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

FEB 20 2026

MR SCOTT BOYD
PLANT MANAGER
LINDE INC
900 LINDE LANE
DECATUR ALABAMA 35601

RE: DRAFT PERMIT
NPDES PERMIT NUMBER AL0072044

Dear Mr. Boyd:

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 Theo Pinson by e-mail at **tpinson@adem.alabama.gov** or by phone at **(334) 274-4202.**

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)

Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: LINDE INC.

FACILITY LOCATION: LINDE INC. - DECATUR FACILITY
900 LINDE LANE
DECATUR, ALABAMA 35601
MORGAN COUNTY

PERMIT NUMBER: AL0072044

RECEIVING WATERS: 001 - BETTY RYE BRANCH
002 - BETTY RYE 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

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PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

DSN001Q: Stormwater runoff, utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

DSN002Q: Stormwater runoff associated with the production of hydrogen gas and liquid carbon dioxide

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: 3/ 4/ 5/ 6/

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Quarterly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Estimate	All Months
Quarterly Certification Statement 7/ (51944) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0;No=1	Quarterly	Not Applicable	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/ Sample shall be collected during a qualifying storm event.

6/ Outfall DSN001Q is to be monitored as representative of Outfalls DSN001Q and DSN002Q. Monitoring is not required at Outfall DSN002Q.

7/ See following discharge limitations and monitoring requirements for stormwater from fueling and petroleum storage and handling areas.

DSN001Q: Stormwater runoff, utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

DSN002Q: Stormwater runoff associated with the production of hydrogen gas and liquid carbon dioxide

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:

Discharge limitations and monitoring requirements for stormwater discharges from fueling and petroleum storage and handling areas.

Such discharge shall be limited and monitored by the permittee as specified below:

1. The facility will have a valid Spill Prevention, Control, and Countermeasures (SPCC) plan, if required, pursuant to 40 CFR 112.

2. Best Management Practices (BMP) will be used to prevent pollution of stormwater by spillage or leakage during petroleum handling and fueling operations. The BMP shall include at a minimum:

   a. Twice per week inspections of the area and removal of any leaked petroleum product;
   b. Immediate cleanup of spilled or leaked petroleum product during handling operations, including fueling; and
   c. All cleanup activities shall be conducted using dry sweep or other approaches that do not result in the creation of polluted wastewater or stormwater runoff.

3. Records shall be maintained in the form of a log and shall contain the following information, at a minimum:

   a. Date and time of inspections;
   b. Any cleanup accomplished as a result of the inspection
   c. Time the cleanup was initiated and the time it was completed;
   d. Initials of person making visual inspection and performing any cleanup; and
   e. Description of any spillage occurring during petroleum handling, which shall include the date and time of the spill, estimated volume of spill, name of the person observing the spill, date and time the spill was cleaned up, and name of the person cleaning up the spill.

4. Best Management Practices (BMP) are used in draining diked areas. BMP is defined as use of a portable oil skimmer or similar device or the use of absorbent material to remove oil and grease (as indicated by the presence of a sheen) immediately prior to draining.

5. Monitoring records for dike drainage shall be maintained in the form of a log and shall contain the following information, at a minimum:

   a. Date and time of discharge;
   b. Estimated volume of discharge;
   c. Initials of person making visual inspection and authorizing discharge.

6. 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.

* 7. The Permittee shall electronically submit a **Quarterly Certification Statement**. To submit a certification statement, the semiannual certification statement parameter should be marked "0" to certify that all discharges during the monitoring period, associated with the above, were in accordance with the conditions of the permit.

DSN01A1: Utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

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: 3/ 4/

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	*****	8.5 Maximum Daily	S.U.	Weekly	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Weekly	Calculated	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/ Sample shall NOT be collected during a storm event.

DSN01AQ: Utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

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: 3/ 4/

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	86.0 Maximum Daily	deg F	Quarterly	Grab	All Months
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Carbon, Tot Organic (TOC) (00680) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months
Copper Total Recoverable (01119) 5/ Effluent Gross Value	*****	*****	*****	*****	0.0389 Monthly Average	0.0584 Maximum Daily	mg/l	Quarterly	Grab	All Months
Chlorine, Total Residual (50060) 6/ Effluent Gross Value	*****	*****	*****	*****	0.011 Monthly Average	0.019 Maximum Daily	mg/l	Quarterly	Grab	All Months
Cyanide, Free Available (51173) 7/ Effluent Gross Value	*****	*****	*****	*****	0.0052 Monthly Average	0.022 Maximum Daily	mg/l	Quarterly	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.

