average Effluent E. coli Conc Cols/100 mls
Max. Effluent Enterococci Conc (for coastal waters) Cols/100 mls

Comments and/or Notations CORMIX review. The IWC provided above is for the multiport simulation. For the single 5" port simulation, the calculated IWC is 11.6%. (ZID length = 5.63 m)

NPDES Individual Permit Mod/Reissue (Form 187) - Supplementary Information for Industrial Facilities

version 2.11

(Submission #: HQE-94AS-NADYH, version 1)

Digitally signed by:
AEPACS
Date: 2025.08.01 12:55:21 -05:00
Reason: Submission Data
Location: State of Alabama

Details

Submission ID HQE-94AS-NADYH

Form Input

General Instructions

This form should be used to submit the following permit requests for permitted Industrial Individual NPDES facilities

- Permit Transfers
- Permittee/Facility Name Changes
- Minor Modifications, for example:
 - > Frequency of monitoring or reporting modifications
 - > Changes to interim compliance dates in a schedule of compliance, not including the final compliance date.
 - > Removal of a point source outfall, provided the discharge is terminated and does not result in discharge of pollutants from other outfalls, except in accordance with permit limits.
- Major Modifications, (Any modifications not covered by minor mod's, whether Effluent Limit changes occur or not)
- Reissuances
 - Reissuance of a permit due to approaching expiration
 - Revocation and Reissuance of permit prior to its scheduled expiration

Applicable Base Fees:

- Permit Transfers and/or Permittee/Facility Name Changes
 - > \$800
- Minor Modifications (see examples above)
 - > \$3,940 (Major Sources)
 - > \$3,120 (Minor Sources)
- Major Modifications
 - > \$17,990 (Major Sources)
 - > \$5,615 (Minor Sources)
- Reissuances
 - > \$17,990 (Major Sources)
 - > \$5,615 (Minor Sources)

For assistance, please click here to determine the permit staff responsible for the site or call (334) 271-7799

Processing Information

Purpose of Application

Reissuance of Permit Due to Approaching Expiration

Please indicate if the Permittee is applying for a permit transfer and/or name change in addition to permit modification or reissuance:

None

Action Type

Reissuance

If applicable, briefly describe any planned changes at the facility that are included in this reissuance application:

NONE PROVIDED

General Information

SID Permit Number (if your facility currently holds an SID permit, please provide that number below):

NONE PROVIDED

NPDES or General Permit Numbers (if applicable, please list all permit numbers):

AL0072109

Is this facility/site only applying for permit coverage for discharges from stormwater?

No

Is a new stormwater outfall being added?

No

Permit Information

Permit Number

AL0072109

Current Permittee Name

SSAB Alabama Inc.

Permittee

Permittee Name

SSAB Alabama Inc.

Mailing Address

12400 US Highway 43 North

12400 HWY 43

Axis, AL 36505

Per ADEM Admin. Code r. 335-6-6-.09 (1), a Responsible Official is defined as CEO, President, any position at a level of Vice President or higher, Owner, Partner, Managing Member (LLC), or ranking elected official. Please provide the contact information for the person meeting this definition.

Do NOT enter information for a person that is/will be a Duly Authorized Representative (DAR) (i.e. a person that has been delegated signatory permissions by a Responsible Official). A person that is a Duly Authorized Representative is NOT considered a RESPONSIBLE OFFICIAL.

Responsible Official

Prefix

Mr.

First Name Last Name

Johnny Sjostrom

Title

President and CEO

Organization Name

SSAB Special Steels

Phone Type Number Extension

Business 800 442 7369

Email

johnny.sjostrom@ssab.com

Mailing Address

11 N Water St.

Suite 17000

Mobile, AL 36602

Does the Responsible Official intend to delegate signatory authority for DMRs or other compliance reports to an individual as a duly authorized representative (DAR) for this site?

Yes

Pursuant to ADEM Admin. Code r. 335-6-6-.09(2), a person may ONLY be delegated signatory authority for reports if that person has responsibility for the overall operation of the regulated facility or regulated activity. Once such delegation is made, that person is considered a duly authorized representative (DAR).

Existing Permit Contacts

Affiliation Type	Contact Information	Remove?
Notification Recipient,Responsible Official	Mark Bush, SSAB	Remove
Permittee	SSAB Alabama Inc.	NONE PROVIDED
Environmental Contact,DMR Contact	Tony Cooper, SSAB	NONE PROVIDED

Duly Authorized Representative (DAR)

Duly Authorized Representative - Delegation of Signatory Authority by Responsible Official

If the permittee has not already prepared a signed and dated delegation form/letter, an optional form can be downloaded from the link below. All information should be completed along with the responsible official's signature and date signed. That signed form can be uploaded in the attachment section below titled "DAR Documentation".

[Optional Delegation of Signatory Authority Form](#)

Delegation Document for Duly Authorized Representation (DAR)

[August 2022 - Andy Bramstedt.pdf - 07/24/2025 08:52 AM](#)

Comment

NONE PROVIDED

Pursuant to ADEM Admin. Code r. 335-6-6-.09(2), a person may ONLY be delegated signatory authority for reports if that person has responsibility for the overall operation of the regulated facility or activity. Once such delegation is made, that person is considered a duly authorized representative (DAR).

Authorized Rep

Prefix

Mr.

First Name Last Name

Andy Bramstedt

Title

General Manager

Organization Name

SSAB Alabama Inc.

Phone Type Number Extension

Business 2512643402

Email

andy.bramstedt@ssab.com

Mailing Address

12400 HIGHWAY 43 N

AXIS, AL 36505-4308

United States

Facility/Site Information

Facility/Site Name

SSAB Alabama Inc.

Organization/Ownership Type

Corporation

Facility/Site Address or Location Description

12400 HWY 43

Axis, AL 36505

Facility/Site County

Mobile

Detailed Directions to the Facility/Site

Follow Interstate Highway 65 N/I-65 N toward Creola / Take exit 19 on the right onto Highway 43/US-43 N/AL-13 toward Creola / Keep left at Highway 43/US-43 N/AL-13 toward Creola / Follow Highway 43/US-43 N/AL-13 (approx 4.6 miles) / Turn Right for SSAB entrance / Follow drive approx. 0.5 mil then stay to the right / Turn left to enter main parking area

Facility Map[SSAB NPDES Maps \(2025 07 29\).pdf - 07/29/2025 11:01 PM](#)**Comment**

NONE PROVIDED

Please refer to the link below for Lat/Long map instruction help:

[Map Instruction Help](#)**Facility/Site Front Gate Latitude and Longitude**

30.94660000000000,-88.02460000000001

12400 HWY 43, Axis, AL

SIC Code(s) [Please enter Primary SIC Code first followed by any additional applicable SIC Codes]

3312-Steel Works Blast Furnaces (Including Coke Ovens) and Rolling Mills

NAICS Code(s) [Please enter Primary NAICS Code first followed by any additional applicable NAICS Codes]

331110-Iron and Steel Mills and Ferroalloy Manufacturing

Facility/Site Contact**Prefix**

Mr.

First Name Last Name

Tony Cooper

Title

Environmental Manager

Organization Name

SSAB

Phone Type Number Extension

Business 2512643345

Email

tony.cooper@ssab.com

Address

12400 Highway 43 N

Axis, AL 36505

DMR Contact(s) (1 of 1)

DMR Contact**Prefix**

Mr.

First Name Last Name

Tony Cooper

Title

Environmental Manager

Phone Type Number Extension

Business 2512643345

Email

tony.cooper@ssab.com

Address

12400 Highway 43 N

Axis, AL 36505

Applicant Business Entity Information**Address of Incorporation**

12400 HIGHWAY 43 NORTH

Axis, AL 36505

Agent Designated by the Corporation for Purposes of Service

Name	Address
CT Corporation System	2 North Jackson Street Suite 605, Montgomery AL 36104

Please provide all corporate officers

Name	Title	Address
Per Elfgrén	President	Klarabergsviadukten 70, D6, Stockholm, Sweden
Andy Bramstedt	General Manager	12400 Hwy 43 North, Axis AL 36505
George Chapman	VP	12400 Hwy 43 North, Axis AL 36505
Michele Klebuc-Simes	VP and Secretary	11 N Water St, Suite 17000, Mobile AL 36602

Does the applicant applying for coverage have a Parent Corporation?

Yes

Parent Corporation of Applicant

Name	Address
SSAB ENTERPRISES, LLC	11 N Water St, Suite 17000, Mobile AL 36602

Does the applicant applying for coverage have Subsidiary Corporations?

No

Enforcement History

Has the applicant been issued any Notices of Violation, Orders (Consent or Administrative/Unilateral), or Judicial Actions (Complaint, Settlement Agreement, Consent Decree, or Court Order) concerning water pollution or other permit violations within the State of Alabama in the past five years?

Yes

Identify all Notices of Violation, Orders (Consent or Administrative/Unilateral), or Judicial Actions (Complaint, Settlement Agreement, Consent Decree, or Court Order) concerning water pollution or other permit violations, if any, against the Applicant within the State of Alabama in the past five years.

Facility/Site Name	Permit Number, If Applicable	Type of Action	Date of Action
SSAB Alabama, Inc.	AL0072109	Notice of Violation	05/29/2025
SSAB Alabama, Inc.	503-5065	Notice of Violation	06/11/2024

Facility/Site Name	Permit Number, If Applicable	Type of Action	Date of Action
SSAB, Alabama, Inc.	503-5065	Consent Order	03/22/2024

Business Activity

A facility with processes inclusive in the business areas shown below may be covered by Environmental Protection Agency's (EPA) categorical effluent guideline standards. These facilities are termed categorical users. If unsure, please call the Industrial Section at (334) 271-7943 to discuss or use the link below to contact the Permit Engineer for the county the facility is/will be located in.

[Industrial Section Assignment Map](#)

If your facility conducts or will be conducting any of the processes listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), please check the category of business activity:

Iron and Steel

Give a brief description of all operations at this facility including primary products or services:

This business (facility) produces steel products in the form of plate and coil. These products are made from melting scrap metal in an electric arc furnace and transferring the molten metal to the continuous caster to form the slab. The slab is then further processed through the rolling mill to form both the plate and coil products for finishing. Additional activities at the facility include blasting and coating of finished plate.

Water Supply

Water Sources (check all that apply):

Groundwater

Any optional information may be provided here.

All process water is from on-site Groundwater Wells (Permit No. 2015-214-NRU-GWE ACAMP-2015-214.3-NRU-GWE-E3 (PW6, PW7, PW8)).

Municipal water use at the site is for Sanitary/Potable only.

Outfalls (1 of 5)

001

Please click below if this discharge no longer exists or is no longer required:

NONE PROVIDED

Outfall Identifier

001

Receiving Water

Mobile River

Does the discharge enter the named receiving water via an unnamed tributary?

NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:

None apply

Estimated Average Daily Flow (MGD)

0.515

Monitoring/Sampling Point Location

30.9634,-87.98516

Outfalls (2 of 5)

002

Please click below if this discharge no longer exists or is no longer required:

NONE PROVIDED

Outfall Identifier

002

Receiving Water

Carter Branch

Does the discharge enter the named receiving water via an unnamed tributary?

NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:

Intermittent Discharge

Estimated Average Daily Flow (MGD)

3.42

Monitoring/Sampling Point Location

30.943526,-88.008809

Outfalls (3 of 5)

003

Please click below if this discharge no longer exists or is no longer required:

NONE PROVIDED

Outfall Identifier

003

Receiving Water

Carter Branch

Does the discharge enter the named receiving water via an unnamed tributary?

NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:

Intermittent Discharge

Estimated Average Daily Flow (MGD)

1.3

Monitoring/Sampling Point Location

30.937048,-88.010250

Outfalls (4 of 5)

004

Please click below if this discharge no longer exists or is no longer required:

NONE PROVIDED

Outfall Identifier

004

Receiving Water

Carter Branch

Does the discharge enter the named receiving water via an unnamed tributary?

NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:

Intermittent Discharge

Estimated Average Daily Flow (MGD)

0.37

Monitoring/Sampling Point Location

30.942339,-88.008321

Outfalls (5 of 5)

01A

Please click below if this discharge no longer exists or is no longer required:

NONE PROVIDED

Outfall Identifier

01A

Receiving Water

Mobile River

Does the discharge enter the named receiving water via an unnamed tributary?

NONE PROVIDED

Indicate if either of the following characteristics apply to this discharge:

None apply

Estimated Average Daily Flow (MGD)

0.4

Monitoring/Sampling Point Location

30.963400,-87.985160

Process Flow Schematic with Wastewater Treatment(s), If Applicable

For an example of a process flow diagram, please use the link below.

[Figure 1: Example of Process Flow Schematic](#)

Process Flow Schematic

[SSAB Flow Diagrams.pdf](#) - 07/25/2025 02:33 PM

Comment

Treated process water effluent is piped approximately 2 miles to Outfall 001 at the Mobile River and discharged to via a water diffuser to aid in proper mixing.

Coastal Zone Information

Is the discharge(s) located within the 10-foot elevation contour and within the limits of Mobile or Baldwin County?

Yes

Does the project require new construction?

No

Will the project be a source of new air emissions?

No

Does the project involve dredging and/or filling of a wetland area or water way?

No

Does the project involve wetlands and/or submersed grassbeds?

No

Are oyster reefs located near the project site?

No

Does the project involve the site development, construction and operation of an energy facility as defined in ADEM Admin. Code r. 335-8-1-.02(bb)?

No

Does the project involve mitigation of shoreline or coastal area erosion?

No

Does the project involve construction on beaches or dune areas?

No

Will the project interfere with public access to coastal waters?

No

Does the project lie within the 100-year floodplain?

Yes

Does the project involve the registration, sale, use, or application of pesticides?

No

Does the project propose or require construction of a new well or to alter an existing groundwater well to pump more than 50 gallons per day (GPD)?

No

Anti-Degradation Evaluation

Is this a new or increased discharge that began after April 3, 1991?

No

Additional Information

Do you share an outfall with another facility?

No

Indicate if automatic sampling equipment or continuous wastewater flow metering equipment is being operated at this facility:

Current	Yes/No
Continuous Wastewater Flow Metering Equipment	Yes
Automatic Sampling Equipment	Yes

Indicate if installation automatic sampling equipment or continuous wastewater flow metering equipment planned at this facility:

Planned	Yes/No
Continuous Wastewater Flow Metering Equipment	N/A
Automatic Sampling Equipment	N/A

Please describe the equipment below:

Designated compositors for each sampling parameter:

Teledyne 602964004 Model Glacier Samplers for Metals and Toxicity

Teledyne 602974032 BLZZARD Controller for the Toxicity

Please attach the process schematic with sampling equipment locations.

[SSAB Flow scan.pdf - 07/29/2025 11:03 PM](#)

Comment

NONE PROVIDED

Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics (Consider production processes as well as air or water pollution treatment processes that may affect the discharge.)?

No

Do you use biocides, corrosion inhibitors, or chemical additives in your cooling or blowdown water?

Yes

The applicant must provide a list of the following information for each biocide or chemical:

- (1) Name and general composition of biocide or chemical (if composition is not provided on MSDS sheet)
- (2) 48-hour or 96-hour LC50 data for organisms representative of the biota of the waterway into which the discharge will ultimately reach. For freshwater, the fathead minnow (*Pimephales promelas*) and cladoceran (*Ceriodaphnia dubia*) are the test organisms. For salt water, the mysid shrimp and the sheepshead minnow or inland silverside are the test organisms. Other acceptable aquatic organisms may be allowed by the Department if sufficient information is provided. If the MSDS sheet does not provide data for the organisms specified above, the facility must provide the data unless the Department grants approval for an alternate organism.
- (3) Quantities to be used
- (4) Frequencies of use
- (5) Maximum proposed discharge concentrations
- (6) EPA registration of number, if applicable and is not provided on the MSDS sheet.

List of Biocides

Please list biocides below:
See Biocide/Corrosion Inhibitor Summary Sheet

Biocide/Corrosion Inhibitor Summary Sheet

[SSAB Water Chemicals List \(2025 07 31\).pdf - 08/01/2025 12:00 AM](#)

Comment

NONE PROVIDED

Safety Data Sheets (SDS)

[SSAB SDS \(2025 07 29\).pdf - 07/29/2025 11:04 PM](#)

Comment

NONE PROVIDED

Treatment

Is any form of wastewater treatment (see list below) practiced at this facility?

Yes

Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

Grease or oil separation
Neutralization, pH correction
Screen
Chlorination
Filtration
Chemical precipitation
Sedimentation
Spill protection

Grease or oil separation type:

Gravity Oil/Water Separator

Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years?

No

Facility Operational Characteristics

Indicate whether the facility discharge is:

Continuous through the year

Comments:

NONE PROVIDED

Non-Discharged Wastes

Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

Yes

Waste Generated	Quantity (lbs/day)	Disposal Method	On-Site or Off-Site?	If Off-Site, Identify the Facility:
Paint Related Waste	100	Landfill	Off-Site	Giant Resource Recovery
Filter Cake - WWTP Sludge	9500	Landfill	Off-Site	EcoSouth
Used Oil	140	Recycle/Reclaim/Dispose	Off-Site	Aaron Oil

Does any outside firm remove any of the above checked wastes?

No

EPA Application Forms

All Applicants must submit certain EPA permit application forms. More than one application form may be required.

Form 1 - General Information Form required for all applications

Form 2C - Should be submitted for facilities with existing discharge(s) of process wastewater.

Form 2D - Should be submitted for facilities that have not yet commenced discharge(s) of process wastewater.

Form 2E - Should be submitted for facilities who discharge non-process wastewater, such as non-contact cooling water or boiler blowdown.

Form 2F - Should be submitted for all discharges of storm water associated with an industrial activity.

The EPA application forms are found on the Department's website here.

EPA Form 1

[EPA Form 1.pdf - 07/29/2025 11:07 PM](#)

Comment

EPA Form 1

Additional EPA Forms (EPA Form 2C, 2D, 2E and/or 2F)

[EPA Form 2C.pdf - 07/29/2025 11:07 PM](#)

[EPA Form 2F.pdf - 07/29/2025 11:07 PM](#)

Comment

EPA Forms 2C and 2F

Other attachments (as needed)

[Attachments for EPA Forms \(2025 07 28\).pdf - 07/29/2025 11:08 PM](#)

Comment

Addendum to EPA Forms 1, 2C, and 2F

Additional Attachments

Please attach any additional information as needed.

[Attachments for ADEM 187 Form \(2025 07 25\).pdf - 07/29/2025 11:09 PM](#)

Comment

NONE PROVIDED

Application Preparer

Application Preparer**Prefix**

Ms.

First Name Last Name

Rachel Bauman

Title

Senior Consultant

Organization Name

Trinity Consultants

Phone Type Number Extension

Business 205.973.0658

Email

rbauman@trinityconsultants.com

Address

10 Inverness Center Parkway

Suite 130

Birmingham, AL 35242

Agreements and Signature(s)

SUBMISSION AGREEMENTS

- ☒ I am the owner of the account used to perform the electronic submission and signature.
- ☒ I have the authority to submit the data on behalf of the facility I am representing.
- ☒ I agree that providing the account credentials to sign the submission document constitutes an electronic signature equivalent to my written signature.
- ☒ I have reviewed the electronic form being submitted in its entirety, and agree to the validity and accuracy of the information contained within it to the best of my knowledge.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted; based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

"I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested."

NOTE: 335-6-5-.14 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.

The application shall be signed by a responsible official, a request for variance from categorical pretreatment standards, and a category determination request shall be signed by a responsible official, as indicated below:

- In the case of a corporation, by a principal executive officer of at least the level of vice president;
- In the case of a partnership, by a general partner;
- In the case of a sole proprietorship, by the proprietor; or
- In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official

Signed
By Andrew Bramstedt on 08/01/2025 at 12:49 PM

EPA Identification Number ALR000014183		NPDES Permit Number AL0072109		Facility Name SSAB ALABAMA INC.		OMB No. 2040-0004 Expires 07/31/2026	
---	--	----------------------------------	--	------------------------------------	--	---	--

Form 1 NPDES		U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater GENERAL INFORMATION						
SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(F) AND (F)(1))								
Activities Requiring an NPDES Permit	1.1 Applicants Not Required to Submit Form 1							
	1.1.1	Is the facility a new or existing publicly owned treatment works or has your permitting authority directed you to submit Form 2A? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. If the facility is also a treatment works treating domestic sewage , you must also complete Form 2S.	1.1.2	Is the facility a sludge-only facility (i.e., a facility that does not discharge wastewater to surface waters)? If yes, STOP. Do NOT complete Form 1. Complete Form 2S.				
	1.2 Applicants Required to Submit Form 1							
	1.2.1	Is the facility a concentrated animal feeding operation or a concentrated aquatic animal production facility ? ☐ Yes → Complete Form 1 and Form 2B. ☒ No	1.2.2	Is the facility an existing manufacturing, commercial, mining, or silvicultural facility that is currently discharging process wastewater ? ☒ Yes → Complete Form 1 and Form 2C. ☐ No				
	1.2.3	Is the facility a new manufacturing, commercial, mining, or silvicultural facility that has not yet commenced to discharge ? ☐ Yes → Complete Form 1 and Form 2D. ☒ No	1.2.4	Is the facility a new or existing manufacturing, commercial, mining, or silvicultural facility that discharges only nonprocess wastewater ? ☐ Yes → Complete Form 1 and Form 2E. ☒ No				
	1.2.5	Is the facility a new or existing facility whose discharge is composed entirely of stormwater associated with industrial activity or whose discharge is composed of both stormwater and non-stormwater ? ☒ Yes → Complete Form 1 and Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). ☐ No	1.2.6	Is the facility a new or existing treatment works treating domestic sewage that discharges wastewater to surface waters? ☐ Yes → Complete Form 1, Form 2S, and any other applicable forms, as directed by your permitting authority. ☒ No				
	SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(F)(2))							
	Name, Mailing Address, and Location	2.1 Facility Name						
SSAB ALABAMA INC.								
2.2 EPA Identification Number								
ALR000014183								
2.3 Facility Contact								
Name (first and last)		Title			Phone number			
TONY COOPER		SR ENVIRONMENTAL MANAGER			(251) 264-3345			
Email address								
TONY.COOPER@SSAB.COM								

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

Name, Mailing Address, and Location Continued	2.4	Facility Mailing Address		
	Street or P.O. box			
	12400 US HIGHWAY 43 NORTH			
	City or town		State	ZIP code
	AXIS		AL	36505
	2.5	Facility Location		
	Street, route number, or other specific identifier			
	EAST SIDE OF US HIGHWAY 43, SOUTH OF ROGER PHILLIPS ROAD			
	County name		County code (if known)	
	MOBILE		COUNTY FP: 097 COUNTY NS: 00161575	
City or town		State	ZIP code	
AXIS		AL	36505	

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(F)(3))				
SIC and NAICS Codes	3.1	SIC Code(s)	Description (optional)	
		3312	STEEL WORKS, BLAST FURNACES (INCLUDING COKE OVENS), AND ROLLING MILLS	
	3.2	NAICS Code(s)	Description (optional)	
		331110	IRON AND STEEL MILLS AND FERROALLOY MANUFACTURING	

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(F)(4))			
Operator Information	4.1	Name of Operator	
		SSAB ALABAMA INC.	
	4.2	Is the name you listed in Item 4.1 also the owner?	
		☒ Yes ☐ No	
	4.3	Operator Status	
	☐ Public—federal ☐ Public—state ☐ Other public (specify) _____		
	☒ Private ☐ Other (specify) _____		
4.4	Phone Number of Operator		
	(251) 662-4400		

EPA Identification Number ALR000014183		NPDES Permit Number AL0072109		Facility Name SSAB ALABAMA INC.		OMB No. 2040-0004 Expires 07/31/2026	
Operator Information Continued	4.5	Operator Address					
		Street or P.O. Box 12400 US HIGHWAY 43 NORTH					
		City or town AXIS	State AL	ZIP code 36505			
		Email address of operator contactusa@ssab.com					
SECTION 5. INDIAN LAND (40 CFR 122.21(F)(5))							
Indian Land	5.1	Is the facility located on Indian Land? ☐ Yes ☒ No					
SECTION 6. EXISTING ENVIRONMENTAL PERMITS (40 CFR 122.21(F)(6))							
Existing Environmental Permits	6.1	Existing Environmental Permits (check all that apply and print or type the corresponding permit number for each)					
		☒ NPDES (discharges to surface water) AL0072109	☒ RCRA (hazardous wastes) ALR000014183	☐ UIC (underground injection of fluids)			
		☒ PSD (air emissions) 503-8065	☐ Nonattainment program (CAA)	☒ NESHAPs (CAA) See Attachment			
		☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☒ Other (specify) See Attachment			
SECTION 7. MAP (40 CFR 122.21(F)(7))							
Map	7.1	Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.) ☒ Yes ☐ CAFO—Not Applicable (See requirements in Form 2B.)					
SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(F)(8))							
Nature of Business	8.1	Describe the nature of your business. This business (facility) produces steel products in the form of plate and coil. These products are made from melting scrap metal in an electric arc furnace and transferring the molten metal to the continuous caster to form the slab. The slab is then further processed through the rolling mill to form both the plate and coil products for finishing. Additional activities at the facility include blasting and coating of finished plate.					
SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(F)(9))							
Cooling Water Intake Structures	9.1	Does your facility use cooling water? ☒ Yes ☐ No → SKIP to Item 10.1.					
	9.2	Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts I and J may have additional application requirements at 40 CFR 122.21(r). Consult with your NPDES permitting authority to determine what specific information needs to be submitted and when.) EXTRACTED GROUNDWATER FROM WELLS					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

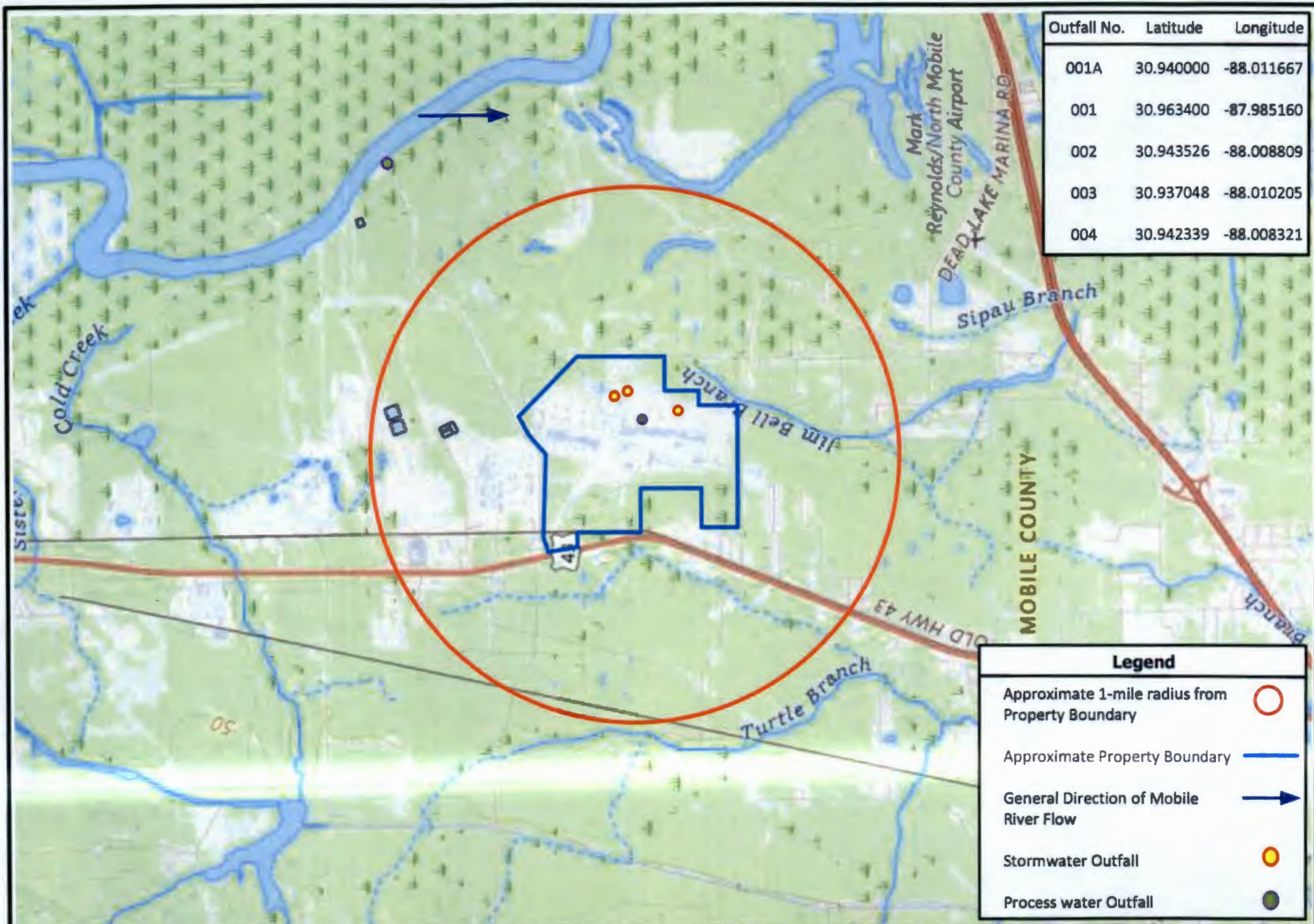
OMB No. 2040-0004
Expires 07/31/2026

SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(F)(10))

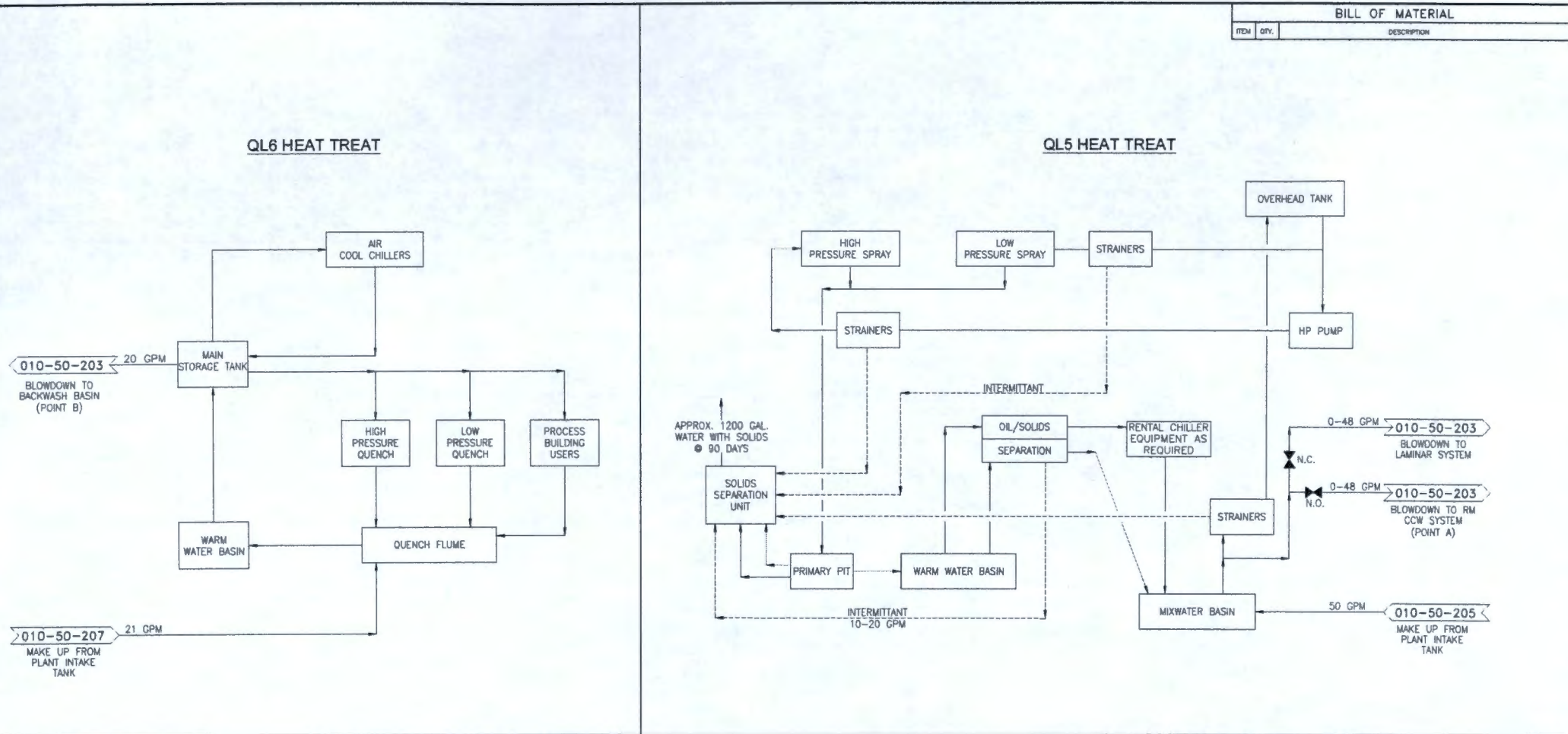
Variance Requests	10.1	Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(m)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)	
	☐	Fundamentally different factors (CWA Section 301(n))	☐ Water quality related effluent limitations (CWA Section 302(b)(2))
	☐	Non-conventional pollutants (CWA Section 301(c) and (g))	☐ Thermal discharges (CWA Section 316(a))
	☒	Not applicable	

SECTION 11. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(A) AND (D))

Checklist and Certification Statement	11.1	In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.	
		Column 1	Column 2
	☒	Section 1: Activities Requiring an NPDES Permit	☐ w/ attachments
	☒	Section 2: Name, Mailing Address, and Location	☐ w/ attachments
	☒	Section 3: SIC Codes	☐ w/ attachments
	☒	Section 4: Operator Information	☐ w/ attachments
	☒	Section 5: Indian Land	☐ w/ attachments
	☒	Section 6: Existing Environmental Permits	☒ w/ attachments
	☒	Section 7: Map	☒ w/ topographic map ☐ w/ additional attachments
	☒	Section 8: Nature of Business	☐ w/ attachments
	☒	Section 9: Cooling Water Intake Structures	☐ w/ attachments
	☒	Section 10: Variance Requests	☐ w/ attachments
	☒	Section 11: Checklist and Certification Statement	☐ w/ attachments
	11.2	Provide the following certification. (See instructions to determine the appropriate person to sign the application.)	
Certification Statement <i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>			
Name (print or type first and last name) ANDY BRAMSTEDT		Official title GENERAL MANAGER	
Signature 		Date signed 7/29/2025	







NOTES:

1. FLOW SHOWN ARE THE DESIGN FLOW RATES FOR THE RESPECTIVE SYSTEMS.

LEGEND	
	NORMAL WATER FLOW AT DESIGN CR FOR RECYCLE SYSTEMS
	DEMAND MAKEUP OF PROCESS WATER IF REQUIRED TO MEET THE TARGET CR FOR THE SYSTEM

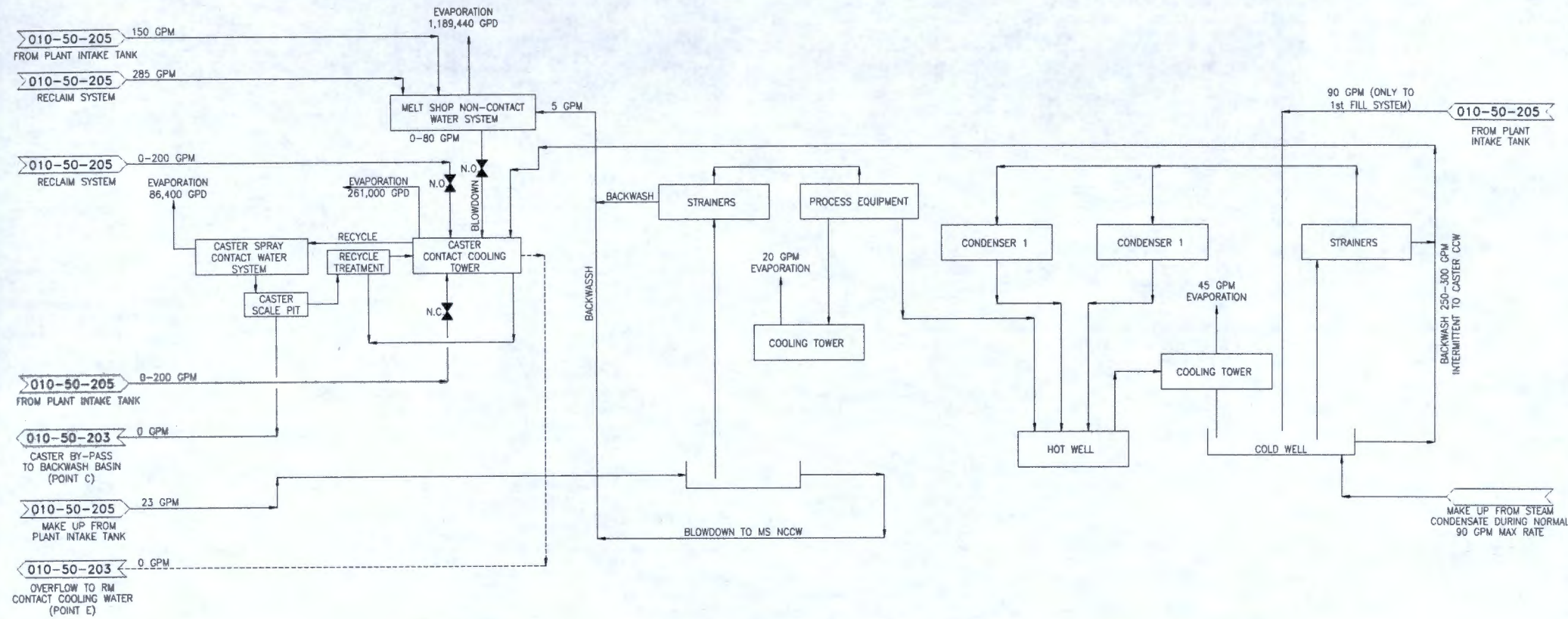
0	17 JAN 2025	##	ISSUED FOR CONSTRUCTION	##	
NO.	DATE	BY	REVISION	APPRO.	SSAB WPD

ITEM	REFERENCE DWG.	QTY.	DESCRIPTION
SSAB SPECIAL STEELS MOBILE, ALABAMA SSAB (ALABAMA), INC. AL0072109 NPDES PERMIT WATER FLOW DIAGRAM-HEAT TREAT (QL-5 & QL6)			
THIRD ANGLE PROJECTION	Mfg. Dwg. No.: Drawn: Date: ## Check: Appd.:	ACAD FILE NAME: SSAB DRAWING NO.: 010-50-201	SHEET NO. REV. 1 of 10

This drawing and all information thereon are the exclusive property of SSAB and must not be copied, reproduced, made public, or used for any purpose other than for which the drawing is provided without written authorization of SSAB.

BILL OF MATERIAL

ITEM	QTY.	DESCRIPTION
------	------	-------------



VTD NON-CONTACT MACHINE COOLING WATER

VTD CONDENSER CONTACT WATER

0	17 JAN 2025	##	ISSUED FOR CONSTRUCTION	##	
NO.	DATE	BY	REVISION	APPRO.	SSAB WOI

ITEM	REFERENCE DWG.	QTY.	DESCRIPTION
SSAB SSAB (ALABAMA), INC. AL0072109 NPDES PERMIT WATER FLOW DIAGRAM - MELT SHOP/ VTD			
SPECIAL STEELS MOBILE, ALABAMA	Wrg. Dwg. No.:	ACAD FILE NAME:	
	Drawn: Date: ##	SSAB DRAWING NO.	SHEET NO. REV.
	Check: Appd.	010-50-202	1 of 1 0
THIRD ANGLE PROJECTION Scale:			

This drawing and all information thereon are the exclusive property of SSAB and must not be copied, reproduced, made public, or used for any purpose other than for which the drawing is provided without written authorization of SSAB.

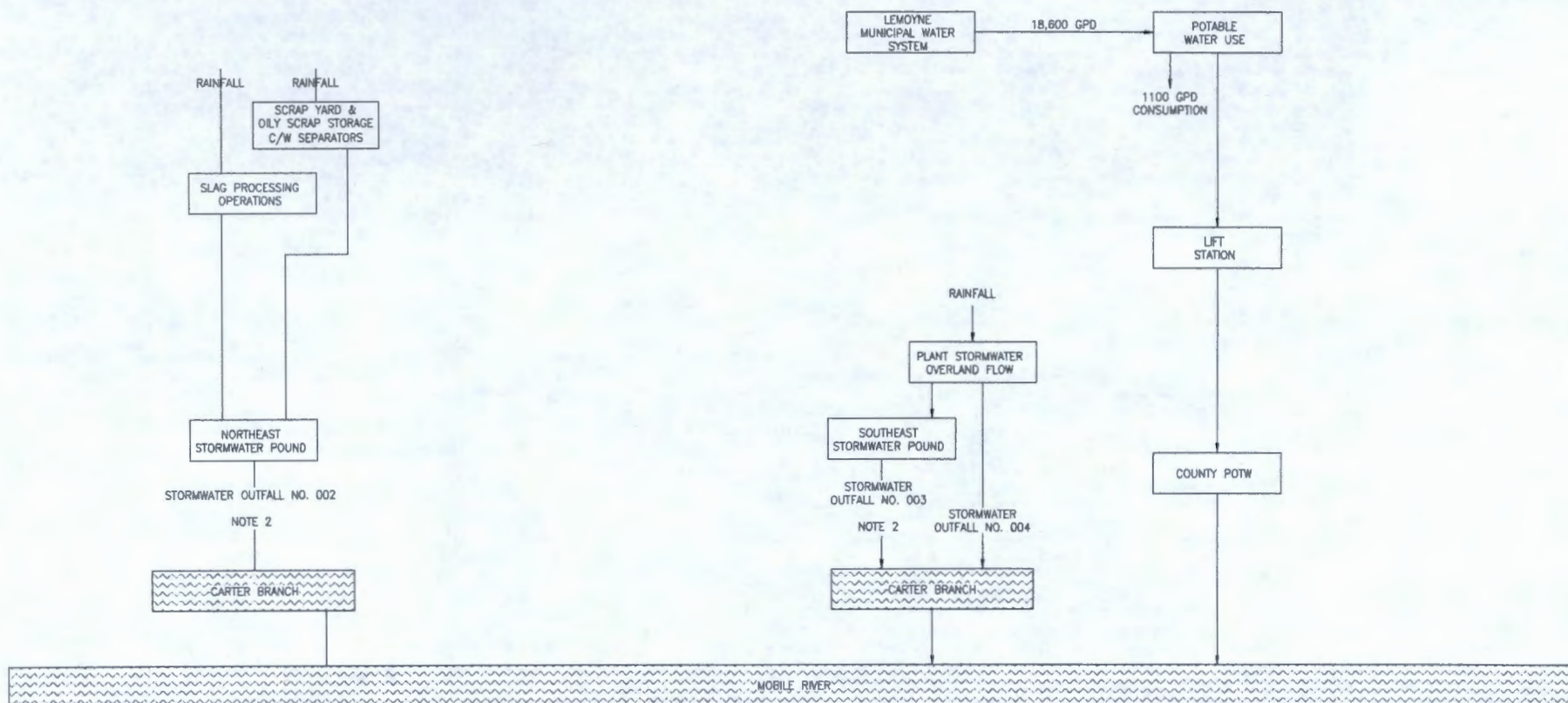


- | | | | | | |
|-----|-------------|----|-------------------------|-------|-----------|
| 0 | 17 JAN 2025 | ## | ISSUED FOR CONSTRUCTION | ## | |
| NO. | DATE | BY | REVISION | APPD. | SSAB WORK |

ITEM	REFERENCE DWG.	CITY	DESCRIPTION	
 SSAB SPECIAL STEELS MOBILE, ALABAMA	SSAB (ALABAMA), INC.			
	AL0072109 NPDES PERMIT			
	WATER FLOW DIAGRAM-ROLLING MILL/AMINAR			
	(Blank space for notes or additional description)			
THIRD ANGLE PROJECTION 	Mfg. DWG. NO.: Drawn: _____ Check: _____ Scale: _____	ACAD FILE NAME: SSAB DRAWING NO. _____ 010-50-203	SHEET NO. _____ OF _____	

BILL OF MATERIAL

ITEM	QTY.	DESCRIPTION
------	------	-------------



NOTES:

1. STORMWATER OUTFALLS NO. 002 AND 003 ARE SAMPLE POINTS AT THE DISCHARGE OF THE RESPECTIVE POND.
2. OUTFALL NO. 003 SHALL BE THE REPRESENTATIVE SMAPLINT POINT FOR OUTFALL NO. 004

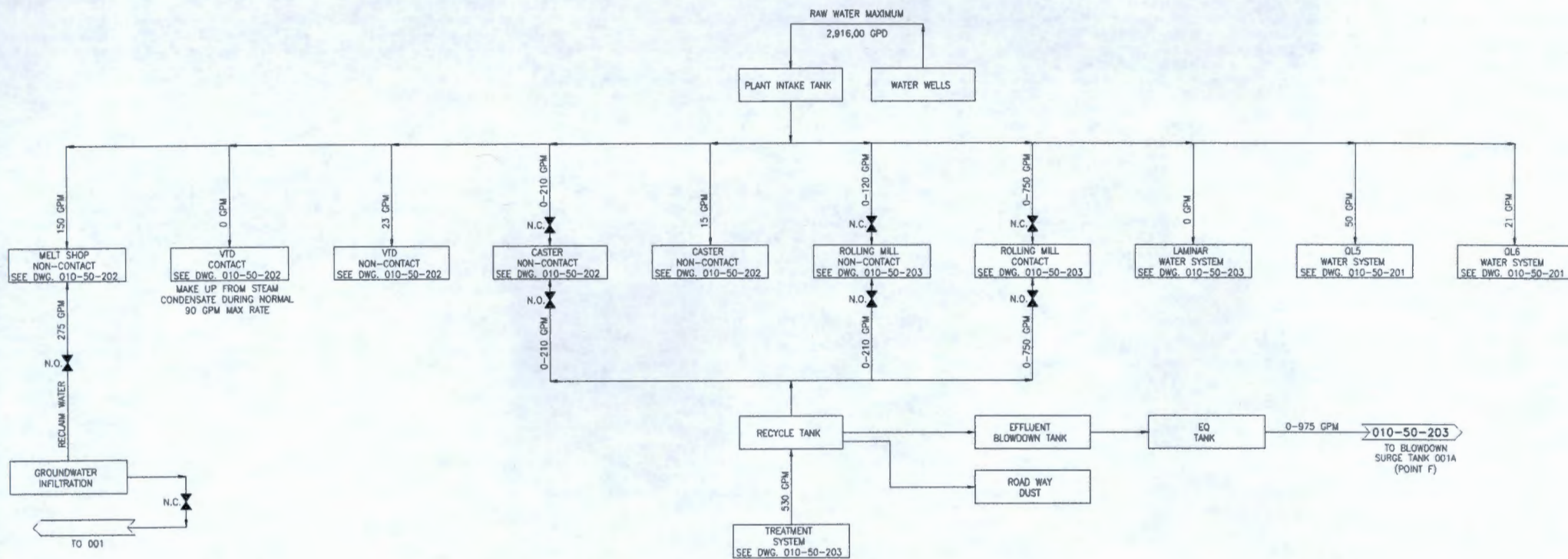
ITEM	REFERENCE	DWG.	QTY.	DESCRIPTION
SSAB				
SSAB (ALABAMA), INC.				
AL0072109 NPDES PERMIT				
WATER FLOW DIAGRAM-RAINFALL/STORMWATER				
Mfg. Draw. No.:		ACAD FILE NAME:		
Drawn:	Date: ##	SSAB DRAWING NO.		SHEET NO. REV.
Check:	Appd.	010-50-204		1 of 1 0
THIRD ANGLE PROJECTION				

NO.	DATE	BY	REVISION	APPRO.	SSAB WFO
0	17 JAN 2025	##	ISSUED FOR CONSTRUCTION	##	

This drawing and all information therein are the exclusive property of SSAB and must not be copied, reproduced, made public, or used for any purpose other than for which the drawing is provided without written authorization of SSAB.

BILL OF MATERIAL

ITEM	QTY.	DESCRIPTION
------	------	-------------



ITEM	REFERENCE DWG.	QTY.	DESCRIPTION
SSAB			
SSAB (ALABAMA), INC.			
AL0072109 NPDES PERMIT			
WATER FLOW DIAGRAM-PLANT MAKE-UP WATER			
SPECIAL STEELS MOBILE, ALABAMA	Mfg. Draw. No.:	SSAB FILE NAME:	
	Drawn: Note: ##	SSAB DRAWING NO.	SHEET NO. REV.
	Checked: Appd:	010-50-205	1 of 1 0
	THIRD ANGLE PROJECTION		

0	17 JAN 2025	##	ISSUED FOR CONSTRUCTION	##		
NO.	DATE	BY	REVISION	APPD.	SSAB #04	

This drawing and all information thereon are the exclusive property of SSAB and must not be copied, reproduced, made public, or used for any purpose other than for which the drawing is provided without written authorization of SSAB.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

Form 2C NPDES		U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS
---------------------	--	--

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(G)(1))

Outfall Location	<u>1.1</u>	Provide information on each of the facility's outfalls in the table below.			
		Outfall Number	Receiving Water Name	Latitude	Longitude
		001A	Internal Outfall / Mobile Riv	30.940000	-88.011667
		001	Mobile River	30.963400	-87.985160

SECTION 2. LINE DRAWING (40 CFR 122.21(G)(2))

Line Drawing	<u>2.1</u>	Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C-1 at end of instructions for example.) ☒ Yes
---------------------	------------	---

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(G)(3))

Average Flows and Treatment	<u>3.1</u>	For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.		
		Outfall Number 001		
		Operations Contributing to Flow		
		Operation	Average Flow	
		See Attachment	mgd	
			mgd	
			mgd	
			mgd	
		Treatment Units		
		Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Exhibit 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
		See Attachment		

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

OMB No. 2040-0004
Expires 07/31/2026

Average Flows and Treatment Continued	3.1 mmt	**Outfall Number** _____		
	Operations Contributing to Flow			
	Operation		Average Flow	
			mgd	
			mgd	
			mgd	
			mgd	
	Treatment Units			
	Description (include size, flow rate through each treatment unit, retention time, etc.)		Code from Exhibit 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
	Outfall Number _____			
	Operations Contributing to Flow			
	Operation		Average Flow	
			mgd	
			mgd	
			mgd	
			mgd	
	Treatment Units			
	Description (include size, flow rate through each treatment unit, retention time, etc.)		Code from Exhibit 2C-2	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
System Users	3.2	Are you applying for an NPDES permit to operate a privately owned treatment works? ☐ Yes ☒ No → SKIP to Section 4.		
	3.3	Have you attached a list that identifies each user of the treatment works? ☐ Yes		

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(G)(4))

Intermittent Flows	<u>4.1</u>	Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal? ☐ Yes ☒ No → SKIP to Section 5.					
	<u>4.2</u>	Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.					
	Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
			Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days
			days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(G)(5))

Applicable ELGs	<u>5.1</u>	Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility? ☒ Yes ☐ No → SKIP to Section 6.		
	<u>5.2</u>	Provide the following information on applicable ELGs.		
	ELG Category	ELG Subcategory	Regulatory Citation	
	Iron and Steel Manufacturing Point Source Category	Continuous Casting Subcategory	40 CFR 420 Subpart F	
	Iron and Steel Manufacturing Point Source Category	Hot Forming Subcategory	40 CFR 420 Subpart G	
		Iron and Steel Manufacturing Point Source Category	Vacuum Degassing Subcategory	40 CFR 420 Subpart E

Production-Based Limitations	<u>5.3</u>	Are any of the applicable ELGs expressed in terms of production (or other measure of operation)? ☒ Yes ☐ No → SKIP to Section 6.		
	<u>5.4</u>	Provide an actual measure of daily production expressed in terms and units of applicable ELGs.		
	Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure
	001	See Attached		

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

	<u>5.5</u>	Are you requesting alternative limits based on an anticipated increase in the actual production during the next permit term? (Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)
		☐ Yes ☒ No

SECTION 6. IMPROVEMENTS (40 CFR 122.21(G)(6))

Upgrades and Improvements	<u>6.1</u>	Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?			
		☐ Yes ☒ No → SKIP to Item 6.3.			
	<u>6.2</u>	Briefly identify each applicable project in the table below.			
		Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates
				Required	Projected
	<u>6.3</u>	Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? <i>(optional item)</i>			
		☐ Yes ☐ No ☒ Not applicable			

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(G)(7))

Effluent and Intake Characteristics	See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.				
	Table A. Conventional and Non-Conventional Pollutants				
	<u>7.1</u>	Are you requesting a waiver from your NPDES permitting authority for any Table A pollutants for any of your outfalls?			
		☐ Yes ☒ No → SKIP to Item 7.3.			
	<u>7.2</u>	If yes, indicate the applicable outfalls below or check the appropriate box to indicate that you are requesting a waiver for all outfalls. Attach waiver request and other required information to the application.			
		Outfall number _____ Outfall number _____ Outfall number _____			
		☐ I am requesting a waiver for some pollutants at all outfalls. ☐ I am requesting a waiver for all pollutants at all outfalls → SKIP to Item 7.4.			
	<u>7.3</u>	Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package?			
	☒ Yes				
Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants					
<u>7.4</u>	Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.)				
	☒ Yes ☐ No → SKIP to Item 7.8.				
<u>7.5</u>	Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?				
	☒ Yes				

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

OMB No. 2040-0004
Expires 07/31/2026

SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(G)(9))

Used or Manufactured Toxics	8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☒ Yes ☐ No → SKIP to Section 9.		
	8.2	List the pollutants below. Attach additional sheets, if necessary.		
	1. Zinc	4.	7.	
	2. Lead	5.	8.	
	3. Chromium	6.	9.	

SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(G)(11))

Biological Toxicity Tests	9.1	Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) a receiving water in relation to your discharge? ☒ Yes ☐ No → SKIP to Section 10.		
	9.2	Identify the tests and their purposes below.		
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?
		See Attachment		☐ Yes ☐ No
				☐ Yes ☐ No
			☐ Yes ☐ No	

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(G)(12))

Contract Analyses	10.1	Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm? ☒ Yes ☐ No → SKIP to Section 11.			
	10.2	Provide information for each contract laboratory or consulting firm below.			
			Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
		Name of laboratory/firm	Micro-Methods		
		Laboratory address	6500 Sunplex Drive, Ocean Springs, MS 39564		
		Phone number	(228) 875-6420		
	Pollutant(s) analyzed	All Reported			

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

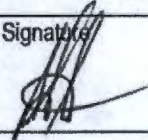
SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(G)(13))							
Additional Information	11.1 Has the NPDES permitting authority requested additional information? ☐ Yes ☒ No → SKIP to Section 12. 11.2 List the information requested and attach it to this application. <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;">1.</td> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;">4.</td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;">2.</td> <td style="border-bottom: 1px solid black; padding: 5px;">5.</td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;">3.</td> <td style="border-bottom: 1px solid black; padding: 5px;">6.</td> </tr> </table>	1.	4.	2.	5.	3.	6.
1.	4.						
2.	5.						
3.	6.						

SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(A) AND (D))																											
Checklist and Certification Statement	12.1 In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 45%; text-align: center;">Column 1</th> <th style="width: 55%; text-align: center;">Column 2</th> </tr> </thead> <tbody> <tr> <td>☒ Section 1: Outfall Location</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 2: Line Drawing</td> <td>☒ w/ line drawing ☐ w/ additional attachments</td> </tr> <tr> <td>☒ Section 3: Average Flows and Treatment</td> <td>☒ w/ attachments ☐ w/ list of each user of privately owned treatment works</td> </tr> <tr> <td>☒ Section 4: Intermittent Flows</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 5: Production</td> <td>☒ w/ attachments</td> </tr> <tr> <td>☒ Section 6: Improvements</td> <td>☐ w/ attachments ☐ w/ optional additional sheets describing any additional pollution control plans</td> </tr> <tr> <td>☒ Section 7: Effluent and Intake Characteristics</td> <td> ☐ w/ request for a waiver and supporting information ☐ w/ small business exemption request ☒ w/ Table A ☒ w/ explanation for identical outfalls ☒ w/ Table C ☐ w/ other attachments ☒ w/ Table E ☒ w/ Table B ☐ w/ analytical results as an attachment </td> </tr> <tr> <td>☒ Section 8: Used or Manufactured Toxics</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 9: Biological Toxicity Tests</td> <td>☒ w/ attachments</td> </tr> <tr> <td>☒ Section 10: Contract Analyses</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 11: Additional Information</td> <td>☐ w/ attachments</td> </tr> <tr> <td>☒ Section 12: Checklist and Certification Statement</td> <td>☐ w/ attachments</td> </tr> </tbody> </table>	Column 1	Column 2	☒ Section 1: Outfall Location	☐ w/ attachments	☒ Section 2: Line Drawing	☒ w/ line drawing ☐ w/ additional attachments	☒ Section 3: Average Flows and Treatment	☒ w/ attachments ☐ w/ list of each user of privately owned treatment works	☒ Section 4: Intermittent Flows	☐ w/ attachments	☒ Section 5: Production	☒ w/ attachments	☒ Section 6: Improvements	☐ w/ attachments ☐ w/ optional additional sheets describing any additional pollution control plans	☒ Section 7: Effluent and Intake Characteristics	☐ w/ request for a waiver and supporting information ☐ w/ small business exemption request ☒ w/ Table A ☒ w/ explanation for identical outfalls ☒ w/ Table C ☐ w/ other attachments ☒ w/ Table E ☒ w/ Table B ☐ w/ analytical results as an attachment	☒ Section 8: Used or Manufactured Toxics	☐ w/ attachments	☒ Section 9: Biological Toxicity Tests	☒ w/ attachments	☒ Section 10: Contract Analyses	☐ w/ attachments	☒ Section 11: Additional Information	☐ w/ attachments	☒ Section 12: Checklist and Certification Statement	☐ w/ attachments
Column 1	Column 2																										
☒ Section 1: Outfall Location	☐ w/ attachments																										
☒ Section 2: Line Drawing	☒ w/ line drawing ☐ w/ additional attachments																										
☒ Section 3: Average Flows and Treatment	☒ w/ attachments ☐ w/ list of each user of privately owned treatment works																										
☒ Section 4: Intermittent Flows	☐ w/ attachments																										
☒ Section 5: Production	☒ w/ attachments																										
☒ Section 6: Improvements	☐ w/ attachments ☐ w/ optional additional sheets describing any additional pollution control plans																										
☒ Section 7: Effluent and Intake Characteristics	☐ w/ request for a waiver and supporting information ☐ w/ small business exemption request ☒ w/ Table A ☒ w/ explanation for identical outfalls ☒ w/ Table C ☐ w/ other attachments ☒ w/ Table E ☒ w/ Table B ☐ w/ analytical results as an attachment																										
☒ Section 8: Used or Manufactured Toxics	☐ w/ attachments																										
☒ Section 9: Biological Toxicity Tests	☒ w/ attachments																										
☒ Section 10: Contract Analyses	☐ w/ attachments																										
☒ Section 11: Additional Information	☐ w/ attachments																										
☒ Section 12: Checklist and Certification Statement	☐ w/ attachments																										

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

OMB No. 2040-0004
Expires 07/31/2026

SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d)) (Continued)

Checklist and Certification Statement	<u>12.2</u>	Provide the following certification. (See instructions to determine the appropriate person to sign the application.)	
		Certification Statement	
		<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
		Name (print or type first and last name) ANDY BRAMSTEDT	Official title PLANT MANAGER
	Signature 	Date signed 7/29/2025	

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii)) ¹

	Pollutant	Waiver Requested (if applicable)	Units (specify)	Effluent				Intake (optional)		
				Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses	
☐ Check here if you have applied to your NPDES permitting authority for a waiver for <i>all</i> of the pollutants listed on this table for the noted outfall.										
1.	Biochemical oxygen demand (BOD ₅)	☐	Concentration	mg/L	<4			1		
			Mass	lb/day	<16.49					
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/L	18.3			1		
			Mass	lb/day	75.43					
3.	Total organic carbon (TOC)	☐	Concentration	mg/L	5.37			1		
			Mass	lb/day	22.14					
4.	Total suspended solids (TSS)	☐	Concentration	mg/L	621.00		470.12	17		
			Mass	lb/day	4364.98		1937.86			
5.	Ammonia (as N)	☐	Concentration	mg/L	0.52		0.36	9		
			Mass	lb/day	3.66		1.46			
6.	Flow	☐	Rate	MGD	1.10		0.52	532		
7.	Temperature (winter)	☐	°C	°C	31.67		23.64	37		
	Temperature (summer)	☐	°C	°C	33.89		25.68	37		
8.	pH (minimum)	☐	Standard units	S.U.	6.31			74		
	pH (maximum)	☐	Standard units	S.U.	7.74			74		

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses

☐ Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.

Section 1. Toxic Metals, Cyanide, and Total Phenols

1.1	Antimony, total (7440-36-0)	☒	☐	☐	Concentration	mg/L	0.00944			1	
					Mass	lb/day	0.04				
1.2	Arsenic, total (7440-38-2)	☒	☐	☐	Concentration	mg/L	0.0196			1	
					Mass	lb/day	0.08				
1.3	Beryllium, total (7440-41-7)	☒	☐	☐	Concentration	mg/L	<0.00100			1	
					Mass	lb/day	<0				
1.4	Cadmium, total (7440-43-9)	☒	☐	☐	Concentration	mg/L	<0.00100			1	
					Mass	lb/day	<0				
1.5	Chromium, total (7440-47-3)	☒	☐	☐	Concentration	mg/L	0.00713			1	
					Mass	lb/day	0.03				
1.6	Copper, total (7440-50-8)	☒	☐	☐	Concentration	mg/L	0.0115			1	
					Mass	lb/day	0.05				
1.7	Lead, total (7439-92-1)	☒	☐	☐	Concentration	mg/L	<0.001			1	
					Mass	lb/day	<0				
1.8	Mercury, total (7439-97-6)	☒	☐	☐	Concentration	ng/L	3.7			1	
					Mass	lb/day	0.02				
1.9	Nickel, total (7440-02-0)	☒	☐	☐	Concentration	mg/L	0.0153			1	
					Mass	lb/day	0.06				
1.10	Selenium, total (7782-49-2)	☒	☐	☐	Concentration	mg/L	0.00374			1	
					Mass	lb/day	0.02				
1.11	Silver, total (7440-22-4)	☒	☐	☐	Concentration	mg/L	<0.00100			1	
					Mass	lb/day	<0				

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	-----------------------	---

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☒	☐	☐	Concentration	mg/L	<0.00100			1		
					Mass	lb/day	<0					
1.13	Zinc, total (7440-66-6)	☒	☐	☐	Concentration	mg/L	<0.005			1		
					Mass	lb/day	<0.02					
1.14	Cyanide, total (57-12-5)	☒	☐	☐	Concentration	mg/L	<0.050			1		
					Mass	lb/day	<0.21					
1.15	Phenols, total	☒	☐	☐	Concentration	mg/L	<0.050			1		
					Mass	lb/day	<0.21					
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☒	☐	☐	Concentration	µg/L	<10.0			1		
					Mass	lb/day	<0.041221					
2.2	Acrylonitrile (107-13-1)	☒	☐	☐	Concentration	µg/L	<5.00			1		
					Mass	lb/day	<0.02061					
2.3	Benzene (71-43-2)	☒	☐	☐	Concentration	µg/L	<3.50			1		
					Mass	lb/day	<0.014427					
2.4	Bromoform (75-25-2)	☒	☐	☐	Concentration	µg/L	<4.70			1		
					Mass	lb/day	<0.019374					
2.5	Carbon tetrachloride (56-23-5)	☒	☐	☐	Concentration	µg/L	<2.80			1		
					Mass	lb/day	<0.011542					
2.6	Chlorobenzene (108-90-7)	☒	☐	☐	Concentration	µg/L	<3.21			1		
					Mass	lb/day	<0.013232					
2.7	Chlorodibromomethane (124-48-1)	☒	☐	☐	Concentration	µg/L	<3.10			1		
					Mass	lb/day	<0.012778					
2.8	Chloroethane (75-00-3)	☒	☐	☐	Concentration	µg/L	<3.88			1		
					Mass	lb/day	<0.015994					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☒	☐	☐	Concentration	µg/L	<10.0			1		
					Mass	lb/day	<0.041221					
2.10	Chloroform (67-66-3)	☒	☐	☐	Concentration	µg/L	<1.60			1		
					Mass	lb/day	<0.006595					
2.11	Dichlorobromomethane (75-27-4)	☒	☐	☐	Concentration	µg/L	<2.20			1		
					Mass	lb/day	<0.009069					
2.12	1,1-dichloroethane (75-34-3)	☒	☐	☐	Concentration	µg/L	<3.42			1		
					Mass	lb/day	<0.014098					
2.13	1,2-dichloroethane (107-06-2)	☒	☐	☐	Concentration	µg/L	<2.80			1		
					Mass	lb/day	<0.011542					
2.14	1,1-dichloroethylene (75-35-4)	☒	☐	☐	Concentration	µg/L	<2.80			1		
					Mass	lb/day	<0.011542					
2.15	1,2-dichloropropane (78-87-5)	☒	☐	☐	Concentration	µg/L	<2.92			1		
					Mass	lb/day	<0.012036					
2.16	1,3-dichloropropylene (542-75-6)	☒	☐	☐	Concentration	µg/L	<3.87			1		
					Mass	lb/day	<0.015952					
2.17	Ethylbenzene (100-41-4)	☒	☐	☐	Concentration	µg/L	<4.10			1		
					Mass	lb/day	<0.016901					
2.18	Methyl bromide (74-83-9)	☒	☐	☐	Concentration	µg/L	<4.35			1		
					Mass	lb/day	<0.017931					
2.19	Methyl chloride (74-87-3)	☒	☐	☐	Concentration	µg/L	<4.61			1		
					Mass	lb/day	<0.019003					
2.20	Methylene chloride (75-09-2)	☒	☐	☐	Concentration	µg/L	<2.77			1		
					Mass	lb/day	<0.011418					
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☒	☐	☐	Concentration	µg/L	<4.13			1		
					Mass	lb/day	<0.017024					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☒	☐	☐	Concentration	µg/L	<4.10			1		
					Mass	lb/day	<0.016901					
2.23	Toluene (108-88-3)	☒	☐	☐	Concentration	µg/L	<4.46			1		
					Mass	lb/day	<0.018384					
2.24	1,2-trans-dichloroethylene (156-60-5)	☒	☐	☐	Concentration	µg/L	<1.60			1		
					Mass	lb/day	<0.006595					
2.25	1,1,1-trichloroethane (71-55-6)	☒	☐	☐	Concentration	µg/L	<2.93			1		
					Mass	lb/day	<0.012078					
2.26	1,1,2-trichloroethane (79-00-5)	☒	☐	☐	Concentration	µg/L	<3.66			1		
					Mass	lb/day	<0.015087					
2.27	Trichloroethylene (79-01-6)	☒	☐	☐	Concentration	µg/L	<1.90			1		
					Mass	lb/day	<0.007832					
2.28	Vinyl chloride (75-01-4)	☒	☐	☐	Concentration	µg/L	<3.74			1		
					Mass	lb/day	<0.015417					
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☒	☐	☐	Concentration	µg/L	<9.9			1		
					Mass	lb/day	<0.040809					
3.2	2,4-dichlorophenol (120-83-2)	☒	☐	☐	Concentration	µg/L	<8.1			1		
					Mass	lb/day	<0.033389					
3.3	2,4-dimethylphenol (105-67-9)	☒	☐	☐	Concentration	µg/L	<8.1			1		
					Mass	lb/day	<0.033389					
3.4	4,6-dinitro-o-cresol (534-52-1)	☒	☐	☐	Concentration	µg/L	<72.0			1		
					Mass	lb/day	<0.29679					
3.5	2,4-dinitrophenol (51-28-5)	☒	☐	☐	Concentration	µg/L	<126			1		
					Mass	lb/day	<0.519382					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☒	☐	☐	Concentration	µg/L	<10.8				1	
					Mass	lb/day	<0.044518					
3.7	4-nitrophenol (100-02-7)	☒	☐	☐	Concentration	µg/L	<7.2				1	
					Mass	lb/day	<0.029679					
3.8	p-chloro-m-cresol (59-50-7)	☒	☐	☐	Concentration	µg/L	<9.0				1	
					Mass	lb/day	<0.037099					
3.9	Pentachlorophenol (87-86-5)	☒	☐	☐	Concentration	µg/L	<10.8				1	
					Mass	lb/day	<0.044518	<0.044518				
3.10	Phenol (108-95-2)	☒	☐	☐	Concentration	µg/L	<4.5				1	
					Mass	lb/day	<0.018549					
3.11	2,4,6-trichlorophenol (88-05-2)	☒	☐	☐	Concentration	µg/L	<8.1				1	
					Mass	lb/day	<0.033389					
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☒	☐	☐	Concentration	µg/L	<5.7				1	
					Mass	lb/day	<0.023496					
4.2	Acenaphthylene (208-96-8)	☒	☐	☐	Concentration	µg/L	<10.5				1	
					Mass	lb/day	<0.043282					
4.3	Anthracene (120-12-7)	☒	☐	☐	Concentration	µg/L	<5.7				1	
					Mass	lb/day	<0.023496					
4.4	Benzidine (92-87-5)	☒	☐	☐	Concentration	µg/L	<132				1	
					Mass	lb/day	<0.544115					
4.5	Benzo (a) anthracene (56-55-3)	☒	☐	☐	Concentration	µg/L	<23.4				1	
					Mass	lb/day	<0.096457					
4.6	Benzo (a) pyrene (50-32-8)	☒	☐	☐	Concentration	µg/L	<7.5				1	
					Mass	lb/day	<0.030916					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.21	1,3-dichlorobenzene (541-73-1)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.22	1,4-dichlorobenzene (106-46-7)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.23	3,3-dichlorobenzidine (91-94-1)	☒	☐	☐	Concentration	µg/L	<49.5			1		
					Mass	lb/day	<0.204043					
4.24	Diethyl phthalate (84-66-2)	☒	☐	☐	Concentration	µg/L	<5.7			1		
					Mass	lb/day	<0.023496					
4.25	Dimethyl phthalate (131-11-3)	☒	☐	☐	Concentration	µg/L	<4.8			1		
					Mass	lb/day	<0.019786					
4.26	Di-n-butyl phthalate (84-74-2)	☒	☐	☐	Concentration	µg/L	<7.5			1		
					Mass	lb/day	<0.030916					
4.27	2,4-dinitrotoluene (121-14-2)	☒	☐	☐	Concentration	µg/L	<17.1			1		
					Mass	lb/day	<0.070488					
4.28	2,6-dinitrotoluene (606-20-2)	☒	☐	☐	Concentration	µg/L	<5.7			1		
					Mass	lb/day	<0.023496					
4.29	Di-n-octyl phthalate (117-84-0)	☒	☐	☐	Concentration	µg/L	<7.5			1		
					Mass	lb/day	<0.030916					
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.31	Fluoranthene (206-44-0)	☒	☐	☐	Concentration	µg/L	<6.6			1		
					Mass	lb/day	<0.027206					
4.32	Fluorene (86-73-7)	☒	☐	☐	Concentration	µg/L	<5.7			1		
					Mass	lb/day	<0.023496					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	-----------------------	---

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☒	☐	☐	Concentration	µg/L	<5.7			1		
					Mass	lb/day	<0.023496					
4.34	Hexachlorobutadiene (87-68-3)	☒	☐	☐	Concentration	µg/L	<2.7			1		
					Mass	lb/day	<0.01113					
4.35	Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.36	Hexachloroethane (67-72-1)	☒	☐	☐	Concentration	µg/L	<4.8			1		
					Mass	lb/day	<0.019786					
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☒	☐	☐	Concentration	µg/L	<11.1			1		
					Mass	lb/day	<0.045755					
4.38	Isophorone (78-59-1)	☒	☐	☐	Concentration	µg/L	<6.6			1		
					Mass	lb/day	<0.027206					
4.39	Naphthalene (91-20-3)	☒	☐	☐	Concentration	µg/L	<4.8			1		
					Mass	lb/day	<0.019786					
4.40	Nitrobenzene (98-95-3)	☒	☐	☐	Concentration	µg/L	<5.7			1		
					Mass	lb/day	<0.023496					
4.41	N-nitrosodimethylamine (62-75-9)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.42	N-nitrosodi-n-propylamine (621-64-7)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.43	N-nitrosodiphenylamine (86-30-6)	☒	☐	☐	Concentration	µg/L	<3.0			1		
					Mass	lb/day	<0.012366					
4.44	Phenanthrene (85-01-8)	☒	☐	☐	Concentration	µg/L	<16.2			1		
					Mass	lb/day	<0.066778					
4.45	Pyrene (129-00-0)	☒	☐	☐	Concentration	µg/L	<5.7			1		
					Mass	lb/day	<0.023496					

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)		
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses	
4.46	1,2,4-trichlorobenzene (120-82-1)	☒	☐	☐	Concentration	µg/L	<5.7				1		
					Mass	lb/day	<0.023496						
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)													
5.1	Aldrin (309-00-2)	☐	☐	☒	Concentration								
					Mass								
5.2	α-BHC (319-84-6)	☐	☐	☒	Concentration								
					Mass								
5.3	β-BHC (319-85-7)	☐	☐	☒	Concentration								
					Mass								
5.4	γ-BHC (58-89-9)	☐	☐	☒	Concentration								
					Mass								
5.5	δ-BHC (319-86-8)	☐	☐	☒	Concentration								
					Mass								
5.6	Chlordane (57-74-9)	☐	☐	☒	Concentration								
					Mass								
5.7	4,4'-DDT (50-29-3)	☐	☐	☒	Concentration								
					Mass								
5.8	4,4'-DDE (72-55-9)	☐	☐	☒	Concentration								
					Mass								
5.9	4,4'-DDD (72-54-8)	☐	☐	☒	Concentration								
					Mass								
5.10	Dieldrin (60-57-1)	☐	☐	☒	Concentration								
					Mass								
5.11	α-endosulfan (115-29-7)	☐	☐	☒	Concentration								
					Mass								

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☐	☐	☒	Concentration						
					Mass						
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☒	Concentration						
					Mass						
5.14	Endrin (72-20-8)	☐	☐	☒	Concentration						
					Mass						
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☒	Concentration						
					Mass						
5.16	Heptachlor (76-44-8)	☐	☐	☒	Concentration						
					Mass						
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☒	Concentration						
					Mass						
5.18	PCB-1242 (53469-21-9)	☐	☐	☒	Concentration						
					Mass						
5.19	PCB-1254 (11097-69-1)	☐	☐	☒	Concentration						
					Mass						
5.20	PCB-1221 (11104-28-2)	☐	☐	☒	Concentration						
					Mass						
5.21	PCB-1232 (11141-16-5)	☐	☐	☒	Concentration						
					Mass						
5.22	PCB-1248 (12672-29-6)	☐	☐	☒	Concentration						
					Mass						
5.23	PCB-1260 (11096-82-5)	☐	☐	☒	Concentration						
					Mass						
5.24	PCB-1016 (12674-11-2)	☐	☐	☒	Concentration						
					Mass						

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))¹

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
			Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long- Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☐	☐	☒	Concentration						
					Mass						

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))¹

Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)		
	Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses	
☐ Check here if you believe all pollutants in Table C to be present in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for <i>each</i> pollutant.										
☐ Check here if you believe all pollutants in Table C to be absent in your discharge from the noted outfall. You need <i>not</i> complete the "Presence or Absence" column of Table C for <i>each</i> pollutant.										
1. Bromide (24959-67-9)	☒	☐	Concentration	mg/L	3.6			1		
			Mass	lb/day	14.84					
2. Chlorine, total residual	☒	☐	Concentration	mg/L	0.15			1		
			Mass	lb/day	0.62					
3. Color	☐	☒	Concentration							
			Mass							
4. Fecal coliform	☐	☒	Concentration							
			Mass							
5. Fluoride (16984-48-8)	☐	☒	Concentration							
			Mass							
6. Nitrate-nitrite	☒	☐	Concentration	mg/L	2.40	1.63	10			
			Mass	lb/day	16.87	6.70				
7. Nitrogen, total organic (as N)	☒	☐	Concentration	mg/L	2.92	1.98	9			
			Mass	lb/day	20.52	8.16				
8. Oil and grease	☒	☐	Concentration	mg/L	<5.00		1			
			Mass	lb/day	<20.61					
9. Phosphorus (as P), total (7723-14-0)	☒	☐	Concentration	mg/L	0.22	0.12				
			Mass	lb/day	1.54	0.49	9			
10. Sulfate (as SO ₄) (14808-79-8)	☐	☒	Concentration							
			Mass							
11. Sulfide (as S)	☐	☒	Concentration							
			Mass							

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))¹

	Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO ₃) (14265-45-3)	☐	☒	Concentration						
				Mass						
13.	Surfactants	☒	☐	Concentration	mg/L	0.12		1		
				Mass	lb/day	0.49				
14.	Aluminum, total (7429-90-5)	☒	☐	Concentration	mg/L	0.169		1		
				Mass	lb/day	0.70				
15.	Barium, total (7440-39-3)	☒	☐	Concentration	mg/L	0.0109		1		
				Mass	lb/day	0.04				
16.	Boron, total (7440-42-8)	☒	☐	Concentration	mg/L	0.198		1		
				Mass	lb/day	0.82				
17.	Cobalt, total (7440-48-4)	☐	☒	Concentration						
				Mass						
18.	Iron, total (7439-89-6)	☒	☐	Concentration	mg/L	11.9		1		
				Mass	lb/day	49.05				
19.	Magnesium, total (7439-95-4)	☒	☐	Concentration	mg/L	1.88		1		
				Mass	lb/day	7.75				
20.	Molybdenum, total (7439-98-7)	☒	☐	Concentration	mg/L	0.376		1		
				Mass	lb/day	1.55				
21.	Manganese, total (7439-96-5)	☒	☐	Concentration	mg/L	0.0492		1		
				Mass	lb/day	0.20				
22.	Tin, total (7440-31-5)	☐	☒	Concentration						
				Mass						
23.	Titanium, total (7440-32-6)	☐	☒	Concentration						
				Mass						

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))¹

Pollutant	Presence or Absence (check one)		Units (specify)	Effluent				Intake (optional)	
	Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24. Radioactivity									
Alpha, total	☐	☒	Concentration						
			Mass						
Beta, total	☐	☒	Concentration						
			Mass						
Radium, total	☐	☒	Concentration						
			Mass						
Radium 226, total	☐	☒	Concentration						
			Mass						

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☒		
2.	Acetaldehyde	☐	☒		
3.	Allyl alcohol	☐	☒		
4.	Allyl chloride	☐	☒		
5.	Amyl acetate	☐	☒		
6.	Aniline	☐	☒		
7.	Benzonitrile	☐	☒		
8.	Benzyl chloride	☐	☒		
9.	Butyl acetate	☐	☒		
10.	Butylamine	☐	☒		
11.	Captan	☐	☒		
12.	Carbaryl	☐	☒		
13.	Carbofuran	☐	☒		
14.	Carbon disulfide	☐	☒		
15.	Chlorpyrifos	☐	☒		
16.	Coumaphos	☐	☒		
17.	Cresol	☐	☒		
18.	Crotonaldehyde	☐	☒		
19.	Cyclohexane	☐	☒		

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☒		
21.	Diazinon	☐	☒		
22.	Dicamba	☐	☒		
23.	Dichlobenil	☐	☒		
24.	Dichlone	☐	☒		
25.	2,2-dichloropropionic acid	☐	☒		
26.	Dichlorvos	☐	☒		
27.	Diethyl amine	☐	☒		
28.	Dimethyl amine	☐	☒		
29.	Dinitrobenzene	☐	☒		
30.	Diquat	☐	☒		
31.	Disulfoton	☐	☒		
32.	Diuron	☐	☒		
33.	Epichlorohydrin	☐	☒		
34.	Ethion	☐	☒		
35.	Ethylene diamine	☐	☒		
36.	Ethylene dibromide	☐	☒		
37.	Formaldehyde	☐	☒		
38.	Furfural	☐	☒		

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☒		
40.	Isoprene	☐	☒		
41.	Isopropanolamine	☐	☒		
42.	Kelthane	☐	☒		
43.	Kepone	☐	☒		
44.	Malathion	☐	☒		
45.	Mercaptodimethur	☐	☒		
46.	Methoxychlor	☐	☒		
47.	Methyl mercaptan	☐	☒		
48.	Methyl methacrylate	☐	☒		
49.	Methyl parathion	☐	☒		
50.	Mevinphos	☐	☒		
51.	Mexacarbate	☐	☒		
52.	Monoethyl amine	☐	☒		
53.	Monomethyl amine	☐	☒		
54.	Naled	☐	☒		
55.	Naphthenic acid	☐	☒		
56.	Nitrotoluene	☐	☒		
57.	Parathion	☐	☒		

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☒		
59.	Phosgene	☐	☒		
60.	Propargite	☐	☒		
61.	Propylene oxide	☐	☒		
62.	Pyrethrins	☐	☒		
63.	Quinoline	☐	☒		
64.	Resorcinol	☐	☒		
65.	Strontium	☐	☒		
66.	Strychnine	☐	☒		
67.	Styrene	☐	☒		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☒		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☒		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☒		
71.	Trichlorofon	☐	☒		
72.	Triethanolamine	☐	☒		
73.	Triethylamine	☐	☒		
74.	Trimethylamine	☐	☒		
75.	Uranium	☐	☒		
76.	Vanadium	☒	☐		0.00631 mg/L

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))¹

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☒		
78.	Xylene	☐	☒		
79.	Xylenol	☐	☒		
80.	Zirconium	☐	☒		

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 001
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☒	

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

Form 2F NPDES		U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY
---------------------	--	--

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(G)(1))

Outfall Location	1.1	Provide information on each of the facility's outfalls in the table below		
	Outfall Number	Receiving Water Name	Latitude	Longitude
	002	Carter Branch	30.943526	-88.008809
	003	Carter Branch	30.937048	-88.010250
	004	Carter Branch	30.942339	-88.008321

SECTION 2. IMPROVEMENTS (40 CFR 122.21(G)(6))

Improvements	2.1	Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application? ☐ Yes ☒ No → SKIP to Section 3.			
	2.2	Briefly identify each applicable project in the table below.			
	Brief Identification and Description of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge	Final Compliance Dates	
				Required	Projected
2.3	Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? <i>(optional item)</i> ☐ Yes ☐ No				

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

OMB No. 2040-0004
Expires 07/31/2026

SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(C)(1)(I)(A))

Site Drainage Map	<u>3.1</u>	Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)
	☒	Yes

SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(C)(1)(I)(B))

Pollutant Sources	<u>4.1</u>	Provide information on the facility's pollutant sources in the table below.				
		Outfall Number	Impervious Surface Area (within a mile radius of the facility)		Total Surface Area Drained (within a mile radius of the facility)	
		002	101	specify units Acres	153	specify units Acres
		003	102.5	specify units Acres	151	specify units Acres
		004	4.1	specify units Acres	5.8	specify units Acres
				specify units		specify units
				specify units		specify units
				specify units		specify units
	<u>4.2</u>	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.) See Attachment				
	<u>4.3</u>	Provide the location and a description of existing structural and non-structural control measures to reduce pollutants in stormwater runoff. (See instructions for specific guidance.)				
		Stormwater Treatment				
		Outfall Number	Control Measures and Treatment			Codes from Exhibit 2F-1 (list)
		002	Oil/Water Separators in use in the scrap yard. Series of ponds act as a sedimentation basin.			1-U
		003	The detention pond acts as a sedimentation basin.			1-U
		004	No control required.			N/A

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(C)(1)(I)(C))

Non-Stormwater Discharges	<u>5.1</u>	Provide the following certification. (See instructions to determine the appropriate person to sign the application.) <i>I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.</i>			
		Name (print or type first and last name)	Official title		
		ANDY BRAMSTEDT	GENERAL MANAGER		
		Signature	Date signed		
	<u>5.2</u>	Provide the testing information requested in the table below.			
		Outfall Number	Description of Testing Method Used	Date(s) of Testing	Onsite Drainage Points Directly Observed During Test
		N/A			

SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(C)(1)(I)(D))

Significant Leaks or Spills	<u>6.1</u>	Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years. On Tuesday, January 2, 2024 at approximately 8:00 am, a valve failed on the emergency backup water system for the Caster Mold releasing minimally treated process water onto the ground. Approximately 5,000 to 10,000 gallons of water were release from the tank. Corrective action included replacement of the failed valve and implementation of a replacement schedule for the valve. Stormwater from the area of the mill where the spill occurred drains to the southeast retention pond and ultimately to Outfall 003.
-----------------------------	------------	--

SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(C)(1)(I)(E))

Discharge Information	See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.	
	<u>7.1</u>	Is this a new source or new discharge? ☐ Yes → See instructions regarding submission of estimated data. ☒ No → See instructions regarding submission of actual data.
	Tables A, B, C, and D	
	<u>7.2</u>	Have you completed Table A for each outfall? ☒ Yes

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

OMB No. 2040-0004
Expires 07/31/2026

Discharge Information Continued	<u>7.3</u>	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater? ☒ Yes ☐ No → SKIP to Item 7.5.
	<u>7.4</u>	Have you completed Table B by providing quantitative data for those pollutants that are (1) limited either directly or indirectly in an ELG and/or (2) subject to effluent limitations in an NPDES permit for the facility's process wastewater? ☒ Yes
	<u>7.5</u>	Do you know or have reason to believe any pollutants in Exhibit 2F-2 are present in the discharge? ☐ Yes ☒ No → SKIP to Item 7.7.
	<u>7.6</u>	Have you listed all pollutants in Exhibit 2F-2 that you know or have reason to believe are present in the discharge and provided quantitative data or an explanation for those pollutants in Table C? ☐ Yes
	<u>7.7</u>	Do you qualify for a small business exemption under the criteria specified in the Instructions? ☐ Yes → SKIP to Item 7.18. ☒ No
	<u>7.8</u>	Do you know or have reason to believe any pollutants in Exhibit 2F-3 are present in the discharge? ☐ Yes ☒ No → SKIP to Item 7.10.
	<u>7.9</u>	Have you listed all pollutants in Exhibit 2F-3 that you know or have reason to believe are present in the discharge in Table C? ☒ Yes
	<u>7.10</u>	Do you expect any of the pollutants in Exhibit 2F-3 to be discharged in concentrations of 10 ppb or greater? ☐ Yes ☒ No → SKIP to Item 7.12.
	<u>7.11</u>	Have you provided quantitative data in Table C for those pollutants in Exhibit 2F-3 that you expect to be discharged in concentrations of 10 ppb or greater? ☐ Yes
	<u>7.12</u>	Do you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater? ☐ Yes ☒ No → SKIP to Item 7.14.
	<u>7.13</u>	Have you provided quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater? ☐ Yes
	<u>7.14</u>	Have you provided quantitative data or an explanation in Table C for pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the pollutants identified in Item 7.12)? ☒ Yes
<u>7.15</u>	Do you know or have reason to believe any pollutants in Exhibit 2F-4 are present in the discharge? ☐ Yes ☒ No → SKIP to Item 7.17.	