4/ Sample shall NOT be collected during a storm event.

5/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

6/ A measurement of Total Residual Chlorine below 0.05 mg/L shall be considered in compliance with the permit limitations above and should be reported as NODI=B or *B on the discharge monitoring report

7/ For the purpose of demonstration of compliance with this parameter, "Cyanide, Free Available" and "Cyanide, Free" shall be considered equivalent.

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-dini-trophenol; 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 30l(c), 30l(g), 30l(h), 30l(k), or 3l6(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. Cooling Water Intake Structure (CWIS) Requirements

The entity providing water to the permittee is a public water system in accordance with Section 1401 of the Safe Drinking Water Act or the water used for cooling consists of effluent, which would otherwise be discharged; therefore, the permittee is exempt from this permit condition.

ADEM PERMIT RATIONALE

PREPARED DATE: January 22, 2026
PREPARED BY: Theo Pinson

Permittee Name: Linde Inc.

Facility Name: Linde Inc. - Decatur Facility

Permit Number: AL0072044

PERMIT IS A REISSUANCE DUE TO EXPIRATION

DISCHARGE SERIAL NUMBERS (DSN) & DESCRIPTIONS:

001	Stormwater runoff, utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide
01A	Utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide
002	Stormwater runoff associated with the production of hydrogen gas and liquid carbon dioxide

INDUSTRIAL CATEGORY: 40 CFR Part 415 - Inorganic Chemicals Manufacturing Point Source Category
Subpart AF - Carbon Dioxide Production Subcategory

MAJOR: No

STREAM INFORMATION:

Receiving Stream:	Betty Rye Branch
Classification:	Fish and Wildlife
River Basin:	Tennessee
7Q10:	0 cfs
7Q2:	0 cfs
1Q10:	0 cfs
Annual Average Flow:	5.74 cfs
303(d) List:	No
Impairment:	Within 24 hour travel time to nutrient and PFOS impairment
TMDL:	No

DISCUSSION:
The facility is a hydrogen generating plant designed to produce high purity hydrogen as a product. Carbon dioxide (CO2) from this process is removed on-site through an absorption process utilizing monoethanolamine. This CO2 recovery unit is owned and operated by Linde. The CO2 removed is processed through a liquidfaction unit where the CO2 is dried. purified and liquified. The CO2 liquid is sent to storage and sold as beverage grade CO2 product. A third party owns and operates the liquidfaction unit under Linde's supervision. Linde Inc is responsible for compliance with all stormwater and wastewater discharges from the entire site to include all operations from both parties.

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.

Operations at the facility are regulated under 40 CFR Part 415-Inorganic Chemicals Manufacturing Point Source Category, specifically Subpart AF-Carbon Dioxide Production. The subcategory is currently reserved for future promulgation of specific limitations. The facility also manufactures hydrogen, which is regulated under Subpart AO-Hydrogen Production Subcategory; however, since the facility does not produce hydrogen as a refinery by-product, this guideline is not applicable. EPA has not promulgated specific guidelines for the discharges covered under the proposed permit. Proposed permit limits are based on Best Professional Judgment. The proposed frequencies are based on a review of site specific conditions and an evaluation of similar facilities.

DSN01A1: Utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	8.5 Maximum Daily	S.U.	Weekly	Grab	All Months	WQBEL
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Weekly	Calculated	All Months	BPJ

DSN01AQ: Utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
Temperature, Water Deg. Fahrenheit (00011) Effluent Gross Value	*****	*****	*****	*****	*****	86.0 Maximum Daily	deg F	Quarterly	Grab	All Months	WQBEL
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Phosphorus, Total (As P) (00665) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	303(d)
Carbon, Tot Organic (TOC) (00680) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Copper Total Recoverable (01119) Effluent Gross Value	*****	*****	*****	*****	0.0389 Monthly Average	0.0584 Maximum Daily	mg/l	Quarterly	Grab	All Months	WQBEL
Chlorine, Total Residual (50060) Effluent Gross Value	*****	*****	*****	*****	0.011 Monthly Average	0.019 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Cyanide, Free Available (51173) Effluent Gross Value	*****	*****	*****	*****	0.0052 Monthly Average	0.022 Maximum Daily	mg/l	Quarterly	Grab	All Months	WQBEL