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	OMB No. 2040-0004 Expires 07/31/2026
---	----------------------------------	------------------------------------	---

Discharge Information Continued	<u>7.16</u>	Have you listed pollutants in Exhibit 2F-4 that you know or believe to be present in the discharge and provided an explanation in Table C? ☒ Yes								
	<u>7.17</u>	Have you provided information for the storm event(s) sampled in Table D? ☒ Yes								
	Used or Manufactured Toxics									
	<u>7.18</u>	Is any pollutant listed on Exhibits 2F-2 through 2F-4 a substance or a component of a substance used or manufactured as an intermediate or final product or byproduct? ☒ Yes ☐ No → SKIP to Section 8.								
	<u>7.19</u>	List the pollutants below, including TCDD if applicable. Attach additional sheets, if necessary.								
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">1. Zinc</td> <td style="width: 33%;">4. Iron</td> <td style="width: 33%;">7.</td> </tr> <tr> <td>2. Lead</td> <td>5.</td> <td>8.</td> </tr> <tr> <td>3. Chromium</td> <td>6.</td> <td>9.</td> </tr> </table>		1. Zinc	4. Iron	7.	2. Lead	5.	8.	3. Chromium	6.
1. Zinc	4. Iron	7.								
2. Lead	5.	8.								
3. Chromium	6.	9.								

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(G)(11))				
Biological Toxicity Testing Data	<u>8.1</u>	Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last three years? ☐ Yes ☒ No → SKIP to Section 9.		
	<u>8.2</u>	Identify the tests and their purposes below.		
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?
				☐ Yes ☐ No
				☐ Yes ☐ No

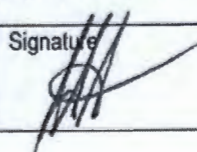
SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(G)(12))				
Contract Analysis Information	<u>9.1</u>	Were any of the analyses reported in Section 7 (in Tables A through C) performed by a contract laboratory or consulting firm? ☒ Yes ☐ No → SKIP to Section 10.		
	<u>9.2</u>	Provide information for each contract laboratory or consulting firm below.		
		Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
	Name of laboratory/firm	Micro-Methods		
	Laboratory address	6500 Sunplex Drive, Ocean Springs, MS 39564		
	Phone number	(228) 875-6420		

	Pollutant(s) analyzed	All Reported	
--	-----------------------	--------------	--

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.
---	----------------------------------	------------------------------------

OMB No. 2040-0004
Expires 07/31/2026

SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(A) AND (D))

Checklist and Certification Statement	10.1	In Column 1 below, mark the sections of Form 2F that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.	
		Column 1	Column 2
	☒ Section 1	☐ w/ attachments (e.g., responses for additional outfalls)	
	☒ Section 2	☐ w/ attachments	
	☒ Section 3	☒ w/ site drainage map	
	☒ Section 4	☐ w/ attachments	
	☒ Section 5	☐ w/ attachments	
	☒ Section 6	☐ w/ attachments	
	☒ Section 7	☒ Table A ☒ Table B ☒ Table C	☐ w/ small business exemption request ☐ w/ analytical results as an attachment ☒ Table D
	☒ Section 8	☐ w/ attachments	
	☒ Section 9	☐ w/ attachments (e.g., responses for additional contact laboratories or firms)	
	☒ Section 10		
	10.2	Provide the following certification. (See instructions to determine the appropriate person to sign the application.)	
		Certification Statement <i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
	Name (print or type first and last name)	Official title	
	ANDY BRAMSTEDT	GENERAL MANAGER	
	Signature 	Date signed 7/29/2025	

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 002
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(C)(1)(I)(E)(3))¹

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

Pollutant or Parameter		Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease	<5.00 mg/L		<5.00 mg/L		5	
2.	Biochemical oxygen demand (BOD ₅)	<8 mg/L		<8 mg/L		1	
3.	Chemical oxygen demand (COD)	<13.0 mg/L		<13.0 mg/L		1	
4.	Total suspended solids (TSS)	71.8 mg/L		33.24 mg/L		5	
5.	Total phosphorus	0.115		0.115		1	
6.	Total Kjeldahl nitrogen (TKN)	<0.80 mg/L		<0.80 mg/L		1	
7.	Total nitrogen (as N)	<0.80 mg/L		<0.80 mg/L		1	
8.	pH (minimum)	8.63				5	
	pH (maximum)	9.33				5	

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

This page intentionally left blank.

This page intentionally left blank.

This page intentionally left blank.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility name SSAB ALABAMA INC.	Outfall Number 002
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(C)(1)(I)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)

Provide a description of the method of flow measurement or estimate.

All stormwater samples were grab samples.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 003
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(C)(1)(i)(E)(3))¹

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

Pollutant or Parameter		Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease	<5.00 mg/L		<5.00 mg/L		3	
2.	Biochemical oxygen demand (BOD ₅)	<4 mg/L		<4 mg/L		1	
3.	Chemical oxygen demand (COD)	<13.0 mg/L		<13.0 mg/L		1	
4.	Total suspended solids (TSS)	9.05mg/L		4.38 mg/L		3	
5.	Total phosphorus	<0.05 mg/L		<0.05 mg/L		1	
6.	Total Kjeldahl nitrogen (TKN)	<0.80 mg/L		<0.80 mg/L		1	
7.	Total nitrogen (as N)	<0.80 mg/L		<0.80 mg/L		1	
8.	pH (minimum)	7.88				3	
	pH (maximum)	7.64				3	

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

This page intentionally left blank.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility name SSAB ALABAMA INC.	Outfall Number 003
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(C)(1)(I)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in Inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)

Provide a description of the method of flow measurement or estimate.

All stormwater samples were grab samples.

EPA Identification Number ALR000014183	NPDES Permit Number AL0072109	Facility Name SSAB ALABAMA INC.	Outfall Number 004
---	----------------------------------	------------------------------------	-----------------------

OMB No. 2040-0004
Expires 07/31/2026

TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(C)(1)(I)(E)(3))¹						
You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.						
Pollutant or Parameter		Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	
1.	Oil and grease					
2.	Biochemical oxygen demand (BOD ₅)					
3.	Chemical oxygen demand (COD)	Outfall 003 has been determined to be representative of Outfall 004 and no samples were collected at Outfall 004. Please see discharge characteristics for Outfall 003.				
4.	Total suspended solids (TSS)					
5.	Total phosphorus					
6.	Total Kjeldahl nitrogen (TKN)					
7.	Total nitrogen (as N)					
8.	pH (minimum)					
	pH (maximum)					

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

This page intentionally left blank.

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Attachment to ADEM Form 187

With this application for renewal of the current permit, SSAB is requesting a modification to the monitoring requirements.

Current monitoring requirements for process water outfall DSN001 include seasonal analysis for nutrients (Nitrogen, Ammonia Total (as N), Nitrogen, Kjeldahl Total (As N), Nitrite Plus Nitrate Total (as N), and Phosphorus, Total (as P)). This requirement is included based on Best Professional Judgement and in an effort to remain consistent with monitoring requirements for other facilities throughout the state. As reported values have consistently been low and there is no expectation of changes at the facility that would cause an increase in nutrient loading, SSAB respectfully requests the removal of these parameters in the reissued permit.

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Attachment to EPA Form 1 – General Information

Section 6.1 Existing Environmental Permits (cont.)

NESHAPs (CAA)

- Major Source Operating Permit: 503-8065
 - NESHAP A (40 CFR Part 63, Subpart A) – National Emissions Standards for Hazardous Air Pollutants General Provisions
 - NESHAP YYYYY (40 CFR Part 63, Subpart YYYYY) – National Emissions Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities
 - NESHAP ZZZZ (40 CFR Part 63, Subpart ZZZZ) - National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)

Other (specify)

- Groundwater Extraction:
 - Permit No. 2015-214-NRU-GWE ACAMP-2015-214.3-NRU-GWE-E3 (PW6, PW7, PW8)
 - Scrap Tire Exempt Substitute Raw Material User
 - Permit No. STE0000-006354

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Attachment to EPA Form 2C – Existing Manufacturing, Commercial, Mining, and Silvicultural Operations

Section 3. Average Flows and Treatment (40 CFR 122.21(G)(3))

3.1 For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.

Outfall Number 001 / 001A	
Operations Contributing to Flow	
Operation	Average Flow (mgd)
Total Discharge	0.515 (001) / 0.4 (001A)
- Caster Mill Contact Cooling Water	
- Melt Shot Non-Contact Cooling Water	
- Rolling Mill Contact Cooling Water	
- Rolling Mill Non-Contact Cooling Water	
- Vacuum Tank Degasser Contact Cooling Water	
- Vacuum Tank Degasser Non-Contact Cooling Water	
- QL5 Contact Cooling Water	
- QL6 Contact Cooling Water	
- Laminar Flow Contact Cooling Water	

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Treatment Units		
Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Exhibit 2C-2	Final Disposal of Solid or Liquid Wastes Other Than Discharge
The mill utilizes both contact cooling water (CCW) and non-contact cooling water (NCCW) systems in their manufacturing processes. All NCCW being discharged is directed to outfall DSN001, while all CCW being discharged is directed to outfall DSN001A and sample prior to feeding to Outfall 001. An average of ~ 0.515 MGD is discharged through Outfall 001. Process water for the mill is provided by groundwater withdrawal from three production wells. Intake water from these wells is filtered to remove excess iron and the pH is adjusted to neutral. Backwash from these filters is pumped to the solids handling system for further treatment. Additional pH controls occur within each individual system, as needed, to protect the various pieces of equipment. The CCW system is designed to maximize the reuse of process water through the use of a cascading design. In this system, the blowdown from high quality water systems is used as makeup water for lower quality systems. The backwash from CCW systems is directed to a Backwash Basin and then to the Solids Removal Area for treatment. This treatment includes a flow equalization tank, polymer contact and mixing flocculation, clarification, and oil skimming. Clarified backwash from the solids removal area enters the Recycle Water Tank. Additional treatment occurs within this tank, and the resulting water is then used as makeup water for the contact systems or as a blowdown source for contact water. The NCCW system consists of an open/evaporative cooling system, a Mold/Machine (M/M) system, and the VTD Non-Contact system. Blowdown is used to control Total Dissolved Solids (TDS) and conductivity in both the CCW and NCCW systems.	1-G, 1-U, 2-D, 2-E, 2-H, 2-K, 4-A, 4-C, 5-L, 5-Q	WWTP Filter Cake – EcoSouth, Landfill

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Section 5. Production

Section 5.4 Provide an actual measure of daily production expressed in terms and units of applicable ELGs

Outfall Number	Operation, Product, or Material		Quantity per Day	Unit of Measure
001	Continuous Casting	Steel Slab	8,580,767	Lbs/day
		Steel Coil	1,411,245	Lbs/day
		Steel Plate	6,901,387	Lbs/day
001	Hot Forming	Steel Slab	8,580,767	Lbs/day
		Steel Coil	1,411,245	Lbs/day
		Steel Plate	6,901,387	Lbs/day
001	Vacuum Tank Degasser	Liquid Steel	8,693,653	Lbs/day

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Section 9. Biological Toxicity Tests

9.2 Identify the tests and their purpose below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
Ceriodaphnia dubia 48-hr Acute Toxicity – Passed Pimephales promelas 48-hr Acute Toxicity – Passed	Scheduled Test 2022 DSN001 – 3/24/2022	Yes	4/21/2022
C. dubia 48-hr Acute Toxicity – Passed P. promelas 48-hr Acute Toxicity – Passed	Scheduled Test 2023 DSN001 – 4/19/2023	Yes	11/16/2023
C. dubia 48-hr Acute Toxicity – Fail P. promelas 48-hr Acute Toxicity – Passed	Scheduled Test 2024 DSN001 – 3/27/2024	Yes	1/14/2025
C. dubia 48-hr Acute Toxicity – Passed	Accelerated Test DAN001 – 4/10/2024	Yes	1/14/2025
C. dubia 48-hr Acute Toxicity – Passed	Accelerated Test DSN001 – 4/17/2024	Yes	1/14/2025
C. dubia 48-hr Acute Toxicity – Passed	Accelerated Test DSN001 – 4/24/2024	Yes	1/14/2025
C. dubia 48-hr Acute Toxicity – Passed	Accelerated Test DSN001– 5/1/2024	Yes	1/14/2025

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Attachment to EPA Form 2F – Stormwater Discharges Associated with Industrial Activity

Section 4.2. Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)

Outfall No. 002 is the discharge structure from the Northeast Retention Pond. This series of retention ponds receives stormwater runoff from the scrap yard, slag storage & processing area, the scrap bucket loading area (lime and carbon), the railroad marshalling yard, and the QL6 area. Treated process water effluent is used in the slag storage and processing area for slag quenching. Process water effluent used for this purpose diverges from the final stages of treatment, just prior to the final dosing that removes chlorine residuals. Quench water is not expected to reach the stormwater outfall due to evaporation during the quenching.

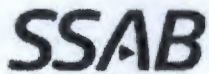
Outfall No. 003 is the discharge structure from the Southeast Retention Pond. This retention pond receives stormwater runoff from the bulk of the steel manufacturing operations which includes the Meltshop, Rolling Mill, Shipping and Warehouse Areas as well as outside storage yards for steel plate, slab and coil.

Outfall No. 004 is a culvert passing beneath the NE Railroad spur. This outfall receives stormwater runoff from the Baghouse, Carbon Building, melt shop operations area and alloy storage areas.

Non-treated groundwater or treated process water effluent is used throughout the facility for dust suppression and is applied using water tank trucks. Process water effluent used for this purpose diverges from the final stages of treatment, just prior to the final dosing that removes chlorine residuals. Process water effluent shall not be used for fugitive dust suppression during inclement weather events to avoid the potential of storm water runoff.

Throughout the site, tanks/totes storing petroleum and chemical products are double walled, secondary contained with concrete or overfill basins, or are located inside buildings to prevent the release due to operational errors or inclement weather

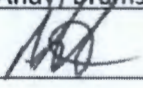
Throughout the site, when indoor storage bulk petroleum or chemical products is not possible, stormwater contamination and release from the site is minimized through the use of double walled tanks, secondary containment basins or berms, and/or retention ponds.



DELEGATION OF SIGNATORY AUTHORITY

I, Johnny Sjöström / President, SSAB Special Steels, hereby designate the individual and their described position below to be a duly authorized representative for the purpose of overseeing compliance with all environmental requirements, including the ADEM Administrative Code of Regulations. The designee is authorized to sign all reports required by the permits and other information requested by the Department. The designee is also authorized to sign the initial NOI Permit Application. The designee is further authorized to sign the NOT upon job completion.

Authorized Representative & Position: Andrew (Andy) Bramstedt / General Manager of SSAB Alabama, Inc.

Signature of Authorized Representative: 

Company: SSAB Alabama, Inc.

Address: 12400 Highway 43 North

City, State, Zip: Axis, Alabama 36505

Contact Number: 251-264-3402

Effective Date of Authorization: August 18, 2022

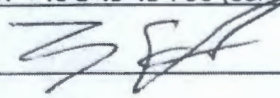
By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in ADEM Administrative Code 335-6-6-.09.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that a qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name & Title: Johnny Sjöström / President, SSAB Special Steels

Company: SSAB Special Steels

Contact Number: +46 8 45 45 700 (SSAB Head Office, Stockholm, Sweden)

Signature: 

Date: August 18, 2022

If an authorization under paragraph 335-6-6-.09(2) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of said paragraph must be submitted to the Department prior to or together with any reports or information signed by the newly authorized representative.

SSAB Alabama Inc.

12400 Highway 43 North

Axis, AL 36505

T +1 251 662 4400

F +1 251 662 4360

Toll-free +1 888 592 7070

www.ssab.com

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Water Treatment Chemicals

Name	Chemical Composition	48-hour or 96 hour median tolerance limit data ¹	Quantities to be used	Frequencies of use	Proposed discharge concentrations	EPA registration number
ChemTreat BL-122 <i>Boiler Water Treatment</i>	See SDS	See SDS	250 gal / yr	Continuous / Daily	<0.1 ppm as sulfite	Not Applicable
ChemTreat BL-1771 <i>Boiler Water Treatment</i>	See SDS	See SDS	250 gal / yr	Continuous / Daily	<0.1 ppm as phosphate	Not Applicable
ChemTreat CL-2841 <i>Closed System Treatment</i>	See SDS	See SDS	2,275 gal / yr	Continuous / Daily	<1.0 ppm as nitrite	Not Applicable
ChemTreat CL-4075 <i>Cooling Water Treatment</i>	See SDS	See SDS	306 gal / yr	Continuous / Daily	<0.1 ppm as phosphate	Not Applicable
ChemTreat CL-4132 <i>Cooling Water Treatment</i>	See SDS	See SDS	6,256 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat CL-5688 <i>Cooling Water Treatment</i>	See SDS	See SDS	11,067 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat UC-3001 <i>Scale Control</i>	See SDS	See SDS	13,865 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat UC-3002 <i>Scale Control</i>	See SDS	See SDS	7,256 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat CL-49 <i>Cooling Water Microbiocide</i>	See SDS	See SDS	2,855 gal / yr	Twice per Week	Not expected in Discharge	3377-55-15300
ChemTreat CD-23 <i>Cooling Water Treatment</i>	See SDS	See SDS	21,317 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat CL-25	See SDS	See SDS	31,217 gal / yr	Continuous / Daily	Not expected in Discharge	5382-43-15300

EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Name	Chemical Composition	48-hour or 96 hour median tolerance limit data ¹	Quantities to be used	Frequencies of use	Proposed discharge concentrations	EPA registration number
<i>Cooling Water Microbiocide and Chlorine</i>						
ChemTreat CD-24	See SDS	See SDS	28,027 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Cooling Water Treatment</i>						
ChemTreat P895L	See SDS	See SDS	3,300 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Water Clarification Agent</i>						
ChemTreat P893L	See SDS	See SDS	4,830 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Water Clarification Agent</i>						
ChemTreat CL-6680	See SDS	See SDS	13,097 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Cooling Water Treatment</i>						
ChemTreat CL-215	See SDS	See SDS	660 gal / yr	Weekly	Not expected in Discharge	67071-38-15300
<i>Cooling Water Microbiocide</i>						
ChemTreat CL-206	See SDS	See SDS	539 gal / yr	Weekly	Not expected in Discharge	464-426-15300
<i>Cooling Water and Reverse Osmosis Microbiocide</i>						
ChemTreat P-831E	See SDS	See SDS	6571 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Water Clarification/Solids Conditioning Agent</i>						
ChemTreat P-8934	See SDS	See SDS	1,500 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Water Clarification Agent</i>						
ChemTreat CL-4500	See SDS	See SDS	750 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Cooling Water Treatment Dispersant</i>						
ChemTreat P-891L	See SDS	See SDS	8,288 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
<i>Water Clarification Agent</i>						

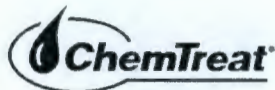
EPA ID No.
ALR000014183

NPDES Permit No.
AL0072109

Facility Name
SSAB ALABAMA INC.

Name	Chemical Composition	48-hour or 96 hour median tolerance limit data ¹	Quantities to be used	Frequencies of use	Proposed discharge concentrations	EPA registration number
ChemTreat FO-120 <i>Defoamer</i>	See SDS	See SDS	745 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat CD-260 <i>Metal Precipitant</i>	See SDS	See SDS	7,583 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
ChemTreat DT-9254 <i>Dust Control</i>	See SDS	See SDS	3,032 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
Lime, Hydrated	See SDS	See SDS	1,998 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
Sulfuric Acid 20%	See SDS	See SDS	700 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable
Caustic Soda 50%	See SDS	See SDS	8,520 gal / yr	Continuous / Daily	Not expected in Discharge	Not Applicable

1. 48-hour or 96-hour LC50 data for organisms representative of the biota of the waterway into which the discharge will ultimately reach. For freshwater, the fathead minnow (*Pimephales promelas*) and cladoceran (*Ceriodaphnia dubia*) are the test organisms. Other acceptable aquatic organisms may be allowed by the Department if sufficient information is provided.



SAFETY DATA SHEET



1. Identification

Product identifier CL5688

Other means of identification

Product code CL5688

Recommended use Cooling Water Treatment

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B
Sensitization, skin Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation.

Precautionary statement

Prevention Avoid breathing mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.

Response If on skin: Wash with plenty of water. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information 52.28% of the mixture consists of component(s) of unknown acute oral toxicity. 67.25% of the mixture consists of component(s) of unknown acute dermal toxicity. 68.03% of the mixture consists of component(s) of unknown acute inhalation toxicity. 67.25% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 59% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-Butenedioic acid (Z)-, homopolymer		26099-09-2	20 - < 30
TRADE SECRET*		Proprietary*	5 - < 10
Other components below reportable levels			60 - < 70

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.
Form Liquid. Liquid
Color Not available.

Odor Mild

Odor threshold Not available.

pH 2.5 - 4

Melting point/freezing point 24.80 °F (-4.00 °C) =

Initial boiling point and boiling range 211.95 °F (99.97 °C) estimated

Flash point 212.0 °F (100.0 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	0 - 200 cps
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.22
Specific gravity	1.21 - 1.23 @ 20C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
--	--

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
--------------------	--

Product		Species	Test Results
CL5688			
Aquatic			
<i>Acute</i>			
Crustacea	LC50	Ceriodaphnia dubia	2784 mg/l, 48 hours
		Daphnia magna	4310 mg/l, 48 hr
Fish	LC50	Fathead minnow (Pimephales promelas)	> 10000 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	IC25	Ceriodaphnia dubia	1115 mg/l, 7 days
		Daphnia magna	1430 mg/l, 21 days
	LOEC	Ceriodaphnia dubia	1250 mg/l, 7 days
		Daphnia magna	2500 mg/l, 21 days
	NOEC	Ceriodaphnia dubia	625 mg/l, 7 days
		Daphnia magna	1250 mg/l, 21 days
Fish	IC25	Fathead minnow (Pimephales promelas)	1077 mg/l, 7 d
	LOEC	Fathead minnow (Pimephales promelas)	2500 mg/l, 7 d
			1250 mg/l, 7 d
	NOEC	Fathead minnow (Pimephales promelas)	1250 mg/l, 7 d
			625 mg/l, 7 d

Components		Species	Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Kosher

This product is certified by the Orthodox Unionas Kosher pareve

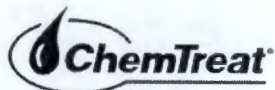


16. Other information, including date of preparation or last revision

Issue date 02-15-2021
Revision date 10-05-2022
Version # 03
HMIS® ratings Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: X

Disclaimer ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier UC3001
Other means of identification None.
Recommended use Scale Control
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name ChemTreat
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
E-mail Not available.
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement
Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Potassium carbonate		584-08-7	20 - < 50
Other components below reportable levels			70 - < 80

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Not available.
Odor threshold	Not available.
pH	12.5 - 14
Melting point/freezing point	-4.00 °F (-20.00 °C)
Initial boiling point and boiling range	211.95 °F (99.97 °C) estimated
Flash point	< 200.0 °F (< 93.3 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	12.48 lbs/gal
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.

Percent volatile	70 % estimated
Pounds per gallon	12.48
Specific gravity	1.47 - 1.51

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
UC3001		
<u>Acute</u>		
<u>Dermal</u>		
<u>Liquid</u>		
LD50	Rabbit	> 2000 mg/kg
Components	Species	Test Results

Potassium carbonate (CAS 584-08-7)

Acute

Oral

LD50

Rat

1870 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
UC3001			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	430 mg/l, 48 h
		Daphnia pulex	200 mg/l, 48 h
Fish	LC50	Bluegill (Lepomis macrochirus)	230 mg/l, 96 h
		Fathead minnow (Pimephales promelas)	940 mg/l, 24 h
			820 mg/l, 48 h
			510 mg/l, 96 hours
		Rainbow Trout	68 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium Carbonate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A6, A7, B10, T14, TP2, TP27
Packaging exceptions	None
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1760
-----------	--------

UN proper shipping name	Corrosive liquids, n.o.s. (Potassium Carbonate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium Carbonate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categoriesSkin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)**SARA 313 (TRI reporting)**

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-18-2021
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0

Disclaimer

ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier UC3002
Other means of identification None.
Recommended use Scale Control
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name ChemTreat
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
E-mail Not available.
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement
Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Potassium carbonate		584-08-7	40 - < 50
Other components below reportable levels			50 - < 60

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Not available.
Odor threshold	Not available.
pH	12.5 - 14
Melting point/freezing point	-4.00 °F (-20.00 °C)
Initial boiling point and boiling range	211.95 °F (99.97 °C) estimated
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	53 % estimated
Pounds per gallon	12.44

Specific gravity 1.47 - 1.51

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
UC3002		
<u>Acute</u>		
Dermal		
Liquid		
LD50	Rabbit	> 2000 mg/kg
Components	Species	Test Results

Potassium carbonate (CAS 584-08-7)

Acute

Oral

LD50 Rat 1870 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
UC3002		
Aquatic		
Acute		
Crustacea	LC50 Ceriodaphnia dubia	884 mg/l, 48 hours
Fish	LC50 Fathead minnow (Pimephales promelas)	1895 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium Carbonate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A6, A7, B10, T14, TP2, TP27
Packaging exceptions	None
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium Carbonate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium Carbonate)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT**IATA; IMDG****15. Regulatory information**

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

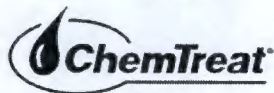
16. Other information, including date of preparation or last revision

Issue date	05-18-2021
Revision date	05-18-2021
Version #	02
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0

Disclaimer	ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.
-------------------	---

Revision information	Product and Company Identification: Product and Company Identification
-----------------------------	--

Other information	Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com
--------------------------	--



SAFETY DATA SHEET

FlexCorr™

1. Identification

Product identifier CL6680
Other means of identification FlexCorr™ CL6680
Recommended use Cooling Water Treatment
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name ChemTreat
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
E-mail Not available.
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Sensitization, skin Category 1
Specific target organ toxicity, repeated exposure Category 2
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.
Precautionary statement
Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information 15.36% of the mixture consists of component(s) of unknown acute oral toxicity. 10.22% of the mixture consists of component(s) of unknown acute dermal toxicity. 15.82% of the mixture consists of component(s) of unknown acute inhalation toxicity. 4.88% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 2.88% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide		1310-73-2	10 - < 20
Reactive Polyhydroxy Complex, RPC		Trade Secret	1 - < 3
Hydrochloric acid		7647-01-0	< 0.3
Ammonium hydroxide		1336-21-6	< 0.2
Other components below reportable levels			80 - < 90

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7 mg/m3
		5 ppm
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7 mg/m3
		5 ppm
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Brown.
Odor	Mild

Odor threshold	Not available.
pH	13.5
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Density	9.97 lb/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.2

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Strong acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Not known.
----------------	------------

Components	Species	Test Results
Ammonium hydroxide (CAS 1336-21-6)		
<u>Acute</u>		
Inhalation		
LC50	-	7050 mg/m3, 1 Hours
Oral		
LD50	Rat	350 mg/kg
Hydrochloric acid (CAS 7647-01-0)		
<u>Acute</u>		
Oral		
LD50	Rabbit	900 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Hydrochloric acid (CAS 7647-01-0)	3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.		
Product	Species		Test Results
CL6680			
Aquatic			
Acute			
Crustacea	LC50	Ceriodaphnia dubia	6236 mg/l, 48 h
Fish	LC50	Fathead minnow (Pimephales promelas)	10000 mg/l, 96 h
Components	Species		Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential			

Partition coefficient n-octanol / water (log K_{ow})

Ammonium hydroxide

-2.66

Mobility in soil No data available.**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.**13. Disposal considerations**

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

UN number UN3266
UN proper shipping name Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide RQ = 9542 LBS)
Transport hazard class(es)
 Class 8
 Subsidiary risk -
 Label(s) 8
Packing group II
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions B2, IB2, T11, TP2, TP27
Packaging exceptions 154
Packaging non bulk 202
Packaging bulk 242

IATA

UN number UN3266
UN proper shipping name Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide)
Transport hazard class(es)
 Class 8
 Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 8L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
 Passenger and cargo aircraft Allowed with restrictions.
 Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN3266
UN proper shipping name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide)
Transport hazard class(es)
 Class 8
 Subsidiary risk -
Packing group II
Environmental hazards
 Marine pollutant No.
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code
DOT

Not established.



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonium hydroxide (CAS 1336-21-6)	Listed.
Hydrochloric acid (CAS 7647-01-0)	Listed.
Sodium hydroxide (CAS 1310-73-2)	Listed.