DSN001Q: Stormwater runoff, utility wastewater, non-contact cooling water, boiler blowdown, and steam condensate associated with the production of hydrogen gas and liquid carbon dioxide

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Quarterly	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Quarterly	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Quarterly	Estimate	All Months	BPJ
Quarterly Certification Statement (51944) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0;No=1	Quarterly	Not Applicable	All Months	BPJ

*Basis for Permit Limitation

- BPJ – Best Professional Judgment
- WQBEL – Water Quality Based Effluent Limits
- 303(d) – 303(d) List of Impaired Waters

Discussion

The monitoring requirements are separated into monitoring point 001Q and monitoring points 01A1, 01AQ for the purpose of capturing analyses representative of both stormwater and wastewater discharges. The requirements of 01A1 and 01AQ are intended to evaluate process wastewater discharges without the influence of stormwater. A permit footnote has been included on the 01A1 and 01AQ limitation pages to indicate that the samples must be collected during a non-storm event. While the 01A1 and 01AQ monitoring points have historically been given an internal outfall designation, the sample collection point is at the same location as Outfall 001. The 001Q samples are to be collected during a qualifying storm event as specified in Part IV.B of the permit.

Representative Stormwater Outfalls

The Permittee submitted a justification with the application that stormwater discharges from Outfall 001 should be considered representative of stormwater discharges from Outfall 002. The justification indicated that the exposed materials, best management practices, and control structures are similar in both outfall drainage areas. The justification also stated that samples are hard to collect from Outfall 002 based on low flow volumes. The Department has determined that monitoring conducted at Outfall DSN001 shall be deemed representative of the stormwater discharges from Outfall DSN002. Monitoring is not required at Outfall DSN002.

Best Professional Judgment (BPJ)

The parameters of concern for this facility are based on the parameters of concern listed in the permit application 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.

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.

Biochemical Oxygen Demand, Total Suspended Solids, Ammonia, and Total Organic Carbon

Monitoring is proposed to measure the effectiveness of the BMP plan.

Total Residual Chlorine

The limitations are based on the United States Environmental Protection Agency's (EPA) recommended water quality criteria which considers the available dilution in the receiving stream. In accordance with a letter dated August 11, 1998 from EPA Headquarters and a 1991 memorandum from EPA Region 4's Environmental Services Division (ESD), due to testing and method detection limitations, a total residual chlorine measurement below 0.05 mg/L shall be considered below detection for compliance purposes and should be reported as NODI=B or *B on the discharge monitoring report

Fueling Areas

There is a fuel tank within secondary containment that is utilized for equipment used onsite. The Permittee indicated that Best Management Practices (BMPs) are in place to minimize the potential for stormwater contamination. Narrative monitoring requirements have been proposed to be continued in this permit reissuance to ensure BMPs are used to prevent pollution of stormwater by spillage or leakage during handling and fueling operations. A certification statement has been proposed on the DMR to certify that all discharges during the monitoring period were in accordance with the narrative requirements.

Cooling Water Additives

The discharge of biocides and corrosion inhibitors with cooling waters can introduce the potential for toxicity in receiving streams. The facility is expected to verify that the use of these chemicals will not present potential toxic effects to representative organisms in the receiving waters and to ensure that the chemicals are used in a manner that is consistent with their labeling and standard industry practices. The Permittee should refer to Part I.D.5 of the permit for further requirements regarding Cooling Water and Boiler Water Additives.

Water Quality Based Effluent Limits (WQBEL)

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)2. – Specific Water Quality for Fish and Wildlife classified streams states: "Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5 standard units."

Temperature

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5)(e)3.(iii) – Specific Water Quality for Fish & Wildlife classified streams states: "the maximum temperature rise above natural temperatures due to the addition of artificial heat shall not exceed 5 °F in streams, lakes, and reservoirs." Additionally, ADEM Admin. Code 335-6-10-.09(5)(e)3.(ii) states, the maximum water temperature shall not exceed 86 °F in the Tennessee River Basin.

Copper, Cyanide

The Department performed a numeric reasonable potential analysis of the discharge using available discharge information including data submitted with the permit application (see attached). Based on the reasonable potential analysis, copper and cyanide have demonstrated a reasonable potential to exceed water quality criteria. Monitoring with limitations has been proposed on a quarterly basis. If only one sample is collected during the monitoring period it should be reported as both the maximum and average value on the discharge monitoring report. There was no background instream data available for use in the calculations.

303(d) List of Impaired Waters

The discharge is within 24 hour travel time to a stream listed on the 303(d) List of Impaired Waters for PFOS and nutrients. The Department has proposed monitoring for phosphorus based on the nutrient impairment. PFOS is not expected to be present in the discharge in amounts that would contribute to the impairment.

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. Operations from the entire site, including activities conducted by the third party operating the liquidfaction unit, are to be covered by the BMP Plan required under this permit.

The Department has updated Part IV.A.2.g of the Permit regarding BMP inspections as follows: [The permittee shall prepare and implement a best management practices (BMP) plan, which shall] "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." This clarification was added to be consistent with 40 CFR Part 122.43(c).

Cooling Water Intake Requirements

The Department has determined that the entity providing water to the Permittee is a public water system in accordance with Section 1401 of the Safe Drinking Water Act; therefore, the Permittee is exempt from the requirements of Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326) and rules adopted under this section.

Facility Name: **Linde Inc.**

NPDES No.: **AL0072044**

$Q_d * C_d + Q_{d2} * C_{d2} + Q_s * C_s = Q_r * C_r$

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max	Background from upstream source (C_{d2}) Monthly Ave	Background Instream (C_s) Daily Max	Background Instream (C_s) Monthly Ave	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)
				µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.200
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.125
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	0	0	16.3	16.3	0.230
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0	0	0.400
10	Nickel**		Metals	0	0	0	0	0	0	0.235
11	Selenium		Metals	0	0	0	0	0	0	-
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	63.2	63.2	0.152
15	Cyanide		Metals	0	0	0	0	5.7	5.7	-
16	Total Phenolic Compounds		Metals	0	0	0	0	40	40	-
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	**Bromoform***	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	Clorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo-Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		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	**Dichlorebromo-Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		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		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachlore-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltins (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichloroethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
60	**4,6-Dintro-2-methylophenol**	YES	Acids	0	0	0	0	0	0	-
61	**Diexin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 8-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	0	0	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(GHI)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		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		Bases	0	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		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 Aldeyhide**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	Heptochlor	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 (alpa)**	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		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CK)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		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		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Bases	0	0	0	0	0	0	-

0.117	Enter Q_d = wastewater discharge flow from facility (MGD)
0.18102579	Q_d = wastewater discharge flow (cfs) (this value is calculated from the MGD)
0	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
0	Qd2 = background stream flow from upstream source (cfs)
0	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
0	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
5.74	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
0	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Stream is Lake	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_s +Qd2+Q_s	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
100	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
No	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

February 17, 2026

Facility Name: Linde Inc.