SARA 304 Emergency release notification

Ammonia (CAS 1336-21-6)	100 LBS
Hydrogen chloride (CAS 7647-01-0)	5000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Hydrochloric acid	7647-01-0	5000	500		
Ammonium hydroxide	1336-21-6	100	500		

SARA 311/312 Hazardous chemical

Classified hazard categories	Skin corrosion or irritation
	Serious eye damage or eye irritation
	Respiratory or skin sensitization
	Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Hydrochloric acid (CAS 7647-01-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Ammonium hydroxide (CAS 1336-21-6)

Hydrochloric acid (CAS 7647-01-0)

Safe Drinking Water Act Not regulated.
(SDWA)

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Hydrochloric acid (CAS 7647-01-0) 6545

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Hydrochloric acid (CAS 7647-01-0) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Hydrochloric acid (CAS 7647-01-0) 6545

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Ammonium hydroxide (CAS 1336-21-6)

Hydrochloric acid (CAS 7647-01-0)

Sodium hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	07-27-2022
Revision date	08-29-2022
Version #	03
HMIS® ratings	Health: 3* Flammability: 0 Physical hazard: 0

Disclaimer

ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information

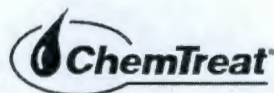
Hazard(s) identification: Hazard statement

Ecological information: Ecotoxicity

GHS: Classification

Other information

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier CL4132

Other means of identification

Product code CL4132

Recommended use Cooling Water Treatment

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

Reproductive toxicity Category 2

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3

Hazardous to the aquatic environment, long-term hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Suspected of damaging fertility or the unborn child. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage

Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

17.5% of the mixture consists of component(s) of unknown acute oral toxicity. 17.5% of the mixture consists of component(s) of unknown acute dermal toxicity. 20% of the mixture consists of component(s) of unknown acute inhalation toxicity. 17.5% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
sodium;4-chloro-5-(4-methylphenyl)-1,2-diaza-3-azanidacyclopenta-1,4-diene		202420-04-0	10 - < 20
Sodium tolyltriazole		64665-57-2	1 - < 3
sodium;hydroxide		1310-73-2	1 - < 3
Other components below reportable levels			80 - < 90

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
---	--

Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
sodium;hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
sodium;hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
sodium;hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid. Liquid
Color	Dark Straw

Odor Mild

Odor threshold Not available.

pH 13 @ 100%

Melting point/freezing point 12.20 °F (-11.00 °C)

Initial boiling point and boiling range 210.2 °F (99 °C) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 0.00001 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 8.59 lbs/gal estimated

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

Percent volatile 80 % estimated

Pounds per gallon 9.68

Specific gravity 1.16 @ 20C

10. Stability and reactivity

Reactivity Reacts violently with strong acids. This product may react with oxidizing agents. May be corrosive to metals.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Contact with incompatible materials. Do not mix with other chemicals.

Incompatible materials Strong acids. Strong oxidizing agents. Oxidizing agents. Metals.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product	Species		Test Results
CL4132			
Aquatic	Crustacea	IC25	Ceriodaphnia dubia 22.4 mg/l, 7 days
		LC50	Ceriodaphnia dubia 108 mg/l, 48 hours
		LOEC	Ceriodaphnia dubia 25 mg/l, 7 days
		NOEC	Ceriodaphnia dubia 12.5 mg/l, 7 days
Fish		IC25	Fathead minnow (Pimephales promelas) 31.4 mg/l, 7 days
		LC50	Fathead minnow (Pimephales promelas) 44.1 mg/l, 96 hours
		LOEC	Fathead minnow (Pimephales promelas) 25 mg/l, 7 days
		NOEC	Fathead minnow (Pimephales promelas) 12.5 mg/l, 7 days
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		

Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
------------------------------	---

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3267
UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Chlorotolyltriazole sodium salt)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB2, T11, TP2, TP27
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN3267
UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Chlorotolyltriazole sodium salt)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3267
UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Chlorotolyltriazole sodium salt)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

sodium;hydroxide (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation
Reproductive toxicity

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

sodium;hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-26-2021

Revision date 02-02-2022

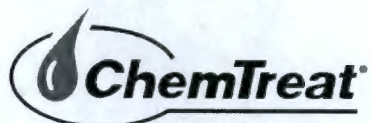
Version # 02

HMIS® ratings
Health: 3
Flammability: 0
Physical hazard: 0
Personal protection: X

Disclaimer
ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information Transport Information: Material Transportation Information

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

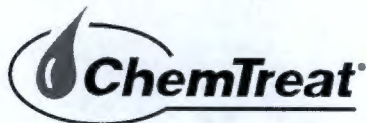
Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL4075
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification



Signal Word:	DANGER
GHS Classification(s):	Skin corrosion/irritation – Category 1b Eye damage/irritation – Category 1 Acute Toxicity Oral – Category 4 Specific Target Organ Toxicity – Single Exposure – Category 2
Hazard Statement(s):	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H302 Harmful if swallowed. H371 May cause damage to organs.
Precautionary Statement(s):	
Prevention:	P260 Do not breathe dust/fume/gas/mist/vapors/spray. P264 Wash thoroughly after handling. P270 Do not eat, drink, or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

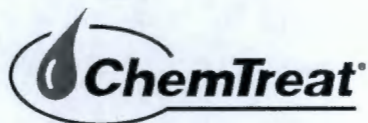
None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
1-Hydroxyethylidene-1,1-diphosphonic acid	2809-21-4	40 - 70
Phosphorous acid, ortho	13598-36-2	1 - 5

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.



Section 4. First Aid Measures

Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Use water spray to keep containers cool.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.



Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

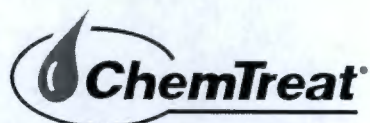
Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
1-Hydroxyethylidene-1,1-diphosphonic acid	N/E	N/E
Phosphorous acid, ortho	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.
------------------------------	--

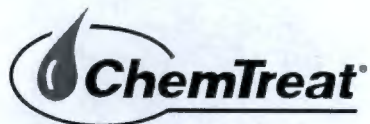


Personal Protection

Eyes:	Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.
Skin:	Maintain quick-drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.447 @ 20°C
pH:	<2.5 @ 20°C, 1.0%
Freezing Point:	-13°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	221°F
Solubility in Water:	Soluble
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	12.07 LB/GA
Vapor Pressure:	<17.5
% VOC:	38
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D



Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Bases.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of phosphorus, Phosphines, Acids of phosphorous.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
1-Hydroxyethylidene-1,1-diphosphonic acid	Oral	LD50	2400 MG/KG	Rat
	Dermal	LD50	7940 MG/KG	Rabbit

Carcinogenicity Category

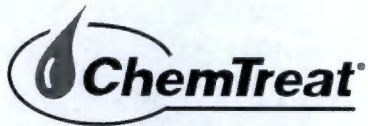
Component	Source	Code	Brief Description
1-Hydroxyethylidene-1,1-diphosphonic acid	N/E	N/E	N/E
Phosphorous acid, ortho	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation:	N/D
Eye Contact:	N/D
Skin Contact:	N/D
Ingestion:	N/D

Skin Corrosion/Irritation: N/D



Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	EC50	878 mg/l
Rainbow Trout	96h	LC50	300 mg/l
Fathead Minnow	96h	LC50	2267 mg/l
Ceriodaphnia dubia	48h	LC50	522 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.



Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	(1-HYDROXYETHYLIDENE-1, 1-DIPHOSPHONIC ACID)	8	PGII
IMDG	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	(1-HYDROXYETHYLIDENE-1, 1-DIPHOSPHONIC ACID)	8	PGII
ICAO	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	(1-HYDROXYETHYLIDENE-1, 1-DIPHOSPHONIC ACID)	8	PGII
TDG	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	(1-HYDROXYETHYLIDENE-1, 1-DIPHOSPHONIC ACID)	8	PGII
ANTT	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	(1-HYDROXYETHYLIDENE-1, 1-DIPHOSPHONIC ACID)	8	PGII

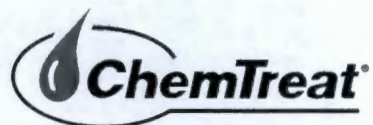
Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDL):

All ingredients listed.
All ingredients listed.



Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
1-Hydroxyethylidene-1,1-diphosphonic acid	N/A	N/A	N/A
Phosphorous acid, ortho	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
1-Hydroxyethylidene-1,1-diphosphonic acid	None.
Phosphorous acid, ortho	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product is certified by the Orthodox Union as Kosher for Passover and year-round use.
Only when prepared by the following ChemTreat facilities:
Ashland, VA; Eldridge, IA; Nederland, TX.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.



Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	1
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

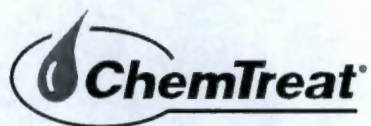
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019



Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET



1. Identification

Product identifier BL122

Other means of identification

Product code BL122

Recommended use Boiler Water Treatment

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 1C
Serious eye damage/eye irritation Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Do not breathe mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

9% of the mixture consists of component(s) of unknown acute dermal toxicity. 9% of the mixture consists of component(s) of unknown acute inhalation toxicity. 9% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 9% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Sodium bisulfite		7631-90-5	15 - 40
Other components below reportable levels			

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a poison center or doctor/physician.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
---	--

Methods and materials for containment and cleaning up

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
Sodium bisulfite (CAS 7631-90-5)	TWA	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
Sodium bisulfite (CAS 7631-90-5)	TWA	5 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Appearance**

Clear

Physical state

Liquid.

Form

Liquid.

Color

Pink

Odor

Strong

Odor threshold	Not available.
pH	4.2 @ 100%
Melting point/freezing point	30.20 °F (-1.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	> 0 - < 200 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.32
Specific gravity	1.24 @ 20C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing.

Information on toxicological effects

Acute toxicity	Not known.
----------------	------------

Components	Species	Test Results
Sodium bisulfite (CAS 7631-90-5)		
<u>Acute</u>		
Oral		
LD50	Rat	2 g/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Sodium bisulfite (CAS 7631-90-5)		3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity	Harmful to aquatic life with long lasting effects.		
Product	Species		Test Results
BL122			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	390.4 mg/l, 48 hours
		Daphnia magna	354 mg/l, 48 hours
		Opossum shrimp order (Mysida)	> 1000 mg/l, 24 hours
			> 1000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 1000 mg/l, 96 hours
		Inland silverside (Menidia beryllina)	> 1000 mg/l, 24 hours
			> 1000 mg/l, 96 hours
		Sheepshead minnow (Cyprinodon variegatus)	100 mg/l, 96 hours
Acute			
Fish	LC50	Oncorhynchus mykiss	1875 mg/l, 96 h
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2693
UN proper shipping name	Bisulfites, aqueous solutions, n.o.s. (SODIUM BISULFITE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN2693
UN proper shipping name	Bisulfites, aqueous solutions, n.o.s. (SODIUM BISULFITE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN2693
UN proper shipping name	Bisulfites, aqueous solutions, n.o.s. (SODIUM BISULFITE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	Not assigned.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium bisulfite (CAS 7631-90-5)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Skin corrosion or irritation

Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Halal**Compliance Information: Kosher**

This product is certified by the Orthodox Unionas Kosher pareve

Ashland, VA
Eldridge, IA
Nederland, TX
Fontana, CA

**Compliance Information: Food Regulations**

21 CFR 173.310

16. Other information, including date of preparation or last revision

Issue date 06-18-2021
Revision date 01-22-2024
Version # 04
HMIS® ratings Health: 2
 Flammability: 0
 Physical hazard: 0
 Personal protection: X

Disclaimer

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information

Hazard(s) identification: Hazard statement
 Regulatory information: Compliance Information:Kosher Location

Material name: BL122

BL122 Version #: 05 Revision date: 01-22-2024 Issue date: 06-18-2021

SDS US

8 / 9



Safety Data Sheet



1. Identification

Product Name: BL1771

Recommended Use: Boiler Water Treatment

Supplied by: ChemTreat, Inc.
5640 Cox Road
Glen Allen, Virginia 23060
E-Mail: productcompliance@chemtreat.com
www.chemtreat.com
(800) 648-4579

Emergency Telephone: (800) 424-9300

2. Hazards Identification

This substance or mixture is classified in accordance with 29 CFR 1910.1200.

Hazard Pictogram(s)



Signal Word
Warning

GHS CLASSIFICATION & HAZARD STATEMENTS

EYE IRRITATION - CATEGORY 2A H319 Causes serious eye irritation.

PRECAUTIONARY STATEMENTS

P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P317 If eye irritation persists: Get medical help.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Statements
Potassium pyrophosphate	7320-34-5	10 - 20	H319-332
Potassium hydroxide	1310-58-3	1 - 3	H301-314-318

The exact percentage (concentration) and/or specific chemical identity of the product composition has been withheld as a trade secret.
Full text of H-statements (if any): see Section 16

4. First-aid Measures



First Aid - General Advice: Provide general supportive measures and treat symptomatically. If any symptoms persist or in all cases of doubt, seek medical advice.

First Aid - Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

First Aid - Ingestion: Rinse mouth. Get medical attention if symptoms occur.

First Aid - Skin Contact: Immediately wash skin with plenty of water while removing any contaminated clothing. Call a physician or

poison control center immediately if symptoms occur. Chemical burns must be treated by a physician.

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove eye contact lenses. Call a physician or poison control center immediately if symptoms persist.

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms. This material may be corrosive and potentially damaging to any tissue it comes in contact with. Symptoms may include irritation, stinging, tearing, redness, swelling, itching, burns, and blurred vision. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Notes to Physician: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Treat symptomatically.

5. Fire-fighting Measures

Fire and Explosion Hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Special Firefighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

6. Accidental Release Measures

Methods and Materials for Containment and Cleanup: Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if possible without risk. Absorb in vermiculite, sand, or earth and place into containers. Flush area with water.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental Precautions: Avoid release to the environment. Do not allow discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological information.

Advice for Emergency Responders: Keep unnecessary personnel away. Ventilate area. Observe and follow emergency procedures.

Personal Precautions: Refer to protective measures listed in sections 7 and 8.

7. Handling and Storage

Handling: Keep container tightly closed. Wear personal protection equipment. Avoid contact with eyes, skin or clothing. Wash hands after handling.

Storage: Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store above Freeze Point.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Potassium pyrophosphate	N.E.	N.E.	N.E.	N.E.
Potassium hydroxide	N.E.	N.E.	N.E.	N.E.

MEL = Maximum Exposure Limit OES = Occupational Exposure Standard N.E. = Not Established

Personal Protection

Respiratory Protection: If engineering controls do not maintain airborne concentrations below applicable exposure limits, an appropriate certified respirator must be worn.

Skin Protection: Wear appropriate chemical resistant gloves.

Eye Protection: Wear safety glasses with side shields (or goggles) and/or a face shield.

Other Protective Equipment: Wear suitable personal protective equipment. Eye wash facilities and emergency shower must be available when handling this product.

Hygienic Practices: Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls: Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

9. Physical and Chemical Properties

Appearance:	Clear	Color:	Light Straw
Physical State:	Liquid	Odor:	Mild
Density, lb/gal:	9.71	Specific gravity, 20°C	1.164
Freeze Point, °C:	-2	pH:	9.80
Solubility in Water:	No Information	Viscosity:	0 - 200 cps
Boiling Range, °C:	No Information	Flash Point, °C:	No Information
Volatile Organic Compounds, gr/ltr:	0	Combustibility:	No Information

10. Stability and Reactivity

Reactivity: No reactivity hazards known under recommended storage and use conditions.

Stability: Stable under normal conditions.

Conditions to Avoid: Contact with incompatible materials.

Incompatibility: Strong oxidizing agents.

Hazardous Decomposition Products: None known under recommended use and conditions.

11. Toxicological Information

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms. This material may be corrosive and potentially damaging to any tissue it comes in contact with. Symptoms may include irritation, stinging, tearing, redness, swelling, itching, burns, and blurred vision. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Effect of Overexposure - Inhalation: Under normal use conditions, this product is not expected to cause adverse health effects.

Effect Of Overexposure - Ingestion: May be harmful if swallowed. Rinse mouth. Call a physician or poison center if symptoms occur.

Effect of Overexposure - Skin Contact: May cause severe skin irritation or burns. May cause skin irritation.

Effect Of Overexposure - Eye Contact: May cause serious eye irritation or damage. May cause eye irritation.

Effect Of Overexposure - Chronic Hazards: No persistent or cumulative effects were observed. Under normal use conditions, this product is not expected to cause chronic health effects.

Carcinogenicity: Not classifiable as to carcinogenicity to humans.

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
7320-34-5	Potassium pyrophosphate	N.I.	>2000 mg/kg Rabbit	N.I.
1310-58-3	Potassium hydroxide	284 mg/kg Rat	>2001	>200001

N.I. = No Information

12. Ecological Information

Ecological Information: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Ecological Effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Ecotoxicity

Species	Duration and Type	Test Results
Fathead minnow (<i>Pimephales promelas</i>)	LC50 for 96 hours	1895 mg/L
Ceriodaphnia dubia	LC50 for 48 hours	1708 mg/L

13. Disposal Information

Disposal Instructions: Do not dispose or allow this material to drain into sewers/water supplies. Dispose of contents/container in

accordance with local/regional/national/international regulations.

Contaminated Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Hazardous Waste Code: None

14. Transport Information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Special Transport Precautions: No Information

15. Regulatory Information

Federal Regulations:

This safety data sheet was prepared in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated

CERCLA Hazardous Substance List (40 CFR 302.4)

Chemical Name	CAS-No.
Potassium hydroxide	1310-58-3

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely Hazardous Substances

Chemical Name	CAS-No.	Threshold
Potassium hydroxide	1310-58-3	1000 lb

SARA 304 Emergency Release Notification

Chemical Name	CAS-No.
Potassium hydroxide	1310-58-3

SARA Section 311/312

Classified Hazard Categories	
Serious eye damage or eye irritation	

SARA 313 (TRI reporting)

Not regulated

OSHA Specifically Regulated Substances List (40 CFR 1910.1001-1053)

Not regulated

Clean Air Act (CAA)

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

California Proposition 65

Not regulated

International Regulations:**International Inventories:**

Country(s) or region	Inventory name	On inventory (yes/no)*
TSCA	United States Toxic Substances Control Act Inventory	Yes
DSL	Canadian Domestic Substances List	Yes
NDSL	Canadian Non-Domestic Substances List	No
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	No
ENCS	Japan Existing and New Chemical Substances	Yes
IECSC	China Inventory of Existing Chemical Substances	Yes
KECI	Korean Existing and Evaluated Chemical Substances	Yes
PICCS	Philippines Inventory of Chemicals and Chemical Substances	Yes
AICS	Australian Inventory of Chemical Substances	Yes
NZIoC	New Zealand Inventory of Chemicals	Yes
TCSI	Taiwan Chemical Substance Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information**Kosher**

This product is Kosher certified for Passover & Year-round use by the Orthodox Union.

**Food Regulations**

FDA: All ingredients in this product are authorized for use in the following CFR section(s):
21 CFR 173.310

16. Other Information

Revision Date: 9/23/2024
Reason for revision: No Information
Datasheet produced by: productcompliance@chemtreat.com
HMIS Ratings:

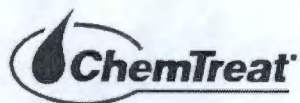
Health:	1	Flammability:	0	Reactivity:	0	Personal Protection:	X
---------	---	---------------	---	-------------	---	----------------------	---

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



Safety Data Sheet

1. Identification

Product Name: CL2841

Recommended Use: Closed System Treatment

Supplied by: ChemTreat, Inc.
5640 Cox Road
Glen Allen, Virginia 23060
E-Mail: productcompliance@chemtreat.com
www.chemtreat.com
(800) 648-4579

Emergency Telephone: (800) 424-9300

2. Hazards Identification

This substance or mixture is classified in accordance with 29 CFR 1910.1200.

Hazard Pictogram(s)



Signal Word

Danger

GHS CLASSIFICATION & HAZARD STATEMENTS

ACUTE TOXICITY - ORAL AND INHALATION - CATEGORY 4	H302+H332	Harmful if swallowed or if inhaled
SERIOUS EYE DAMAGE - CATEGORY 1	H318	Causes serious eye damage.
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE - CATEGORY 2	H401	Toxic to aquatic life.
SKIN CORROSION - CATEGORY 1	H314	Causes severe skin burns and eye damage.
REPRODUCTIVE TOXICITY - CATEGORY 1B	H360	May damage fertility or the unborn child.

PRECAUTIONARY STATEMENTS

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P316	IF SWALLOWED: Get emergency medical help immediately.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P316	Get emergency medical help immediately.
P317	Get medical help.
P321	Specific treatment is possible (refer to label).

P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
NANO2	WARNING: Contains sodium nitrite. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly anoxic shock. The recommended treatment for ingestion of sodium nitrite is intravenous methylene blue.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Statements
Sodium nitrite	7632-00-0	20 - 30	H272-301+H331-319
Boric acid, disodium salt, pentahydrate	12179-04-3	3 - 5	H360
Tolytriazole, sodium salt	64665-57-2	1 - 3	H302-314-318
Sodium hydroxide	1310-73-2	1 - 3	H302+H312-314-318

The exact percentage (concentration) and/or specific chemical identity of the product composition has been withheld as a trade secret.
Full text of H-statements (if any): see Section 16

4. First-aid Measures



First Aid - General Advice: Provide general supportive measures and treat symptomatically. If any symptoms persist or in all cases of doubt, seek medical advice.

First Aid - Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

First Aid - Ingestion: Rinse mouth. Get medical attention if symptoms occur.

First Aid - Skin Contact: Immediately wash skin with plenty of water while removing any contaminated clothing. Call a physician or poison control center immediately if symptoms occur. Chemical burns must be treated by a physician.

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove eye contact lenses. Call a physician or poison control center immediately if symptoms persist.

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly anoxic shock; treat accordingly. This material may be corrosive and potentially damaging to any tissue it comes in contact with. Symptoms may include irritation, stinging, tearing, redness, swelling, itching, burns, and blurred vision.

Notes to Physician: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Treat symptomatically.

5. Fire-fighting Measures

Fire and Explosion Hazards: Fire may cause evolution of nitrogen oxides and has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours. Use standard firefighting procedures and consider the hazards of other involved materials.

Special Firefighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

6. Accidental Release Measures

Methods and Materials for Containment and Cleanup: Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if possible without risk. Absorb in vermiculite, sand, or earth and place into containers. Flush area with water.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental Precautions: Avoid release to the environment. Do not allow discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological information.

Advice for Emergency Responders: Keep unnecessary personnel away. Ventilate area. Observe and follow emergency procedures.

Personal Precautions: Refer to protective measures listed in sections 7 and 8.

7. Handling and Storage

Handling: Do not get in eyes, on skin or clothing. Keep container tightly closed. Wear personal protection equipment. Do not breath vapors. Wash thoroughly after handling.

Storage: Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store above Freeze Point.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Sodium nitrite	N.E.	N.E.	N.E.	N.E.
Boric acid, disodium salt, pentahydrate	2 mg/m3	6 mg/m3	N.E.	N.E.
Tolytriazole, sodium salt	N.E.	N.E.	N.E.	N.E.
Sodium hydroxide	N.E.	N.E.	2 mg/m3	N.E.

MEL = Maximum Exposure Limit OES = Occupational Exposure Standard N.E. = Not Established

Personal Protection

Respiratory Protection: If engineering controls do not maintain airborne concentrations below applicable exposure limits, an appropriate certified respirator must be worn.

Skin Protection: Wear appropriate chemical resistant gloves.

Eye Protection: Wear safety glasses with side shields (or goggles) and/or a face shield.

Other Protective Equipment: Wear suitable personal protective equipment. Eye wash facilities and emergency shower must be available when handling this product.

Hygienic Practices: Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls: Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

9. Physical and Chemical Properties

Appearance:	Clear	Color:	Yellow
Physical State:	Liquid	Odor:	Mild
Density, lb/gal:	10.88	Specific gravity, 20°C	1.304
Freeze Point, °C:	-25	pH:	12.10
Solubility in Water:	Soluble	Viscosity:	0 - 200 cps
Boiling Range, °C:	No Information	Flash Point, °C:	No Information
Volatile Organic Compounds, gr/ltr:	No Information	Combustibility:	No Information

10. Stability and Reactivity

Reactivity: No reactivity hazards known under recommended storage and use conditions.

Stability: Stable under normal conditions.

Conditions to Avoid: Contact with incompatible materials.

Incompatibility: Strong oxidizers, acids, amines, and reducing agents.

Hazardous Decomposition Products: Oxides of nitrogen.

11. Toxicological Information

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly anoxic shock; treat accordingly. This material may be corrosive and potentially damaging to any tissue it comes in contact with. Symptoms may include irritation, stinging, tearing, redness, swelling, itching, burns, and blurred vision.

Effect of Overexposure - Inhalation: Under normal use conditions, this product is not expected to cause adverse health effects.

Effect Of Overexposure - Ingestion: May be harmful if swallowed. Rinse mouth. Call a physician or poison center if symptoms occur.

Effect of Overexposure - Skin Contact: May cause severe skin irritation or burns.

Effect Of Overexposure - Eye Contact: May cause serious eye irritation or damage.

Effect Of Overexposure - Chronic Hazards: No persistent or cumulative effects were observed. Under normal use conditions, this product is not expected to cause chronic health effects.

Carcinogenicity: Not classifiable as to carcinogenicity to humans.

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
7632-00-0	Sodium nitrite	186 mg/kg Rat	N.I.	5.5 mg/L Rat
12179-04-3	Boric acid, disodium salt, pentahydrate	2403 mg/kg Rat	N.I.	N.I.
64665-57-2	Tolyltriazole, sodium salt	1980 mg/kg Rat	>2000 mg/kg Rabbit	N.I.
1310-73-2	Sodium hydroxide	325 mg/kg Rat	1350 mg/kg Rabbit	N.I.

N.I. = No Information

12. Ecological Information

Ecological Information: This product is classified as environmentally hazardous. Large or frequent spills can have a harmful or damaging effect on the environment and/or aquatic organisms.
Review substance(s) or product ecotoxicity data result(s) in this section below, if available. See SDS section 6 for accidental release measures.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Ecological Effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Ecotoxicity

Species	Duration and Type	Test Results
Fathead minnow (<i>Pimephales promelas</i>)	LC50 for 96 hours	66.1 mg/L
Ceriodaphnia dubia	LC50 for 48 hours	3.5 mg/L

13. Disposal Information

Disposal Instructions: Do not dispose or allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Hazardous Waste Code: D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

14. Transport Information

DOT

UN Number:	UN3266
Proper Shipping Name:	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name:	(Sodium nitrite)
Hazard Class(es)	
Class:	8
Subsidiary Risk	No Information
Packing Group:	PGII
Special Precautions for user:	Read safety instructions, SDS and emergency procedures before handling
Reportable Quantity (RQ) lbs	338 lbs (Sodium nitrite)
ERG Code:	154

IATA

UN Number:	UN3266
Proper Shipping Name:	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name:	(Sodium nitrite)
Hazard Class(es)	
Class:	8
Subsidiary Risk:	N/A
Packing Group:	PGII
Environmental Hazards:	Yes
ERG Code:	8L

IMDG

UN Number:	UN3266
Proper Shipping Name:	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name:	(Sodium nitrite)
Hazard Class(es)	
Class:	8
Subsidiary Risk:	N/A
Packing Group:	PGII
Marine Pollutant:	No
EmS:	F-A, S-B
Special Precautions for user:	Read safety instructions, SDS and emergency procedures before handling

Special Transport Precautions: No Information

15. Regulatory Information**Federal Regulations:**

This safety data sheet was prepared in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Name	CAS-No.
Sodium nitrite	7632-00-0

CERCLA Hazardous Substance List (40 CFR 302.4)

Chemical Name	CAS-No.
Sodium nitrite	7632-00-0
Sodium hydroxide	1310-73-2

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely Hazardous Substances**

Chemical Name	CAS-No.	Threshold
Sodium nitrite	7632-00-0	100 lb
Sodium hydroxide	1310-73-2	1000 lb

SARA 304 Emergency Release Notification

Chemical Name	CAS-No.
Sodium nitrite	7632-00-0
Sodium hydroxide	1310-73-2

SARA Section 311/312

Classified Hazard Categories	Acute Toxicity (any route of exposure), Reproductive toxicity, Skin Corrosion or Irritation, Serious eye damage or eye irritation
-------------------------------------	---

SARA 313 (TRI reporting)

Chemical Name	CAS-No.
Sodium nitrite	7632-00-0

OSHA Specifically Regulated Substances List (40 CFR 1910.1001-1053)

Not regulated

Clean Air Act (CAA)**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

California Proposition 65

Not regulated

International Regulations:**International Inventories:**

Country(s) or region	Inventory name	On inventory (yes/no)*
TSCA	United States Toxic Substances Control Act Inventory	Yes
DSL	Canadian Domestic Substances List	Yes
NDSL	Canadian Non-Domestic Substances List	No
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	Yes
ENCS	Japan Existing and New Chemical Substances	Yes
IECSC	China Inventory of Existing Chemical Substances	Yes
KECI	Korean Existing and Evaluated Chemical Substances	Yes
PICCS	Philippines Inventory of Chemicals and Chemical Substances	Yes
AICS	Australian Inventory of Chemical Substances	Yes
NZIoC	New Zealand Inventory of Chemicals	Yes
TCSI	Taiwan Chemical Substance Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Revision Date: 8/2/2024
Reason for revision: No Information
Datasheet produced by: productcompliance@chemtreat.com

HMIS Ratings:

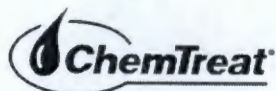
Health:	3	Flammability:	0	Reactivity:	0	Personal Protection:	X
----------------	---	----------------------	---	--------------------	---	-----------------------------	---

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET



1. Identification

Product identifier **BL1302**

Other means of identification

Product code **BL1302**

Recommended use **Boiler Water Treatment**

Recommended restrictions **None known.**

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name **ChemTreat, Inc.**

Address **5640 Cox Road
Glen Allen, VA 23060
United States**

Telephone **800-648-4579**

Website **chemtreat.com**

E-mail **productcompliance@chemtreat.com**

Emergency phone number **800-424-9300**

2. Hazard(s) identification

Physical hazards **Not classified.**

Health hazards **Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1**

Environmental hazards **Not classified.**

OSHA defined hazards **Not classified.**

Label elements



Signal word **Danger**

Hazard statement **Causes severe skin burns and eye damage. Causes serious eye damage.**

Precautionary statement

Prevention **Do not breathe mist/vapors. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.**

Response **If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.**

Storage **Store locked up.**

Disposal **Dispose of contents/container in accordance with local/regional/national/international regulations.**

Hazard(s) not otherwise classified (HNOC) **None known.**

Supplemental information **None.**

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide		1310-73-2	20 - < 30
Other components below reportable levels			70 - < 80

Material name: BL1302

BL1302 Version #: 04 Revision date: 07-24-2023 Issue date: 05-25-2022

SDS US

1 / 8

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	IDLH	10 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	Mild
Odor threshold	Not available.
pH	14 , 100%
Melting point/freezing point	<-13.00 °F (<-25.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.

Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	0 - 200 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.65
Specific gravity	1.28 @ 20C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Strong acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rat	140 - 340 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
--------------------	--

Product	Species	Test Results
BL1302		
Aquatic		
Crustacea	LC50	Ceriodaphnia dubia 4923 mg/l, 48 hours Daphnia magna 3536 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 2588 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	154

Reportable Quantity (LBS) 4000

IATA

UN number UN1824
UN proper shipping name SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)
Class 8
Subsidiary risk -
Label(s) 8
Packing group II
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1824
UN proper shipping name SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)
Class 8
Subsidiary risk -
Label(s) 8
Packing group II
Environmental hazards
Marine pollutant No.
EmS Not assigned.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Sodium hydroxide (CAS 1310-73-2)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Halal

This product is certified by Islamic Food and Nutrition Council of America as Halal.



Compliance Information: Kosher

This product is certified by the Orthodox Unionas Kosher pareve

Ashland, VA
Nederland, TX
Fontana, CA

**Compliance Information: Food Regulations**

FDA: Generally Recognized as Safe (GRAS) by the FDA at 21 CFR 184.1763.

FDA: All ingredients in this product are authorized in 21 CFR 173.310 for use as "Boiler Water Additives" where the steam may contact food.

16. Other information, including date of preparation or last revision

Issue date 05-25-2022

Revision date 07-24-2023

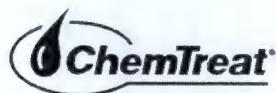
Version # 04

HMIS® ratings Health: 3
Flammability: 0
Physical hazard: 1
Personal protection: X

Disclaimer ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier CD23

Other means of identification

Product code CD23

Recommended use Cooling Water Treatment

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 1
Hazardous to the aquatic environment, long-term hazard Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Collect spillage.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information 12% of the mixture consists of component(s) of unknown acute dermal toxicity. 12% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
SODIUM HYPOCHLORITE SOLUTION 12.5wt. %		7681-52-9	10 - < 20
Other components below reportable levels			80 - < 90

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
-------------------------------	---

Conditions for safe storage,
including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see
Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
SODIUM HYPOCHLORITE SOLUTION 12.5wt.% (CAS 7681-52-9)	STEL	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid. Liquid
Color	Yellow
Odor	Mild
Odor threshold	Not available.
pH	12.9 @ 100%
Melting point/freezing point	< -11.20 °F (< -24.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

Pounds per gallon 10.09

Specific gravity 1.21 @ 20C

10. Stability and reactivity

Reactivity Reacts violently with strong acids. This product may react with oxidizing agents.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Contact with incompatible materials. Do not mix with other chemicals.

Incompatible materials Acids. Oxidizing agents.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Skin contact Causes severe skin burns.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
------------	---------	--------------

SODIUM HYPOCHLORITE SOLUTION 12.5wt.% (CAS 7681-52-9)

Acute

Oral

LD50	Rat	8.91 g/kg
------	-----	-----------

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
SODIUM HYPOCHLORITE SOLUTION 12.5wt.% (CAS 7681-52-9)	3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not regulated.	
US. National Toxicology Program (NTP) Report on Carcinogens	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	Very toxic to aquatic life with long lasting effects.		
Components	Species		Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1791
UN proper shipping name	SODIUM HYPOCHLORITE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	386, IB3, N34, T4, TP2, TP24
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN1791
UN proper shipping name	SODIUM HYPOCHLORITE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1791
UN proper shipping name	SODIUM HYPOCHLORITE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

DOT



IATA; IMDG



15. Regulatory information**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SODIUM HYPOCHLORITE SOLUTION 12.5wt.% (CAS 7681-52-9) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Skin corrosion or irritation

Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

International Inventories

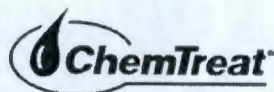
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	07-11-2022
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: X
Disclaimer	ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.
Other information	Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier CD24
Other means of identification None.
Recommended use Cooling Water Treatment
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name ChemTreat, Inc.
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
Website chemtreat.com
E-mail productcompliance@chemtreat.com
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement
Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sulfuric acid		7664-93-9	10 - < 20
Other components below reportable levels			80 - < 90

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Should not be released into the environment. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	IDLH	15 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Colorless.

Odor Mild

Odor threshold Not available.

pH 0 - 2 (10% Dilution)

Melting point/freezing point <-11.20 °F (<-24.00 °C)

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	9.56
Specific gravity	1.12 - 1.16 @ 20C

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Bases. Reducing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
Sulfuric acid (CAS 7664-93-9)		
<u>Acute</u>		
Inhalation		
LC50	Guinea pig	0.018 mg/l, 8 Hours
	Rat	347 mg/l, 1 Hours
Oral		
LD50	Rat	2140 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Sulfuric acid (CAS 7664-93-9)

Known To Be Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Product	Species	Test Results
CD24		
Aquatic		
Acute		
Crustacea	LC50 Daphnia magna	> 100 mg/l, 48 hours
	Daphnia pulex	> 100 mg/l, 48 hours
Fish	LC50 Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Sulfuric acid -2.2

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN2796
UN proper shipping name SULFURIC ACID SOLUTION

Transport hazard class(es)

Class 8
Subsidiary risk -
Label(s) 8

Packing group II

Environmental hazards

Marine pollutant No.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions A3, A7, B2, B15, IB2, N6, N34, T8, TP2, TP12

Packaging exceptions 154

Packaging non bulk 202

Packaging bulk 242

Reportable Quantity (LBS) 5003

IATA

UN number UN2796

UN proper shipping name SULFURIC ACID SOLUTION

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

Environmental hazards No.

ERG Code 8L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN2796

UN proper shipping name SULFURIC ACID SOLUTION

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group II

Environmental hazards

Marine pollutant No.

EmS F-A, S-B

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sulfuric acid (CAS 7664-93-9) Listed.

SARA 304 Emergency release notification

Sulfuric acid (aerosol forms only) (CAS 7664-93-9) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Sulfuric acid	7664-93-9	1000	1000		

SARA 311/312 Hazardous chemical

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sulfuric acid	7664-93-9	10 - < 20

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Sulfuric acid (CAS 7664-93-9) 6552

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulfuric acid (CAS 7664-93-9) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Sulfuric acid (CAS 7664-93-9) 6552

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.

(a))

Sulfuric acid (CAS 7664-93-9)

California Proposition 65

WARNING: This product can expose you to Sulfuric acid, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Sulfuric acid (CAS 7664-93-9)

Listed: March 14, 2003

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

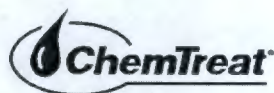
Issue date 05-05-2023

Version # 01

HMIS® ratings Health: 3
Flammability: 0
Physical hazard: 0
Personal protection: B

Disclaimer ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET



1. Identification

Product identifier CL49

Other means of identification

Product code C-SERIES™ CL49

Recommended use Cooling Water Microbiocide

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Skin corrosion/irritation Category 1C
Serious eye damage/eye irritation Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic to aquatic life.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium bromosulfamate		134509-56-1	7 - < 13
Sodium chlorosulfamate		17172-27-9	5 - < 10
Sodium hydroxide		1310-73-2	5 - < 10
Other components below reportable levels			70 - < 80

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
--------------------------------------	---

Conditions for safe storage,
including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Dark Straw

Odor Mild

Odor threshold Not available.

pH 12 - 14 @ 20°C (100% Dilution)

Melting point/freezing point 32.00 °F (0 °C)

Initial boiling point and boiling range 222.8 °F (106 °C)

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	25.33 hPa (@ 25 °C)
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	0 - 200 cps
Other information	
Density	11.10 lbs/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	11.1
Specific gravity	1.3 - 1.39 @ 20°C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents. May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Strong acids. Strong oxidizing agents. Oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
--	---

Information on toxicological effects

Acute toxicity	Not known.
----------------	------------

Product	Species	Test Results
CL49		
<u>Acute</u>		
Dermal		
LC50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	2491 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	

Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Not listed.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not regulated.	
US. National Toxicology Program (NTP) Report on Carcinogens	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	Toxic to aquatic life.		
Product		Species	Test Results
CL49			
Aquatic			
Algae	IC50	Algae	2.6 mg/l, 96 hours
Crustacea	EC50	Daphnia magna	4.8 mg/l, 48 hours
	LC50	Ceriodaphnia dubia	4.8 mg/l, 48 hours
		Daphnia pulex	6.2 mg/l, 48 hours
		Opossum shrimp order (Mysida)	196 mg/l, 24 hours
			48 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	3.8 mg/l, 96 hours
		Fathead minnow (Pimephales promelas)	8.5 mg/l, 48 hours
		Inland silverside (Menidia beryllina)	8.9 mg/l, 96 hours
			8.7 mg/l, 24 hours
		Sheepshead minnow (Cyprinodon variegatus)	36.4 mg/l, 96 hours
Components		Species	Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Halogenated complex, Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB2, T11, TP2, TP27
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242
Reportable quantity (RQ lbs)	13,333 pounds (Sodium hydroxide)

IATA

UN number	UN3266
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (Halogenated complex, Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Halogenated complex, Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Kosher

This product is certified by the Orthodox Unionas Kosher pareve

Ashland VA

Eldridge IA

Nederland TX

Fontana CA

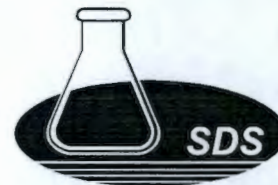
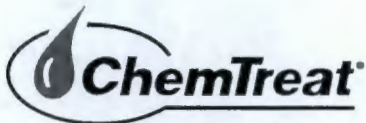


Compliance Information: Biocide Regulation

Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA Registration Number: 3377-55-15300

16. Other information, including date of preparation or last revision

Issue date	04-06-2023
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: X
Disclaimer	ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.
Revision information	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information HazReg Data: International Inventories GHS: Classification
Other information	Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL25
Product Use:	Cooling Water Microbiocide and Chlorine Dioxide Precursor
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	September 20, 2019
Revision Date:	September 20, 2019
Revision Number:	19092001AN

Section 2. Hazard(s) Identification

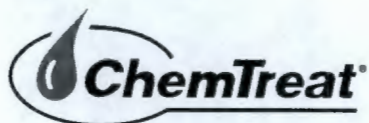


Signal Word: **DANGER**

GHS Classification(s):
Skin corrosion/irritation – Category 1b
Eye damage/irritation – Category 1
Acute Toxicity Inhalation – Category 3
Specific Target Organ Toxicity – Single Exposure – Category 2
Specific Target Organ Toxicity – Repeated Exposure – Category 2
Hazardous to the aquatic environment Acute – Category 1

Hazard Statement(s):
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H371 May cause damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.

Precautionary Statement(s):

**Prevention:**

P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink, or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release into the environment.
P233 Keep container tightly closed.

Response:

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Storage:

P405 Store locked up.
P403 Store in a well-ventilated place.

Disposal:

P501 Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

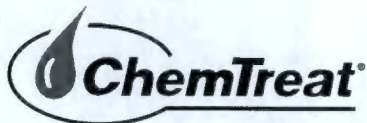
None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Sodium chlorite	7758-19-2	15 - 35
Sodium chloride	7647-14-5	1 - 5

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.



Section 4. First Aid Measures

Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.
Ingestion:	Rinse mouth. Call a poison center or doctor/physician if you feel unwell.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product may emit toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

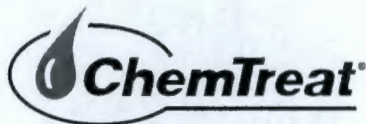


Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
Methods for Cleaning up:	Contain spill. Spilled materials may be absorbed using non-combustible and non-organic commercial absorbents. Dampen and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. Keep collected material damp and put into drums. Dried material can ignite upon contact with combustibles. Dispose of promptly. Dispose of in accordance with all applicable regulations.
Other Statements:	None.

Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required.



Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Sodium chlorite	N/E	N/E
Sodium chloride	N/E	N/E

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:

Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

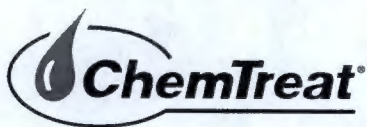
Maintain quick-drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Light Straw, Clear
Specific Gravity:	1.210 @ 20°C
pH:	12.7 @ 20°C, 100.0%
Freezing Point:	<-13°F
Flash Point:	N/D
Odor:	Moderate
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	>222°F
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A



Density:	10.09 LB/GA
Vapor Pressure:	N/D
% VOC:	0
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Acids, Strong oxidizers, Reducing agents, Combustible materials, Hypochlorites (bleach), Organic compounds, Organic solvents.
Hazardous Decomposition Products:	Chlorine dioxide gas.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

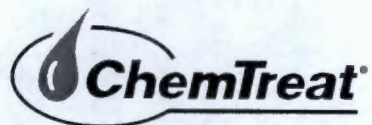
Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Sodium chlorite	Inhalation	LC50	0.23 MG/L	Rat
	Dermal	LD50	134 MG/KG	Rabbit
	Oral	LD50	284 MG/KG	Rat
Sodium chloride	Oral	LC50	3 G/KG	Rat
	Inhalation	LC50	>42 G/M3	Rat
ChemTreat CL25	Oral	LD50	165 MG/KG	Rat

Carcinogenicity Category

Component	Source	Code	Brief Description
Sodium chlorite	N/E	N/E	N/E
Sodium chloride	N/E	N/E	N/E

Likely Routes of Exposure: N/D



Symptoms

Inhalation: N/D
Eye Contact: N/D
Skin Contact: N/D
Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

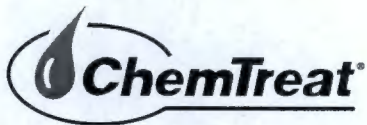
Ecotoxicity

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	LC50	0.29 mg/l
Fathead Minnow	96h	LC50	203 mg/l
Ceriodaphnia dubia	48h	LC50	0.38 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D



Other Adverse Effects: N/D

Comments: None.

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities. EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1908	CHLORITE SOLUTION	N/A	8	PGII
IMDG	UN1908	CHLORITE SOLUTION	N/A	8	PGII
TDG	UN1908	CHLORITE SOLUTION	N/A	8	PGII

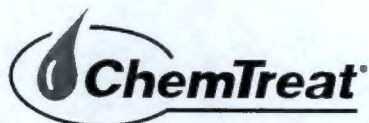
Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.



Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Sodium chlorite	N/A	N/A	N/A
Sodium chloride	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Sodium chlorite	MA, NJ, PA
Sodium chloride	None.

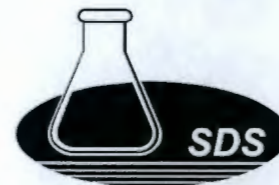
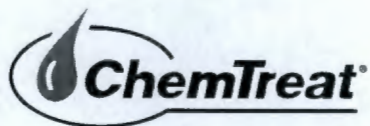
Compliance Information

NSF: Certified to NSF/ANSI Standard 60
Maximum use rate for potable water – 22 mg/L
This product ships as NSF from:
Facility #11 USA
Facility #15 USA

Food Regulations: N/A

KOSHER: This product is certified by the Star K as kosher pareve.
This product is certified as Kosher for Passover and
year-round use.

Halal: This product has not been evaluated for Halal approval.



FIFRA: Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 5382-43-15300.

Other: PMRA biocide registration NO. 31716

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	1
PPE:	X

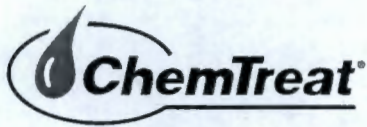
Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

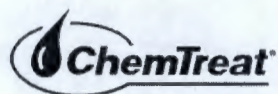
Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: September 20, 2019



Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

1. Identification

Product identifier CL206

Other means of identification

Product code CL206

Recommended use Cooling Water and Reverse Osmosis Microbiocide

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Acute toxicity, oral Category 4

Acute toxicity, inhalation Category 4

Skin corrosion/irritation Category 1

Serious eye damage/eye irritation Category 1

Sensitization, skin Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. Toxic to aquatic life.

Precautionary statement

Prevention

Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

Rinse mouth. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage

Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
2,2-Dibromo-3-nitrilopropionamide		10222-01-2	20
Other components below reportable levels			80

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Strong
Odor threshold	Not available.
pH	2 - 5
Melting point/freezing point	< -11.20 °F (< -24.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	> 359.6 °F (> 182.0 °C) Cleveland Open Cup 212.0 °F (100.0 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18.9 mm Hg at 25 °C

Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Dynamic viscosity	20 cP @ 25 °C
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.2
Specific gravity	1.2 - 1.3 @ 20°C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
CL206		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	1.25 mg/l
Oral		
LC50	Rat	510 mg/kg
Components	Species	Test Results
2,2-Dibromo-3-nitrilopropionamide (CAS 10222-01-2)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2 g/kg

Components	Species	Test Results
Inhalation		
LC50	-	0.32 mg/l, 4 Hours
Oral		
LD50	Rat	178 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity	Toxic to aquatic life.		
Product	Species	Test Results	
CL206			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	5.733 mg/l, 48 hours
		Daphnia magna	6.2 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	6.5 mg/l, 96 hours
		Fathead minnow (Pimephales promelas)	6.8 mg/l, 96 hours
		Rainbow Trout	5 mg/l, 96 hours
		Sheepshead minnow (Cyprinodon variegatus)	7 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (2,2-Dibromo-3-nitrilopropionamide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (2,2-Dibromo-3-nitrilopropionamide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,2-Dibromo-3-nitrilopropionamide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Halal

Not established.

Compliance Information: Kosher

This product is certified by the Orthodox Unionas Kosher pareve

Only when prepared by the following ChemTreat facilities:

Eldridge IA

Ashland VA

Nederland TX



Compliance Information: NSF Whitebook

Compliance Information: NSF Standard 60

This product is certified to NSF/ANSI Standard 60 for the following approved function:RO Membrane Biocide. This product is designed to be used off-line and flushed out prior to using the system for drinking water. . This product ships as NSF from:

09132 - Ashland VA

09131 - Nederland TX

09133 - Eldridge IA



Compliance Information: Biocide Regulation

Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 464-426-15300.

16. Other information, including date of preparation or last revision

Issue date 11-29-2022

Version # 01

HMIS® ratings Health: 3
Flammability: 1
Physical hazard: 1
Personal protection: X

Disclaimer ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

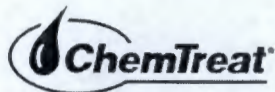
Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Material name: CL206

CL206 Version #: 01 Issue date: 11-29-2022

SDS US

8 / 8



SAFETY DATA SHEET

1. Identification

Product identifier CL215

Other means of identification

Product code CL215

Recommended use Cooling Water Microbiocide

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

Sensitization, skin Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

Hazardous to the aquatic environment, long-term hazard Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage.

Precautionary statement

Prevention

Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage

Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

% of the mixture consists of component(s) of unknown acute oral toxicity. % of the mixture consists of component(s) of unknown acute dermal toxicity. % of the mixture consists of component(s) of unknown acute inhalation toxicity. % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
5-Chloro-2-methyl-3(2H)-isothiazolo ne with 2-methyl-3(2H)-isothiazolone		55965-84-9	1 - < 3
Other components below reportable levels			90 - 100

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Mild
Odor threshold	Not available.
pH	2.5 - 3.5
Melting point/freezing point	32.00 °F (0 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.

Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.01

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Not listed.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not regulated.	
US. National Toxicology Program (NTP) Report on Carcinogens	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.

Aspiration hazard

Not an aspiration hazard.

12. Ecological information**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product**Species****Test Results**

CL215

Aquatic*Acute***Algae**

EC50

Algae

3.2 mg/l, 72 h

Crustacea

EC50

Daphnia

6.7 mg/l, 48 h

Fish

EC50

Rainbow Trout

14.7 mg/l, 96 day

Persistence and degradability

No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations**Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT****UN number**

UN3265

UN proper shipping name

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (MIXTURE CONTAINING 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE (3:1))

Transport hazard class(es)**Class**

8

Subsidiary risk

-

Label(s)

8

Packing group

III

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

Special provisions

IB3, T7, TP1, TP28

Packaging exceptions

154

Packaging non bulk

203

Packaging bulk

241

IATA**UN number**

UN3265

UN proper shipping name

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (MIXTURE CONTAINING 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE (3:1))

Transport hazard class(es)**Class**

8

Subsidiary risk

-

Label(s)

8

Packing group

III

Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
IMDG	
UN number	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (MIXTURE CONTAINING 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE (3:1))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.
DOT	



IATA; IMDG



15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Toxic Substances Control Act (TSCA)	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	
Not regulated.	
CERCLA Hazardous Substance List (40 CFR 302.4)	
Not listed.	
SARA 304 Emergency release notification	
Not regulated.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not regulated.	
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
SARA 302 Extremely hazardous substance	
Not listed.	
SARA 311/312 Hazardous chemical	Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Halal**Compliance Information: Kosher**

This product is certified by the Orthodox Unionas Kosher pareve

Only when prepared by the following ChemTreat facilities:

Eldridge IA
Ashland VA
Nederland TX

**Compliance Information: Biocide Regulation**

Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Registration Number: 67071-38-15300.

16. Other information, including date of preparation or last revision

Issue date 09-08-2022

Material name: CL215

CL215 Version #: 01 Issue date: 09-08-2022

SDS US

7 / 8

Version #

01

HMIS® ratings

Health: 3

Flammability: 0

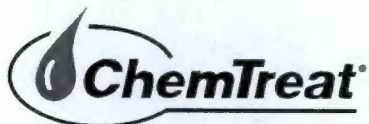
Physical hazard: 4

Personal protection: D

Disclaimer

ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other informationPrepared by: Product Compliance Department; ProductCompliance@chemtreat.com

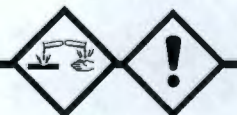


SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat CL4127
Product Use:	Cooling Water Treatment
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	November 10, 2021
Revision Date:	November 10, 2021
Revision Number:	21111002AN

Section 2. Hazard(s) Identification



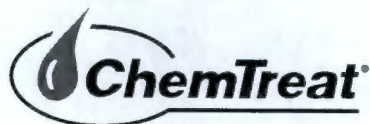
Signal Word: **DANGER**

GHS Classification(s): Skin corrosion/irritation – Category 1b
Acute Toxicity Dermal – Category 4
Acute Toxicity Inhalation – Category 4
Acute Toxicity Oral – Category 4

Hazard Statement(s): H314 Causes severe skin burns and eye damage.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H302 Harmful if swallowed.

Precautionary Statement(s):

Prevention: P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P271 Use only outdoors or in a well-ventilated area.
P270 Do not eat, drink, or smoke when using this product.

**Response:**

P301 + 330 + 331 IF SWALLOWED: Rinse mouth.
Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair):
Remove/take off immediately all contaminated clothing.
Rinse skin with water/shower
P362 + P364 Take off contaminated clothing and wash
it before reuse.
P304 + P340 + P310 IF INHALED: Remove person
to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or
doctor/physician.
P305 + P351 + P338 IF IN EYES: Rinse
cautiously with water for several minutes. Remove contact
lenses, if present and easy to do. Continue rinsing.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance
with applicable local, regional, national, and/or
international regulations.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard
(29 CFR 1910.1200).

**Hazards Not Otherwise
Classified:**

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Tolyltriazole, sodium salt	64665-57-2	15 - 40
Benzotriazole, sodium salt	15217-42-2	5 - 10

Comments

If chemical identity and/or exact percentage of composition has been
withheld, this information is considered to be a trade secret.

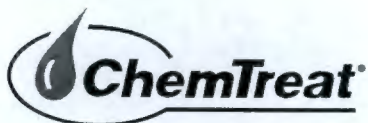
Section 4. First Aid Measures

Inhalation:

Remove victim to fresh air and keep at rest in a position
comfortable for breathing. Immediately call a poison center or
doctor/physician.

Eyes:

Rinse cautiously with water for several minutes. Remove contact
lenses, if present and easy to do. Continue rinsing. Immediately
call a poison center or doctor/physician.



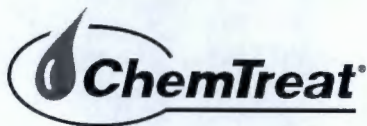
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Most Important Symptoms:	N/D
Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary:	N/A

Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Product may emit toxic gases or fumes under fire conditions.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.



Section 7. Handling and Storage

Handling:

Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage:

Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Tolyltriazole, sodium salt	N/E	N/E
Benzotriazole, sodium salt	N/E	N/E

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

Eyes:

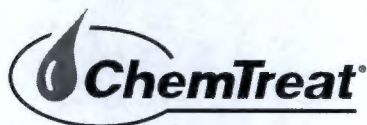
Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

Maintain quick-drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

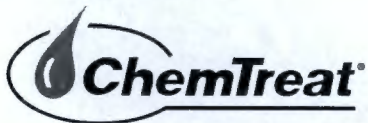


Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Yellow, Clear
Specific Gravity:	1.165 @ 20°C
pH:	13.1 @ 20°C, 100.0%
Freezing Point:	26.6°F
Flash Point:	>203°F
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	180°F
Solubility in Water:	Miscible
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.72 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Acids.
Hazardous Decomposition Products:	Oxides of carbon, Oxides of nitrogen.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D



Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Tolyltriazole, sodium salt	Oral	LD50	920 MG/KG	Rat
	Dermal	LD50	>2 G/KG	Rabbit

Carcinogenicity Category

Component	Source	Code	Brief Description
Tolyltriazole, sodium salt	N/E	N/E	N/E
Benzotriazole, sodium salt	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

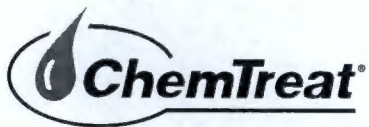
Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.



Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	170.8 mg/l
Fathead Minnow	96h	LC50	76.4 mg/l

Persistence and Biodegradability:	N/D
Bioaccumulative Potential:	N/D
Mobility In Soil:	N/D
Other Adverse Effects:	N/D
Comments:	None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	UN1760	CORROSIVE LIQUIDS, N.O.S.	(BENZOTRIAZOLE)	8	PGIII
IMDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(BENZOTRIAZOLE)	8	PGIII
TDG	UN1760	CORROSIVE LIQUIDS, N.O.S.	(BENZOTRIAZOLE)	8	PGIII
ICAO	UN1760	CORROSIVE LIQUIDS, N.O.S.	(BENZOTRIAZOLE)	8	PGIII

Note: N/A



Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard
Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Tolyltriazole, sodium salt	N/A	N/A	N/A
Benzotriazole, sodium salt	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Tolyltriazole, sodium salt	None.
Benzotriazole, sodium salt	None.



Compliance Information

NSF:	N/A
Food Regulations:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
Halal:	This product has not been evaluated for Halal approval.
FIFRA:	N/A
Other:	None

Comments: None.