NPDES No.: AL0072044

Freshwater F&W classification.					Max Daily Discharge as reported by Applicant (C_{effmax})	Freshwater Acute (µg/l) Q_s =1Q10					Avg Daily Discharge as reported by Applicant (C_{effav})	Freshwater Chronic (µg/l) Q_s = 7Q10				Human Health Consumption Fish only (µg/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max		Water Quality Criteria (C_s)	Draft Permit Limit (C_{limit})	20% of Draft Permit Limit	RP?	Background from upstream source (Cd2) Monthly Ave		Water Quality Criteria (C_s)	Draft Permit Limit (C_{limit})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_s)	Draft Permit Limit (C_{limit})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-		373.3333	74.6667	No
2	Arsenic		YES	0	0	[redacted]	592.334	118.467	No	0	0	[redacted]	261.324	52.265	No	0.3030	9.9116	1.9823	No
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	[redacted]	10.089	2.014	No	0	0	[redacted]	1.230	0.248	No	-	-	-	-
5	Chromium/ Chromium III			0	0	[redacted]	4558.108	911.622	No	0	0	[redacted]	592.916	118.583	No	-	-	-	-
6	Chromium/ Chromium VI			0	0	[redacted]	16.000	3.200	No	0	0	[redacted]	11.000	2.200	No	-	-	-	-
7	Copper	YES		0	16.3	[redacted]	58.431	11.686	Yes	0	16.3	[redacted]	38.936	7.786	Yes	-	-	-	-
8	Lead			0	0	[redacted]	313.502	62.700	No	0	0	[redacted]	12.217	2.443	No	-	-	-	-
9	Mercury			0	0	[redacted]	2.400	0.480	No	0	0	[redacted]	0.012	0.002	No	0.0424	0.0424	0.0085	No
10	Nickel			0	0	[redacted]	1992.493	398.499	No	0	0	[redacted]	221.304	44.261	No	992.9078	992.9078	198.5816	No
11	Selenium			0	0	[redacted]	20.000	4.000	No	0	0	[redacted]	5.000	1.000	No	[redacted]	2430.5556	486.1111	No
12	Silver			0	0	[redacted]	3.217	0.643	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.2736	0.0547	No
14	Zinc			0	63.2	[redacted]	770.924	154.185	No	0	63.2	[redacted]	777.230	155.446	No	14893.6170	14893.6170	2978.7234	No
15	Cyanide	YES		0	5.7	[redacted]	22.000	4.400	Yes	0	5.7	[redacted]	5.200	1.040	Yes	[redacted]	9333.3333	1866.6667	No
16	Total Phenolic Compounds			0	40	-	-	-	-	0	40	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	5.4264	1.0853	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	4.7111	0.9422	No
20	Aldrin		YES	0	0	[redacted]	3.000	0.600	No	0	0	-	-	-	-	[redacted]	0.0010	0.0002	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	508.0949	101.2190	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	2576.1724	515.2345	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	31.3104	6.2621	No
24	Chlordane		YES	0	0	[redacted]	2.400	0.480	No	0	0	[redacted]	0.004	0.001	No	[redacted]	0.0155	0.0031	No
25	Clorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	908.1489	181.2298	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	242.2829	48.4566	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	3336.3544	667.2709	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0059	0.0012	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0042	0.0008	No
32	4,4' - DDT		YES	0	0	1.100	1.100	0.220	No	0	0	0.001	0.001	0.000	No	[redacted]	0.0042	0.0008	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	328.2542	65.6508	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	668.8929	139.7786	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	5907.1730	1181.4346	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	136284.1195	27256.8239	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	8.4941	1.8968	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	12.2807	2.4561	No
40	Dieldrin		YES	0	0	[redacted]	0.240	0.048	No	0	0	[redacted]	0.056	0.011	No	[redacted]	0.0010	0.0002	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	1244.4444	248.8889	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	871.1111	174.2222	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	11306.5344	2261.3069	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	78.3191	15.2838	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	62.7034	12.5407	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	6722.7414	1744.5483	No
48	Toxaphene		YES	0	0	[redacted]	0.730	0.146	No	0	0	[redacted]	0.000	0.000	No	[redacted]	0.0053	0.0011	No
49	Tributyltin (TBT)		YES	0	0	[redacted]	0.460	0.092	No	0	0	[redacted]	0.072	0.014	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	297.5404	59.5081	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	571.4219	114.2844	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	46.5929	9.3186	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	87.0847	17.4129	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	171.9902	34.3980	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	497.5124	99.5025	No
58	4, 6-Dintro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	3111.1111	622.2222	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	5411.7165	1082.3437	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0000	0.0000	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
64	Pentachlorophenol		YES	0	0	[redacted]	8.723	1.745	No	0	0	[redacted]	6.693	1.339	No	[redacted]	57.8175	11.5635	No
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	500000.0000	100000.0000	No
66	2, 4, 5-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	46.2540	9.2508	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	578.5124	115.7025	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	23333.3333	4666.6667	No
70	Benzidine			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0001	0.0000	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.3485	0.0697	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.3485	0.0697	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0107	0.0021	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0107	0.0021	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	10.0652	2.0110	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	37788.7746	7557.3549	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	41.9338	8.3867	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	1127.2142	225.4428	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	924.0924	184.8185	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.3485	0.0697	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	2621.7228	524.3446	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.3485	0.0697	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	755.3957	151.0791	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	562.3501	112.4700	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	112.4700	22.4940	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.5438	0.1087	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	25570.7763	5114.1553	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	646148.1481	129629.6296	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	84.7870	12.9574	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.1171	0.0234	No
97	Endosulfan (alpha)		YES	0	0	[redacted]	0.220	0.044	No	0	0	[redacted]	0.056	0.011	No	[redacted]	1665.9802	339.1980	No
98	Endosulfan (beta)		YES	0	0	[redacted]	0.220	0.044	No	0	0	[redacted]	0.056	0.011	No	[redacted]	1665.9802	339.1980	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	1665.9802	339.1980	No
100	Endrin		YES	0	0	[redacted]	0.086	0.017	No	0	0	[redacted]	0.036	0.007	No	[redacted]	1.1534	0.2307	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	5.7672	1.1534	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	81.1594	16.2319	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	3111.1111	622.2222	No
104	Heptachlor		YES	0	0	[redacted]	0.520	0.104	No	0	0	[redacted]	0.004	0.001	No	[redacted]	0.0015	0.0003	No
105	Heptachlor Epoxide		YES	0	0	[redacted]	0.520	0.104	No	0	0	[redacted]	0.004	0.001	No	[redacted]	0.0007	0.0001	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0055	0.0011	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	351.9805	70.3921	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.0932	0.0186	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.3262	0.0652	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	[redacted]	0.950	0.190	No	0	0	-	-	-	-	[redacted]	35.2242	7.0448	No
111	HexachlorocyclePentadiene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	645.1613	129.0323	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	1.9179	0.3836	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	0.3485	0.0697	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	560.7626	112.1525	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	403.6909	80.7382	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	9.6454	1.9297	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	57.5559	11.5112	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	114.5245	22.9049	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	[redacted]	0.014	0.003	No	[redacted]	0.0012	0.0002	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	2333.3333	466.6667	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	[redacted]	40.9357	8.1871	No