Section 16. Other Information

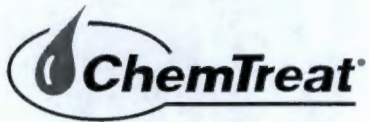
HMIS Hazard Rating

Health:	3
Flammability:	0
Physical Hazard:	1
PPE:	X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value



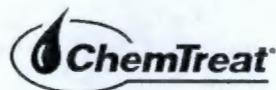
Abbreviation	Definition
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: November 10, 2021

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

1. Identification

Product identifier CL4500

Other means of identification

Product code CL4500

Recommended use Cooling Water Treatment Dispersant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form	Liquid.
Color	Straw
Odor	Mild
Odor threshold	Not available.
pH	3.8 - 5.5
Melting point/freezing point	33.80 °F (1.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	200 - 400 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.13
Specific gravity	1.21 - 1.24 @ 20C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects**Acute toxicity**

Not known.

Skin corrosion/irritation

Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation

Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization**Respiratory sensitization**

Not a respiratory sensitizer.

Skin sensitization

This product is not expected to cause skin sensitization.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

12. Ecological information**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species		Test Results
CL4500			
Aquatic	Crustacea	LC50	Ceriodaphnia dubia
			Daphnia magna
			Opossum shrimp order (Mysida)
Fish	LC50		Bluegill (Lepomis macrochirus)
			Fathead minnow (Pimephales promelas)
			Inland silverside (Menidia beryllina)
			Rainbow Trout

Persistence and degradability

No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations**Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information**US federal regulations**

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

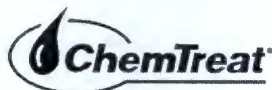
*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 02-14-2023**Version #** 01**HMIS® ratings** Health: 0
Flammability: 0
Physical hazard: 0
Personal protection: X

Disclaimer ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

FlexPro+

1. Identification

Product identifier CL5680

Other means of identification

Product code CL5680

Recommended use Cooling Water Treatment

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Sensitization, skin Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage.

Precautionary statement

Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide		1310-73-2	5 - < 10
Reactive Polyhydroxy Complex, RPC		proprietary	3 - < 5
Other components below reportable levels			80 - < 90

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Reactive Polyhydroxy Complex, RPC	PEL	2 mg/m3
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Reactive Polyhydroxy Complex, RPC	TWA	2 mg/m3	Inhalable fraction.
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Reactive Polyhydroxy Complex, RPC	TWA	2 mg/m3
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Brown.

Odor Mild

Odor threshold Not available.

pH 12.5 - 14

Melting point/freezing point 24.80 °F (-4.00 °C)

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Material name: CL5680

CL5680 Version #: 02 Revision date: 03-06-2023 Issue date: 03-25-2022

SDS US

3 / 8

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	0 - 200 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	9.77
Specific gravity	1.16 - 1.17 @ 20C

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Strong acids. Oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Information on toxicological effects	
Acute toxicity	Not known.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
--------------------	--

Product		Species	Test Results
CL5680			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	7072 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 10000 mg/l, 96 hours
Components		Species	Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-

Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB2, T11, TP2, TP27
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Sodium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

International Inventories

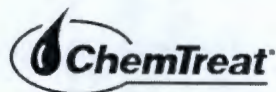
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	03-25-2022
Revision date	03-06-2023
Version #	02
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: X
Disclaimer	ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.
Revision information	Transport Information: Material Transportation Information
Other information	Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier P831E
Other means of identification None.
Recommended use Water Clarification/Solids Conditioning Agent
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
Website chemtreat.com
E-mail productcompliance@chemtreat.com
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.
Precautionary statement
Prevention Not available.
Response Not available.
Storage Not available.
Disposal Not available.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Ingestion Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
---------------------	--

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Opaque
Physical state	Emulsion.
Form	Emulsion

Color	White.
Odor	Mild
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	32.00 °F (0 °C)
Initial boiling point and boiling range	Not available.
Flash point	Does not flash.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Similar to water
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Completely miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	8.71
Specific gravity	1 - 1.05 @ 20C
VOC	26 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.		
Product	Species	Test Results	
P831E			
Aquatic			
Acute			
Crustacea	LC50	Water flea (Ceriodaphnia dubia)	0.1182 mg/l, 48 h
Fish	LC50	Fathead minnow (Pimephales promelas)	0.7009 mg/l, 96 h
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	This product is miscible in water and may not disperse in soil.		
Other adverse effects	The product contains volatile organic compounds which have a photochemical ozone creation potential.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

WARNING: This product contains trace levels of a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide (CAS 79-06-1). For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

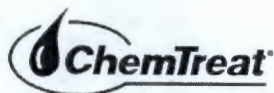
Issue date 04-26-2023
Revision date 06-13-2023
Version # 02
HMIS® ratings Health: 0
Flammability: 1
Physical hazard: 0
Personal protection: X

Disclaimer

ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier P891L
Other means of identification None.
Recommended use Water Clarification Agent
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name ChemTreat, Inc.
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
Website chemtreat.com
E-mail productcompliance@chemtreat.com
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Warning
Hazard statement Causes skin irritation. Causes eye irritation.
Precautionary statement
Prevention Wash thoroughly after handling. Wear protective gloves.
Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
ACH 50% LIQUID		1327-41-9	90 - 100

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
ACH 50% LIQUID (CAS 1327-41-9)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
ACH 50% LIQUID (CAS 1327-41-9)	TWA	2 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid. Liquid
Color	Not available.
Odor	Mild
Odor threshold	Not available.
pH	≥ 3 - ≤ 4.4 100
Melting point/freezing point	26.60 °F (-3.00 °C) =
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	> 0 - < 200 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	11.13
Specific gravity	≥ 1.32 - ≤ 1.36 @ 20C
VOC	0 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
-------------------	---

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
P891L			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	5743 mg/l, 48 hours
		Daphnia pulex	7071 mg/l, 48 hours
Fish	IC25	Fathead minnow (Pimephales promelas)	13.9 mg/l, 7 days
	LC50	Fathead minnow (Pimephales promelas)	3318 mg/l, 96 hours
	NOEC	Fathead minnow (Pimephales promelas)	< 63 mg/l, 7 days

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: NSF Whitebook

Compliance Information: NSF Standard 60

This product is certified to NSF/ANSI Standard 60 for the following approved function: Coagulate/Flocculate. Maximum use rate for potable water - 250 mg/L. This product ships as NSF from:

09132 - Ashland VA
09133 - Eldridge IA
09131 - Nederland TX
4 USA
7 USA
8 USA
#10 USA
#14 CAN
#22 USA
#23 USA
#24 USA
#25 USA
#31 USA
#42 USA



16. Other information, including date of preparation or last revision

Issue date 07-01-2020
Revision date 07-26-2023
Version # 04

HMIS® ratings

Health: 1
Flammability: 0
Physical hazard: 0
Personal protection: X

Disclaimer

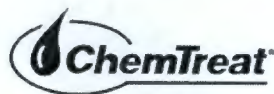
ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information

Product and Company Identification: Product and Company Identification
Physical and chemical properties: Form
Regulatory information: Compliance Information: NSF Location (STD-60)

Other information

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

1. Identification

Product identifier P893L

Other means of identification

Product code P893L

Recommended use Water Clarification Agent

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement May be corrosive to metals. Causes skin irritation. Causes serious eye irritation. Toxic to aquatic life.

Precautionary statement

Prevention Keep only in original container. Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves.

Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Absorb spillage to prevent material damage.

Storage Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Aluminum chloride hydroxide		12042-91-0	20 - < 30
Other components below reportable levels			70 - < 80

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Aluminum chloride hydroxide (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
Aluminum chloride hydroxide (CAS 12042-91-0)	TWA	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Light Straw
Odor	Mild
Odor threshold	Not available.
pH	4 @ 20C
Melting point/freezing point	33.80 °F (1.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	> 400 - < 3000 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	9.81
Specific gravity	1.164 - 1.195 @ 20C

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid contact with metals such as iron, brass, copper, aluminum and mild steel.
Incompatible materials	Metals. Alkalis.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
--	--

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Product		Species	Test Results
P893L			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	1.148 mg/l, 48 hours
		Daphnia magna	2.56 mg/l, 48 hours
			1.34 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	4.218 mg/l, 96 hours
			4.1 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH ≤2 or ⇒12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

This product is exempted from DOT regulations under 49 CFR 173.154(d) when shipped by road or railway. Packaging material must not be aluminum or steel as either metal could be degraded by this product.

IATA

UN number UN3264
UN proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (Polyaluminum Chloride Solution)
Transport hazard class(es)
Class 8
Subsidiary risk -
Label(s) 8
Packing group III
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3264
UN proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (Polyaluminum Chloride Solution)
Transport hazard class(es)
Class 8
Subsidiary risk -
Label(s) 8
Packing group III

Environmental hazards

Marine pollutant

No.

EmS

Not assigned.

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

Not established.

IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: NSF Standard 60

This product is certified to NSF/ANSI/CAN Standard 60 for the following approved function: Coagulate/Flocculate. Maximum use rate for potable water: 20 mg/L. This product ships as NSF from:

09132 - Ashland VA

09131 - Nederland TX

7 USA

#25 USA

**16. Other information, including date of preparation or last revision**

Issue date 03-10-2022

Revision date 10-27-2023

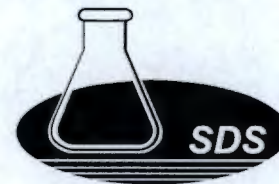
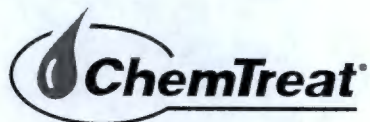
Version # 02

HMIS® ratings Health: 2
Flammability: 0
Physical hazard: 0
Personal protection: B

Disclaimer ChemTreat, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat P895L
Product Use:	Water Clarification Agent
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	October 9, 2019
Revision Date:	October 9, 2019
Revision Number:	19100901AN

Section 2. Hazard(s) Identification

Signal Word:	None
GHS Classification(s):	Non-Hazardous Substance
Hazard Statement(s):	Non-Hazardous Substance
Precautionary Statement(s):	No significant health risks are expected from exposures under normal conditions of use.
Prevention:	None.
Response:	None.
Storage:	None.
Disposal:	None.
System of Classification Used:	Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
Hazards Not Otherwise Classified:	None.



Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

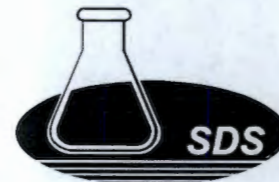
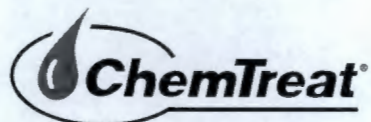
Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Use water spray to keep containers cool.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.



Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

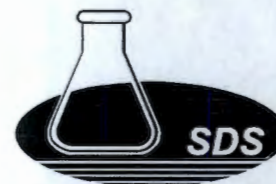
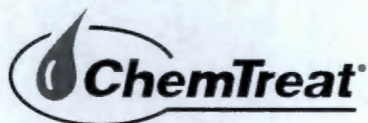
Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not freeze. Store above Freeze Point. If freezes, then mechanical mixing is required.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.
------------------------------	--



Personal Protection

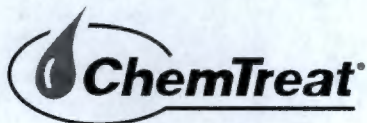
Eyes:	Safety glasses are recommended if risk of eye contact.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	None needed under normal conditions of use.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Amber, Opaque
Specific Gravity:	1.104 @ 20°C
pH:	8.2 @ 20°C, 100.0%
Freezing Point:	30°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/A
Initial Boiling Point and Boiling Range:	212°F
Solubility in Water:	Complete
Evaporation Rate:	~1
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	9.00 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong acids.
Hazardous Decomposition Products:	Oxides of carbon, Chloride compounds.



Possibility of Hazardous Reactions: None known.

Reactivity: N/D

Conditions To Avoid: N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
N/D	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation: N/D

Eye Contact: N/D

Skin Contact: N/D

Ingestion: N/D

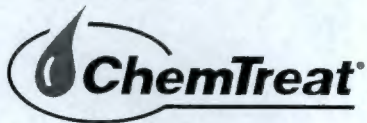
Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D



Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	22.473 mg/l
Fathead Minnow	96h	LC50	17.678 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

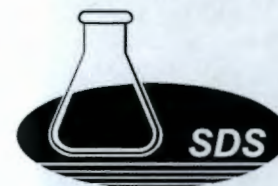
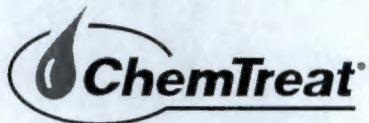
Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: Water clarification polymers function by multipoint adsorption and charge neutralization with suspended solids. Polymers inherently migrate with solids in the separation process and with the exception of uneconomic overdose do not remain in the clarified waters. Aquatic toxicity determinations in test method protocol waters without suspended solids overestimate the toxicity compared to natural receiving waters.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.
Not a RCRA-regulated hazardous waste when disposed in the original product form.



Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
IMDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
TDG	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A
ICAO	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

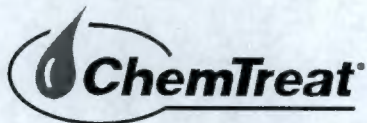
Sections 311/312 Hazard
Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	No
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.



State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

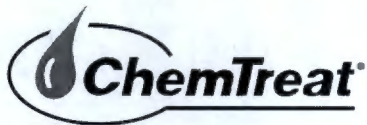
HMIS Hazard Rating

Health:	1
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.



Abbreviations

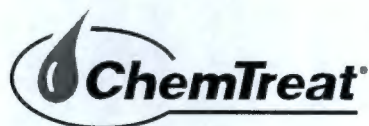
Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: October 9, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

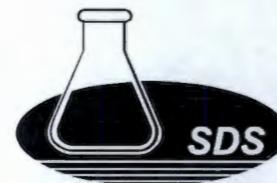
Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat P8934L
Product Use:	Water Clarification Agent
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification



Signal Word:	WARNING
GHS Classification(s):	Skin corrosion/irritation – Category 2 Eye damage/irritation – Category 2a Corrosive to Metals – Category 1 Hazardous to the aquatic environment Acute – Category 2
Hazard Statement(s):	H315 Causes skin irritation. H319 Causes serious eye irritation. H290 May be corrosive to metals. H401 Toxic to aquatic life.
Precautionary Statement(s):	
Prevention:	P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P234 Keep only in original container.

**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P390 Absorb spillage to prevent material damage.

Storage:

P406 Store in a corrosive resistant container with a resistant inner liner.

Disposal:

None.

System of Classification Used:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified:

None.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Aluminum chlorohydrate	12042-91-0	20 - 40

Comments

If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation:

Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes:

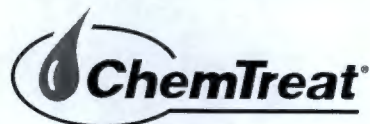
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin:

Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation occurs, seek medical advice/attention.

Ingestion:

Rinse mouth. Call a poison center or doctor/physician if you feel unwell.



Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Containers exposed in a fire should be cooled with water to prevent vapor pressure build-up leading to rupture.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions: Use appropriate Personal Protective Equipment (PPE).

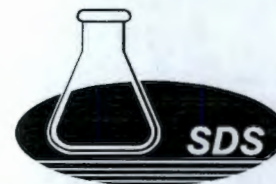
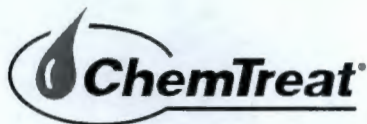
Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods for Cleaning up: Contain and/or absorb spill with inert material then place in suitable container.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

**Storage:**

Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Protect from heat and sources of ignition.
Do not store or handle in aluminum, steel, copper, or their alloys.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Aluminum chlorohydrate	N/E	N/E

Engineering Controls:

Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection**Eyes:**

Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.

Skin:

Maintain quick-drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.

Respiratory:

If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:

Liquid, Light Straw, Clear

Specific Gravity:

1.231 @ 20°C

pH:

3.9 @ 20°C, 100.0%

Freezing Point:

32°F

Flash Point:

N/A

Odor:

Mild

Melting Point:

N/A

Initial Boiling Point and Boiling Range:

N/D

Solubility in Water:

Soluble

Evaporation Rate:

N/D



Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	<100 CPS @ 20°C
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	10.27 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D

Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Alkalis.
Hazardous Decomposition Products:	Hydrogen chloride, Chlorine gas.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

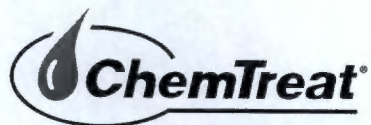
Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
Aluminum chlorohydrate	Oral	LD50	9187 MG/KG	Rat
	Dermal	LD50	>2000 MG/KG	Rat
ChemTreat P8934L	N/D	N/D	N/D	N/D

Carcinogenicity Category

Component	Source	Code	Brief Description
Aluminum chlorohydrate	N/E	N/E	N/E

Likely Routes of Exposure: N/D



Symptoms

Inhalation: N/D
Eye Contact: N/D
Skin Contact: N/D
Ingestion: N/D

Skin Corrosion/Irritation: N/D

Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Fathead Minnow	96h	LC50	8.7 mg/l
Ceriodaphnia dubia	48h	LC50	3.1 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D



Comments: None.

Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: When shipped by ground in the U.S., by exception 49 CFR 173.154 (d) (1) not subject to transport as a hazardous material when in authorized packaging that will not react dangerously or be degraded by the corrosive material.

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard
Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No



Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Aluminum chlorohydrate	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Aluminum chlorohydrate	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: None.

Section 16. Other Information

HMIS Hazard Rating

Health:	1
Flammability:	0
Physical Hazard:	0
PPE:	X

**Notes:**

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by:

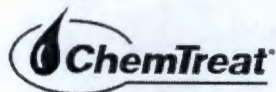
Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date:

February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

1. Identification

Product identifier CD260
Other means of identification None.
Recommended use Metal Precipitant
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name ChemTreat
Address 5640 Cox Road
Glen Allen, VA 23060
United States
Telephone 800-648-4579
E-mail Not available.
Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1
Health hazards Acute toxicity, oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Causes skin irritation. Causes serious eye damage.

Precautionary statement

Prevention Keep only in original container. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves.

Response If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Absorb spillage to prevent material damage.

Storage Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Iron dichloride		7758-94-3	30 - < 40

Chemical name	Common name and synonyms	CAS number	%
Hydrochloric acid		7647-01-0	1 - < 3
Other components below reportable levels			60 - < 70

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	Nausea, vomiting. Abdominal pain. Diarrhea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not get this material in contact with eyes. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7 mg/m ³
		5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm
Iron dichloride (CAS 7758-94-3)	TWA	1 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7 mg/m ³
		5 ppm
Iron dichloride (CAS 7758-94-3)	TWA	1 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Opaque. Blue green.
Odor	Moderate
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	1245.2 °F (674 °C) estimated / 1.40 °F (-17.00 °C)
Initial boiling point and boiling range	1873.4 °F (1023 °C) estimated
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	\
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	25.32 lbs/gal estimated
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	11.28
Specific gravity	1.15 - 1.4 @ 20C

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Nausea, vomiting. Abdominal pain. Diarrhea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Harmful if swallowed.
----------------	-----------------------

Components	Species	Test Results
Hydrochloric acid (CAS 7647-01-0)		
<u>Acute</u>		
Oral		
LD50	Rabbit	900 mg/kg
Skin corrosion/irritation	Causes skin irritation.	

Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Hydrochloric acid (CAS 7647-01-0)	3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not regulated.	
US. National Toxicology Program (NTP) Report on Carcinogens	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.		
	Product	Species	Test Results
	CD260		
	Aquatic		
	Crustacea	LC50 Ceriodaphnia dubia	883.9 mg/l, 48 hours
	Fish	LC50 Fathead minnow (Pimephales promelas)	718.4 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Ferrous chloride RQ = 30 gallons)

Transport hazard class(es)

Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A6, A7, B10, T14, TP2, TP27
Packaging exceptions	None
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (Ferrous Chloride)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (FERROUS CHLORIDE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT**IATA; IMDG**

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Hydrochloric acid (CAS 7647-01-0) Listed.
Iron dichloride (CAS 7758-94-3) Listed.

SARA 304 Emergency release notification

Hydrogen chloride (CAS 7647-01-0) 5000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
---------------	------------	------------------------------	--------------------------------------	---	---

Hydrochloric acid	7647-01-0	5000	500		
-------------------	-----------	------	-----	--	--

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Hydrochloric acid	7647-01-0	1 - < 3

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Hydrochloric acid (CAS 7647-01-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Hydrochloric acid (CAS 7647-01-0)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Hydrochloric acid (CAS 7647-01-0) 6545

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Hydrochloric acid (CAS 7647-01-0) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Hydrochloric acid (CAS 7647-01-0) 6545

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Hydrochloric acid (CAS 7647-01-0)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes

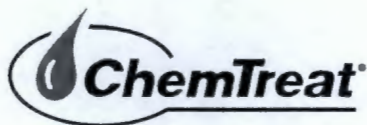
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	08-17-2021
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: X
Disclaimer	ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.
Other information	Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



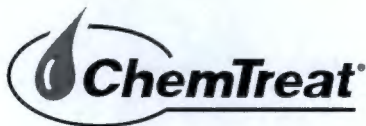
SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name:	ChemTreat DT9254
Product Use:	Dust Control
Supplier's Name:	ChemTreat, Inc.
Emergency Telephone Number:	(800)424-9300 (Toll Free)
Address (Corporate Headquarters):	5640 Cox Road Glen Allen, VA 23060
Telephone Number for Information:	(800)648-4579
Date of SDS:	February 7, 2019
Revision Date:	February 7, 2019
Revision Number:	19020701AN

Section 2. Hazard(s) Identification

Signal Word:	None
GHS Classification(s):	Non-Hazardous Substance
Hazard Statement(s):	Non-Hazardous Substance
Precautionary Statement(s):	No significant health risks are expected from exposures under normal conditions of use.
Prevention:	None.
Response:	None.
Storage:	None.
Disposal:	None.
System of Classification Used:	Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
Hazards Not Otherwise Classified:	None.



Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt. %
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A

Comments If chemical identity and/or exact percentage of composition has been withheld, this information is considered to be a trade secret.

Section 4. First Aid Measures

Inhalation: Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin: Call a poison center or doctor/physician if you feel unwell.

Ingestion: Rinse mouth. Call a poison center or doctor/physician if you feel unwell.

Most Important Symptoms: N/D

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: N/A

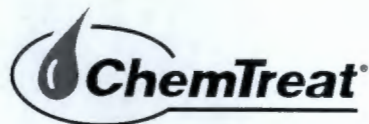
Section 5. Fire Fighting Measures

Flammability of the Product: Not flammable.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

Specific Hazards Arising from the Chemical: Use water spray to keep containers cool.

Protective Equipment: If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.



Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

Section 7. Handling and Storage

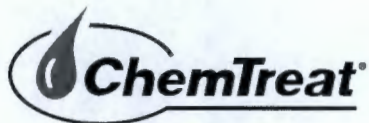
Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Store in dry place. Store above Freeze Point.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E

Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.
------------------------------	--



Personal Protection

Eyes:	Safety glasses are recommended if risk of eye contact.
Skin:	Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
Respiratory:	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Liquid, Brown, Opaque
Specific Gravity:	1.235 @ 20°C
pH:	3.0 – 6.0 @ 20°C, 100.0%
Freezing Point:	28.4°F
Flash Point:	N/D
Odor:	Mild
Melting Point:	N/D
Initial Boiling Point and Boiling Range:	219.2°F
Solubility in Water:	Complete
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/D
Flammability (solid, gas):	N/D
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	10.16 LB/GA
Vapor Pressure:	N/D
% VOC:	N/D
Odor Threshold	N/D
n-octanol Partition Coefficient	N/D
Decomposition Temperature	N/D



Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers.
Hazardous Decomposition Products:	None known.
Possibility of Hazardous Reactions:	None known.
Reactivity:	N/D
Conditions To Avoid:	N/D

Section 11. Toxicological Information

Acute Toxicity

Chemical Name	Exposure	Type of Effect	Concentration	Species
ChemTreat DT9254	N/D	N/D	N/A	N/D

Carcinogenicity Category

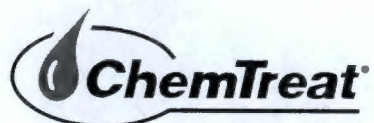
Component	Source	Code	Brief Description
Components not listed are either non hazardous or in concentration of less than 1%	N/E	N/E	N/E

Likely Routes of Exposure: N/D

Symptoms

Inhalation:	N/D
Eye Contact:	N/D
Skin Contact:	N/D
Ingestion:	N/D

Skin Corrosion/Irritation: N/D



Serious Eye Damage/Eye Irritation: N/D

Sensitization: N/D

Germ Cell Mutagenicity: N/D

Reproductive/Developmental Toxicity: N/D

Specific Target Organ Toxicity

Single Exposure: N/D

Repeated Exposure: N/D

Aspiration Hazard: N/D

Comments: None.

Section 12. Ecological Information

Ecotoxicity

Species	Duration	Type of Effect	Test Results
Daphnia magna	48h	LC50	>1000 mg/l

Persistence and Biodegradability: N/D

Bioaccumulative Potential: N/D

Mobility In Soil: N/D

Other Adverse Effects: N/D

Comments: None.



Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Controlling Regulation	UN/NA#:	Proper Shipping Name:	Technical Name:	Hazard Class:	Packing Group:
DOT	N/A	COMPOUND, INDUSTRIAL WATER TREATMENT, LIQUID	N/A	N/A	N/A

Note: N/A

Section 15. Regulatory Information

Inventory Status

United States (TSCA):
Canada (DSL/NDSL):

All ingredients listed.
All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
Components not listed are either non hazardous or in concentration of less than 1%	N/A	N/A	N/A

Comments: None.



State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
Components not listed are either non hazardous or in concentration of less than 1%	None.

Compliance Information

NSF: N/A

Food Regulations: N/A

KOSHER: This product has not been evaluated for Kosher approval.

Halal: This product has not been evaluated for Halal approval.

FIFRA: N/A

Other: None

Comments: Not approved for all Provinces in Canada

Section 16. Other Information

HMIS Hazard Rating

Health:	1
Flammability:	0
Physical Hazard:	0
PPE:	X

Notes:

The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.

The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.



Abbreviations

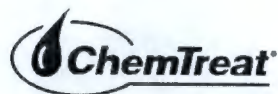
Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com

Revision Date: February 7, 2019

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.



SAFETY DATA SHEET

1. Identification

Product identifier FO120

Other means of identification

Product code FO120

Recommended use Defoamer

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

E-mail Not available.

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Take off contaminated clothing and wash it before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNO C) None known.

Supplemental information 11% of the mixture consists of component(s) of unknown acute oral toxicity. 11% of the mixture consists of component(s) of unknown acute dermal toxicity. 11% of the mixture consists of component(s) of unknown acute inhalation toxicity. 11% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 11% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Polyethylene Glycol (CAS 25322-68-3)	TWA	10 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Opaque
Physical state	Liquid.
Form	Liquid. Emulsion
Color	White
Odor	Mild
Odor threshold	Not available.
pH	6.5 - 8
Melting point/freezing point	37.40 °F (3.00 °C)
Initial boiling point and boiling range	Not available.
Flash point	> 200.0 °F (> 93.3 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	400 - 3000 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	8.27
Specific gravity	0.96 - 1.01 @ 20C
VOC	15.4 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
------------	---------	--------------

Glutaraldehyde (CAS 111-30-8)

Acute

Dermal

LD50	Rabbit	2560 mg/kg
------	--------	------------

Inhalation

LC50	-	0.28 mg/l, 4 Hours
------	---	--------------------

Oral

LD50	Rat	96.1 mg/kg
------	-----	------------

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

ACGIH sensitization

Glutaraldehyde, activated and inactivated
(CAS 111-30-8)

Dermal sensitization

Respiratory sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species		Test Results
FO120			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	76.188 mg/l, 48 hours
		Opossum shrimp order (Mysida)	659 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	181.841 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	IC25	Water flea (Ceriodaphnia dubia)	8.8 mg/l, 7 days
	LOEC	Water flea (Ceriodaphnia dubia)	16 mg/l, 7 days
	NOEC	Water flea (Ceriodaphnia dubia)	7.8 mg/l, 7 days
Fish	IC25	Fathead minnow (Pimephales promelas)	190 mg/l, 7 days
	LOEC	Fathead minnow (Pimephales promelas)	250 mg/l, 7 days
	NOEC	Fathead minnow (Pimephales promelas)	125 mg/l, 7 days

Components	Species		Test Results
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
 Glutaraldehyde -0.33

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

In containers of 119 gallons capacity or less this product is not regulated by the DOT.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical No**SARA 313 (TRI reporting)**

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Glutaraldehyde (CAS 111-30-8)

Sodium hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Compliance Information: Food Regulations

21 CFR 176.170

21 CFR 176.180

21 CFR 176.210

16. Other information, including date of preparation or last revision

Issue date 10-27-2022
Version # 01
HMS® ratings Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: X

Disclaimer ChemTreat cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

Other information Prepared by: Product Compliance Department; ProductCompliance@chemtreat.com



Industrial Chemicals Inc.

2042 Montreat Drive - PO Box 660688 - Birmingham, Alabama 35216

May 22, 2025

Attention: Safety Data Sheet Coordinator

Dear Customer:

Enclosed is the Safety Data Sheet for Sodium Hydroxide 50% (NSF) dated July 24, 2024 that provides important health and safety information for this recently purchased product. Since you may redirect the product to more than one area within your location or to another facility, please be sure this information is available to all persons handling and/or using the material.

This Safety Data Sheet has either been updated since you last received it or is for a product not previously purchased from Industrial Chemicals Inc. Please consider it the current version to replace any previous version you may have received. In the event any revisions are made to the Safety Data Sheet, a revised copy will be forwarded for the next purchase.

The distribution of these safety data sheets is part of our continuing Product Stewardship Program of providing information and updating our customers. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200 have been considered in the distribution of this Safety Data Sheet.

Should you have any questions please call 205-823-7330 or send email to Regulatory@industrialchem.com.

Thank you,
Industrial Chemicals Inc.

If you prefer to receive safety data sheets by email please provide the company name, contact name, email address and phone number and return this page by fax to 205-278-5822 or email to Regulatory@industrialchem.com

Contact Name

Phone Number

Email Address

Company Name

101497

DISTRIBUTION FACILITIES

Birmingham, Alabama
Atlanta, Georgia
Dothan, Alabama
Mobile, Alabama
Montgomery, Alabama
Dalton, Georgia

a proud member of
nacd
National Association of
Chemical Distributors

2016 EMERGENCY RESPONSE GUIDE SHEET

Guide Number: 154

POTENTIAL HAZARDS

HEALTH

- TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

FIRE OR EXPLOSION

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- For electric vehicles or equipment, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.

PUBLIC SAFETY

- CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate enclosed areas.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Spill

- See the Initial Isolation and Protective Action Distances for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping document and/or the Canada and United States National Response Centers reference document.

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical, CO2 or water spray.

Large Fire

- Dry chemical, CO2, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.

2016 EMERGENCY RESPONSE GUIDE SHEET

Guide Number: 154

Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.



SAFETY DATA SHEET

1. Identification

Product identifier Liquid Caustic Soda 50%

Other means of identification

Product code 80006159, 80006212

Synonyms Liquid Caustic Soda * NaOH * Sodium Hydroxide

Recommended use Chemical Reagent. Industrial Use.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Westlake Corporation

Address 2801 Post Oak Blvd., Suite 600
Houston, TX 77056
United States

Telephone +1-713-960-9111

Website www.westlake.com

E-mail sdsinfo@westlake.com

Emergency phone number CHEMTREC 1-800-424-9300
CHEMTREC International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Skin corrosion/irritation Category 1A
Serious eye damage/eye irritation Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium Hydroxide		1310-73-2	45 - 53

4. First-aid measures

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray. Water runoff can cause environmental damage.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When making solutions or diluting, only add caustic soda slowly to surface of cold water while stirring. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Liquid caustic soda is shipped hot 100-180°F.
-------------------------------	---

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS). Liquid caustic soda becomes more viscous and harder to handle as it approaches its freezing point, at which it becomes solid. User should ensure that equipment and procedures are in place to ensure safe handling of the caustic at temperatures involved, which may include the need to heat to maintain temperature of the material.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium Hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Use protective gloves made of: Rubber (natural, latex). Neoprene. Nitrile. Polyvinyl chloride (PVC).

Other

Do not get this material in contact with skin. Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Colorless

Odor Odorless.

Odor threshold Not available.

pH Not available.

Melting point/freezing point 55.04 °F (12.8 °C)

Initial boiling point and boiling range	287.6 °F (142 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	1 mm Hg
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.59 g/cm3 1.58 g/cm3 estimated
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	48.5 % estimated 46.5 %
Specific gravity	1.59 1.58 estimated

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Metals. Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids. Reactive or incompatible with the following materials: metals (attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Metals: Magnesium. Aluminum. Zinc. Tin. Chromium Compounds. copper, bronze, brass) acids, organic materials (May cause fire or explosion.), food sugars (Caustic soda may react with various sugars to generate carbon monoxide.), water (Aqueous reaction with caustic soda can generate heat (strongly exothermic).)
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
--------------------	--

Product	Species		Test Results
Liquid Caustic Soda 50%			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	68.3578 mg/l, 48 hours estimated
Fish	LC50	Fish	247.3961 mg/l, 96 hours estimated
Components	Species		Test Results
Sodium Hydroxide (CAS 1310-73-2)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	>= 34.59 - <= 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Dispose of this material and its container to hazardous or special waste collection point. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution (Sodium Hydroxide RQ = 1980 LBS)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB2, N34, T7, TP2
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution (Sodium Hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION (Sodium Hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated "active" or exempt.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium Hydroxide (CAS 1310-73-2)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium Hydroxide (CAS 1310-73-2)

California Proposition 65

WARNING: This product can expose you to Nickel, which is known to the State of California to cause cancer, and Mercury, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Nickel (CAS 7440-02-0)

Listed: October 1, 1989

California Proposition 65 - CRT: Listed date/Developmental toxin

Mercury (CAS 7439-97-6)

Listed: July 1, 1990

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	07-24-2024
Version #	01
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 2
NFPA ratings	Health: 3 Flammability: 0 Instability: 1

NFPA ratings**Disclaimer**

The technical information given herein is accurate to the best of our knowledge at the time of preparation, or prepared from sources believed to be reliable. Westlake cannot anticipate all conditions under which this information and our product, or the products of other manufacturers in combination with our product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product; comply with all laws and procedures; assume liability for loss, injury, damage or expense due to improper use; and determine the suitability of the product for your intended use. The information in this sheet is valid for cited regulations published as of the date this document was prepared. Updates may be prepared as the regulations are amended or pending revised information about the product. It is the customer's responsibility to seek updated regulatory information on any specific Westlake product.

All products supplied by Westlake are subject to Westlake's terms and conditions of sale. WESTLAKE MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Westlake, except that the product shall conform to Westlake's specifications.

Revision information

Product and Company Identification: Synonyms
Composition / Information on Ingredients: Relevant Override
Regulatory Information: United States
GHS: Classification



Safety Data Sheet
Hydrated Lime

Revision date:
July 11, 2019

1. Identification

Product Name: Hydrated Lime

Synonyms: Chemical Hydrate Hydrate Tailings,
Commercial Hydrate Hydrated Lime Kiln Dust,
Hyd Chem SS, Industrial Hydrate,
Hyd Lime Chem, Pink Hydrate,

Recommended Uses: Water treatment, steel flux, caustic agent, pH adjustment, acid gas absorption, construction

Manufacturer: Carmeuse Lime & Stone

US Office Canadian Office
11 Stanwix Street, 21st Floor PO Box 190
Pittsburgh, PA 15222 Ingersoll, ON N5C 3K5
Phone: (412) 995-5500 Phone: (519) 423-6283
Fax: (412) 995-5594 Fax: (519) 423-6545

Emergency Contact: Infotrac: (800) 535-5053 (24 hrs a day, 7 days a week)

2. Hazards Identification

GHS classification	Physical Hazards	
	None	
	Health Hazards	
	Skin Irritation	Category 2
	Eye Damage	Category 1
GHS Label Elements:	Carcinogenicity	Category 1A
	Specific Target Organ Toxicity – Single Exposure	Category 3
	Signal Word:	Danger
	Hazard Statements:	Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. May cause cancer through inhalation

Safety Data Sheet

Hydrated Lime

Revision date:
July 11, 2019

Precautionary Statements: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep container tightly closed
Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in well-ventilated area
Wear protective gloves, clothing and eye protection

Pictograms:



3. Composition

Chemical name	% by weight	CAS#
Calcium hydroxide	> 85	1305-62-0
Silica-crystalline quartz	< 1	14808-60-7

4. First Aid Measures

Eyes:	Immediately flush eyes with generous amounts of water for at least 15 minutes. Pull back the eyelid to ensure that all lime dust has been washed out. Seek medical attention immediately. Do not rub eyes.
Skin:	Wash exposed area with large amounts of water. Seek medical attention immediately.
Ingestion:	Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.
Inhalation:	Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration
Most Important Symptoms:	Irritation of skin, eyes, gastrointestinal tract or respiratory tract.
Immediate medical attention / special treatment?	See first aid information above. Note to Physicians: Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Suitable (and unsuitable) fire extinguishing media:	Use dry chemical fire extinguisher. Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of this product.
--	---



Safety Data Sheet

Hydrated Lime

Revision date:
July 11, 2019

Specific hazards arising from the product

Inhalation, skin or eye contact, can result in serious injury. This product is not combustible or flammable. This product is not considered to be an explosion hazard, although reaction with water or other incompatible materials may rupture containers. When this product is wet, it can be very slippery and can result in a slip hazard. Hazardous Combustion Products: None.

Special protective equipment and precautions for fire fighters

Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA) to prevent inhalation, skin or eye contact.

6. Accidental Release Measures

Personal precautions, protective equipment, emergency procedures:

Avoid inhalation, eye and skin contact. Avoid generating airborne dust. Wear appropriate protective clothing as described in section 8.

Methods and materials for containment and clean up:

Utilize cleanup methods that minimize generating dust: vacuum. Avoid dry sweeping. Residue on surfaces may be removed with copious amount of water or vinegar.

7. Handling & Storage

Safe Handling: Avoid inhalation, skin and eye contact. Avoid generating airborne dust. An eye wash station should be readily available when this product is handled.

Safe Storage: Keep in tightly closed containers. Protect containers from physical damage. Store in a cool, dry, and well-ventilated location. Do not store near incompatible materials (see Section 10 below). Keep away from moisture. Long-term storage in aluminum containers is not recommended, as calcium oxide may corrode aluminum over long periods of time

8. Exposure Controls/Personal Protection

Occupational Exposure Limits

	OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)	Ont. Reg. 833 TWAEV (mg/m ³)
Calcium hydroxide	15 (total) 5 (respirable)	5	5
Silica, crystalline quartz, cristobalite and tridymite	0.05 (respirable)	0.025 (respirable)	0.1

Engineering Controls:

Use with adequate general or local exhaust ventilation and to maintain exposure below occupational exposure limits.



Safety Data Sheet
Hydrated Lime

Revision date:
July 11, 2019

Individual Protection Measures (Personal Protective Equipment):

Specific Eye / Face Protection:	Safety glasses with side shields. In windy conditions, or if work activity generates elevated airborne dust levels, dust proof or chemical goggles are recommended. Contact lenses should not be worn.
Specific Skin Protection:	When there is a risk of skin contact, wear appropriate clothing and gloves to prevent contact.
Specific Respiratory Protection:	If exposure limits are exceeded, an approved particulate respirator, or supplied air respirator, appropriate for the airborne concentrations, should be used. Selection and use of the respiratory protective equipment must be in accordance with applicable regulations and good industrial hygiene practices.
Other:	An emergency eye wash fountain and shower are recommended.

9. Physical & Chemical Properties

Appearance:	White powder
Odor:	Odorless
Odor threshold:	Not Applicable
pH at 25 degrees C:	12.45
Melting Point:	1076 °F (580 °C)
Boiling Point and range:	5162 °F (2850 °C)
Flash Point:	Not Applicable
Evaporation Rate:	Not Applicable
Flammability:	Not Applicable
Upper/lower flammability or explosive limits	Not Applicable
Vapor pressure/density:	Non Volatile
Relative density:	2.24
Solubility:	Slightly soluble in water: 0.2% @ 0 °C. Soluble in acids, glycerin, and sugar solutions
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature:	Not Available
Decomposition temperature:	Not available
Viscosity:	Not Applicable

10. Stability & Reactivity

Reactivity:	Reacts with acids to form calcium salts, releasing heat. Reacts with carbon dioxide in air to form calcium carbonate. See also Incompatibility below.
Chemical stability:	Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions:	See "reactivity" above.
Conditions to avoid:	Vicinity of incompatible materials.
Incompatibility:	This product should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat: • acids • reactive fluoridated compounds • reactive brominated compounds • reactive powdered metals • reactive phosphorous compounds • aluminum powder • organic acid anhydrides • nitro-organic compounds • interhalogenated compounds
Hazardous decomposition products:	None

11. Toxicological Information

Likely routes of exposure & symptoms:

Eyes:	Contact can cause severe irritation or burning of eyes, including permanent damage.
Skin:	Contact can cause severe irritation or burning of skin, especially in the presence of moisture.
Ingestion:	This product can cause severe irritation or burning of gastrointestinal tract if swallowed.
Inhalation:	This product can cause severe irritation of the respiratory system.
Chronic health effects:	This product contains trace amounts of crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica can cause silicosis, as serious lung disease.
Respiratory or skin sensitization:	This material is not known to cause sensitization
Germ cell mutagenicity:	No data available.



Hydrated Lime

Revision date:
July 11, 2019

Carcinogenicity:	This product is not listed as carcinogenic by OSHA, IARC, NTP, ACGIH, or the EU Directives. This product may contain trace amounts of crystalline silica quartz which is listed by IARC as "Carcinogenic to Humans" (Group 1) and "Known to be a Human Carcinogen" by NTP (National Toxicology Program).
Reproductive toxicity:	No Data Available.
Numerical Measures of Toxicity	Crystalline Silica: Oral Rat LD ₅₀ > 22,500 mg/kg Calcium Hydroxide: Oral (rat) LD ₅₀ : 7340 mg/kg

12. Ecological Information

Because of the elevated pH of this product, it might be expected to produce some ecotoxicity upon exposure to certain aquatic organisms and aquatic systems in high concentrations. This material shows no bioaccumulation effect or food chain concentration toxicity.

13. Disposal Considerations

Dispose of contents in accordance with federal, state, provincial and local regulations.

14. Transport Information

Not regulated by Department of Transportation, Transport of Dangerous Goods

15. Regulatory Information

CERCLA Hazardous Substances	Not listed
SARA Toxic Chemical (40 CFR 372.65)	Not listed
SARA Section 302 Extremely Hazardous Substances (40 CFR 355)	Not listed
SARA 311/312	Not listed
SARA Section 313 Toxic Chemicals reporting requirements	None
Threshold planning quantity (TPQ)	Not listed
RCRA Hazardous Waste Classification (40 CFR 261)	Not Classified
EPA Toxic Substances Control Act (TSCA) Status	The components of this product are each listed on the TSCA Inventory List in the "active" status.
California Proposition 65	Airborne crystalline silica particulates of respirable size are known to the State of California to cause cancer.
NFPA ratings	Health: 3 Fire: 0 Reactivity: 0
HMIS Ratings	Health: 3 Fire: 0 Reactivity: 0 Personal protection: E
OSHA Specifically regulated substance (29 CFR 1910)	Not listed
OSHA Air contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A)	Listed
MSHA	Not listed



Safety Data Sheet

Hydrated Lime

Revision date:
July 11, 2019

Canada DSL

Listed

Canadian WHMIS Classification

D2A, Materials Causing other toxic effects.

E, Corrosive Material



Canada CPR

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation of a Canada and this SDS contains all the required information.

16. Other Information

List of GHS Hazard Statements:	H315: Causes skin irritation H318: Causes serious eye damage H335: May cause respiratory irritation. H350: May cause cancer through inhalation
List of GHS Precautionary Statements:	P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P233: Keep container tightly closed P260: Do not breathe dust. P264: Wash thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in well-ventilated area P280: Wear protective gloves, clothing and eye protection

Abbreviations

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act	IARC	International Agency for Research on Cancer
NTP	National Toxicology Program		

The information contained herein is believed to be accurate and reliable as of the date hereof. However, Carmeuse makes no representation, warranty or guarantee as to results or as to the information's accuracy, reliability or completeness. Carmeuse has no liability for any loss or damage that may result from use of the information. Each user is responsible to review this information, satisfy itself as to the information's suitability and completeness, and circulate the information to its employees, customers and other appropriate third parties.

Safety Data Sheet – SULFURIC ACID

Issue date: 25 August, 2014

Page 1 of 3

1. IDENTIFICATION

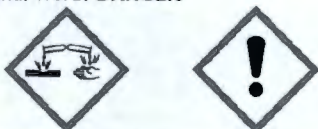
Product Name: Sulfuric Acid Solution (3% – 98% active)
Other means of identification: Oil of Vitriol
Recommended use: Industrial raw material or processing agent.
Source: E&C Chemicals, Inc. 211 Avenue C, Carrollton, GA 30117
Company phone number: 770-834-6207
Emergency Telephone (24 Hours):
INFOTRAC +1-800-535-5035

2. HAZARD IDENTIFICATION

Classification:

Acute toxicity – Oral	Category 3
Acute toxicity – Dermal	Category 3
Acute toxicity – Inhalation	Category 3
Skin corrosion/irritation	Category 1A
Serious eye damage/irritation	Category 1
Corrosive to metals	Category 1

Signal Word: **DANGER**



Hazard Statements:

Harmful if swallowed
Harmful in contact with skin
Harmful if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation
Corrosive liquid

Appearance: Clear to cloudy, oily looking liquid.

Physical state: Liquid

Precautionary statements: **PREVENTION**

Wash face, hand and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective clothing/gloves/eye and/or face shields
Use in well ventilated area. Do not breath fumes/dust/mist or spray

Precautionary statements: **RESPONSE**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately seek medical attention.
IF ON SKIN (or hair): Remove all contaminated clothing. Rinse skin with water. Immediately seek medical attention. Wash clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately contact POISON CONTROL CENTER and seek medical attention.
IF SWALLOWED: Seek medical attention immediately. Rinse Mouth. Do not induce vomiting.

Precautionary statements: **STORAGE**

Store locked up.

Precautionary statements: **DISPOSAL**

Dispose of in accordance with all Federal, State and local regulations.

Hazards not otherwise classified (HNOC): not applicable

Other information: Strong acid. Highly toxic to plants and to aquatic life.

3. COMPOSITION/INFORMATION on INGREDIENTS

Chemical Name	CAS No.	Weight %
Sulfuric Acid	7664-93-9	6-100%

4. FIRST AID MEASURES

INHALATION: Remove victim to fresh air. **Seek medical attention immediately.** If not breathing, begin rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen.

EYE CONTACT: Immediately flush with plenty of water. Remove any contact lenses. Hold lids away from eyeball to insure thorough rinsing.

Continue flushing for at least 15 minutes. Seek medical attention immediately.

INGESTION: Rinse mouth. If victim is conscious and alert, give 1-3 glasses of water to dilute stomach contents. **DO NOT INDUCE VOMITING.** If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor breathing. Seek medical attention immediately.

SKIN CONTACT: Wash off **IMMEDIATELY**, for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention immediately. (Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, laundry facility must be notified of contaminant's hazardous properties. Discard contaminated leather goods.)

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED:

Burning pain and severe corrosive skin damage. Permanent eye damage and blindness could result. Symptoms may include stinging, tearing, redness, swelling, blurred vision and shortness of breath.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Keep victim under observation.

GENERAL INFORMATION: In the case of an accident or if you feel unwell, seek medical attention immediately. Make sure the medical personnel are aware of the materials involved and that they take measures to protect themselves.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MATERIALS: ERG (Emergency Response Guidebook): Guide 137

SMALL FIRE: Use carbon dioxide or dry chemical to extinguish fire.

LARGE FIRE: Flood fire with large quantities of water, while knocking down vapor with fog.

TANK FIRE: Cool containers with flooding quantities of water until fire is out. Do not get water inside containers. Evacuate immediately if sound from safety vents or discoloration of tank. Stay clear of tanks engulfed in fire.

UNSUITABLE EXTINGUISHING MATERIALS:

SPECIFIC HAZARDS ARISING FROM THE MATERIAL: Reacts with most metals (especially dilute concentrations): Hydrogen gas release (**EXTREMELY FLAMMABLE, EXPLOSIVE**). Risk of explosion if acid combined with water, organic materials or base solutions in enclosed spaces (Vacuum truck, tanks). Mixing acids of different strengths can pose an explosive risk in an enclosed space/container.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS: Fire fighters should enter the area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms and waist should be worn. No skin surface should be exposed.

FIRE FIGHTING EQUIPMENT/INSTRUCTIONS: In case of fire/explosion, do not breath fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Neutralize run-off with sodium bicarbonate or soda ash to prevent corrosion of metals and formation of hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

METHODS AND FOR CONTAINMENT:

Large spills: Contain spills and cautiously dilute and neutralize with lime or soda ash.

Small spills: Absorb spill dry sand or diatomaceous earth. Never return spills to the original container for re-use. For waste disposal, see Section 13 of the SDS.

ENVIRONMENTAL PRECAUTIONS: Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not get into eyes, on skin or onto clothing. Do not taste or swallow. Do not breath mist or vapor. Use only with adequate ventilation wear approved respirators if

Safety Data Sheet – SULFURIC ACID

Issue date: 25 Augusta, 2014

Page 2 of 3

necessary. Wear appropriate personal protective equipment. Wash thoroughly after handling. Do not eat, drink or smoke in areas of use or storage. Never add water to acid.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY

INCOMPATIBILITIES: Store in vented container. Must be stored and shipped in containers specially designed for sulfuric acid. Store away from incompatible materials (see Section 10). Do not allow the material to freeze.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric Acid (CAS 7664-93-9)	0.2 mg/m ³ Ceiling	1 mg/m ³ PEL	1 mg/m ³ CEILING

BIOLOGICAL LIMIT VALUES: No biological exposure limit noted for the ingredient(s).

APPROPRIATE ENGINEERING CONTROLS: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency showers must be available when handling this material.

INDIVIDUAL PROTECTION MEASURES:

EYE/FACE: Wear chemical goggle and face shield.

SKIN AND BODY: Wear appropriate chemical resistant gloves and clothing.

RESPIRATORY: Under normal conditions, a respirator is not required. Appropriate NIOSH approved respiratory protection if acid mist is present or exposure limits are exceeded.

GENERAL HYGIENE CONDITIONS: When using the material, do not eat, drink or smoke. Always observe good personal hygiene measures such as washing after handling the material and before eating, drinking and smoking. Routinely wash work clothing and PPE to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	Evaporation rate	N/A
Color	Clear - cloudy	Flammability	N/A
Odor	Odorless	Explosive limit	N/A
pH	<1.0	Vapor pressure	<0.3-<0.6 mm Hg
Freeze point	< 20 F	Specific gravity	various
Flash point	N/A		

10. STABILITY AND REACTIVITY

REACTIVITY: Reacts violently with water, organic substances and base solutions with evolution of heat and hazardous mists.

CHEMICAL STABILITY: Stable under normal conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: Polymerization will not occur.

CONDITIONS TO AVOID: Exposure to heat or sources of ignition.

INCOMPATIBLE MATERIALS: Water; alkaline solutions; metals, metal powder; carbides; chlorates; fulminates; nitrates; picrates; strong oxidizing, reducing or combustible organic materials..

HAZARDOUS DECOMPOSITION PRODUCTS: Possibility of hazardous decomposition if heated and in contact with sources of ignition. Release of toxic gasses and vapors (Sulfur oxides (SO₂, SO₃))

11. TOXICOLOGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE:

INGESTION: Causes digestive tract burns. Harmful if swallowed.

INHALATION: May cause irritation to the respiratory system.

SKIN CONTACT: Causes severe skin burns.

EYE CONTACT: Causes severe eye burns. Causes severe eye damage.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS: See Section 4 of the SDS.

INFORMATION ON TOXICOLOGICAL EFFECTS: ACUTE

Sodium Hydroxide Solution 30 – 54%

Oral LD50

Dermal LD50

Other LD50

2140 mg/kg (rat)

SKIN CORROSION/IRRITATION: Causes severe skin burns and eye damage.

SERIOUS EYE DAMAGE/IRRITATION: Causes severe eye burns. Causes serious eye damage.

RESPIRATORY SENSITIZATION: Causes severe effects.

SKIN SENSITIZATION: No data available

GERM CELL MUTAGENICITY: No data available

CARCINOGENICITY: This material is considered to be a carcinogen by IARC (IARC Class I)

REPRODUCTIVE TOXICITY: No data available.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: Not available.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE: Kidney, liver, teeth, respiratory and cardiovascular systems.

ASPIRATION HAZARD:

CHRONIC EFFECTS: Prolonged exposure may cause chronic effects.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: Slightly to moderately harmful to aquatic life.

Product	Species	Test Results
Sulfuric Acid 6-100%		
Aquatic		
Acute		
Fish	LC50	Bluegill
		Flounder
		Shrimp
		49 mg/l, 48 hrs
		100-330 mg/l, 48 hrs
		80-90mg/l, 48 hrs

PERSISTENCE AND DEGRADABILITY: May be removed from atmosphere to a moderate extent by dry deposition.

BIOACCUMULATION POTENTIAL:

MOBILITY IN SOIL: May leach into ground water

OTHER ADVERSE EFFECTS: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. DISPOSAL CONSIDERATIONS

DISPOSAL INSTRUCTIONS: Collect and reclaim or dispose in sealed containers at a licensed waste disposal site. This material and its container must be disposed of as a hazardous waste. Do not allow this material to drain into sewer/water supplies. Do not contaminate ponds, waterways or ditches with this product or its container. . Dispose of contents/container in accordance with local/regional/national/international regulations.

HAZARDOUS WASTE CODE: The waste code should be assigned in discussion between user, producer and the waste disposal company. WASTE FROM RESIDUES/UNUSED PRODUCT: Dispose of in accordance with local regulations. Empty containers or liners may retain some residues. This material and its container must be disposed of in a safe manner see: Disposal Instructions).

CONTAMINATED PACKAGING: Empty containers should be taken to an approved waste handling site for recycle or disposal. Since empty containers may contain product residue, follow label warnings even after the container is empty.

14. TRANSPORTATION INFORMATION

DOT

UN1830, Sulfuric Acid, 8, PGII (>51%)

UN2796, Sulfuric Acid, 8, PGII (<51%)

SPECIAL PRECAUTIONS FOR USERS: Read safety instructions, SDS and emergency procedures before handling.

Safety Data Sheet – SULFURIC ACID

Issue date: 25 Augusta, 2014

Page 3 of 3

IATA

UN1830, Sulfuric Acid, 8, PGII (>51%)
UN2796, Sulfuric Acid, 8, PGII (<51%)

ENVIRONMENTAL HAZARDS: Yes

LABELS REQUIRED: 8

ERG CODE: 8

SPECIAL PRECAUTIONS FOR USERS: Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN1830, Sulfuric Acid, 8, PGII (>51%)
UN2796, Sulfuric Acid, 8, PGII (<51%)

ENVIRONMENTAL HAZARDS

MARINE POLLUTANT: Yes

LABELS REQUIRED: 8

EmS: F-A, S-B

TRANSPORTATION IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

1. TSCA SECTION 12(B) EXPORT NOTIFICATION (40 CFR 707, SUBPT. D): Listed
2. US OSHA SPECIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050:
3. CERCLA HAZARDOUS SUBSTANCE LIST (40 CFR 302.4): Sulfuric Acid (CAS 7664-93-9).

SARA:

Hazard Categories:

Immediate Hazard: Yes
Delayed Hazard: Yes
Fire Hazard: No
Pressure Hazard: No
Reactivity Hazard: Yes

SARA 302 EXTREMELY HAZARDOUS SUBSTANCE: Yes

SARA 311/312 HAZARDOUS CHEMICAL: No

SARA 313 (TRI REPORTING): Yes

OTHER FEDERAL REGULATIONS:

1. CLEAN AIR ACT SECTION 112 HAZARDOUS AIR POLLUTANTS LIST: Not regulated.
2. CLEAN AIR ACT SECTION 112@ ACCIDENTAL RELEASE PREVENTION (40 CFR 68.130): Not regulated.
3. SAFE DRINKING WATER ACT:
4. FOOD AND DRUG ADMINISTRATION: Not regulated.

US STATE REGULATIONS:

MASSACHUSETTS RTK-SUBSTANCE LIST: Sulfuric Acid (CAS 7664-93-9).

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT: Not regulated.

PENNSYLVANIA RKT-HAZARDOUS SUBSTANCES: Sulfuric Acid (CAS 7664-93-9).

RHODE ISLAND RKT: Sulfuric Acid (CAS 7664-93-9).

CALIFORNIA PROPOSITION 65: This material is not know to contain any chemicals currently listed as carcinogens or reproductive toxins. Sulfuric Acid (CAS 7664-93-9).

INTERNATIONAL INVENTORIES:

Country	Inventory Name	
Australia	Australian Inventory of Chemical Substances	Yes
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
China	Inventory of Existing Chemical Substances in China	Yes
Europe	European List of Existing Commercial Chemical Substances (ELINCS)	Yes
Europe	European List of Notified Chemical Substances (ENCS)	No
Japan	Inventory of Existing and New Chemical Substances	Yes
Korea	Existing Chemicals List	Yes
N. Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical	Yes

	Substances	
US & Puerto Rico	Toxic Substances Control Act Inventory	Yes

A "Yes" indicates this product complies with the inventory requirements administered by the governing country. A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country.

16. OTHER INFORMATION

ISSUE DATE: 25-August-2014

REVISION DATE:

VERSION NO.: 01

NFPA RATINGS:

REACTIVITY: 2

FIRE: 0

HEALTH: 3

REACTIVITY	2
FLAMMABILITY	0
HEALTH	3

DISCLAIMER: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Certified To
NSF/ANSI Standard 60