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

version 2.10

(Submission #: HQ9-EDNV-VXPRM, version 1)

Details

Submission ID HQ9-EDNV-VXPRM

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):
AL0072044

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

Is a new stormwater outfall being added?
No

Permit Information

Permit Number
AL0072044

Current Permittee Name
Linde Inc.

Permittee

Permittee Name
Linde Inc.

Mailing Address

900 Linde Lane

Decatur, AL 35601

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
Scott	Boyd

Title
Plant Manager

Organization Name
Linde Inc

Phone Type	Number	Extension
Business	2563060305	

Email
SCOTT.BOYD@LINDE.COM

Mailing Address

900 LINDE LN

DECATUR, AL 35601

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?
No

Existing Permit Contacts

Affiliation Type	Contact Information	Remove?
Responsible Official,Notification Recipient	Craig Robnik, Linde Decatur HYCO Facility	Remove
Designated Agent	Heather McCormick, Linde Decatur HYCO Facility	Keep
Permittee	Linde Inc.	*NONE PROVIDED*
Environmental Contact,Responsible Official,Notification Recipient,DMR Contact	Scott Boyd, Linde Decatur HYCO Facility	Keep

Facility/Site Information

Facility/Site Name
Linde Decatur HYCO Facility

Organization/Ownership Type
Corporation

Facility/Site Address or Location Description
900 LINDE LN
DECATUR, AL 35601

Facility/Site County
Morgan

Detailed Directions to the Facility/Site
See lat & long in this application. Turn off of Joe Wheeler Hwy directly onto Linde Lane & travel down Linde Lane until you reach the facility gate.

Facility Map
Decatur NPDES Map.pdf - 01/06/2025 10:59 AM
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
34.629722,-87.010833

900 Linde Avenue, Decatur, AL

SIC Code(s) [Please enter Primary SIC Code first followed by any additional applicable SIC Codes]
2813-Industrial Gases

NAICS Code(s) [Please enter Primary NAICS Code first followed by any additional applicable NAICS Codes]
325120-Industrial Gas Manufacturing

Facility/Site Contact

Prefix
Mr.

First Name	Last Name
Scott	Boyd

Title
Plant Manager

Organization Name
Linde Decatur HYCO Facility

Phone Type	Number	Extension
Business	2563060305	

Email
Scott.Boyd@linde.com

Address
900 LINDE LN
DECATUR, AL 35601

DMR Contact(s) (1 of 1)

DMR Contact

Prefix
Mr.

First Name	Last Name
Scott	Boyd

Title
Plant Manager

Phone Type	Number	Extension
Business	2563060305	

Email
Scott.Boyd@linde.com

Address
900 LINDE LN
DECATUR, AL 35601

Applicant Business Entity Information

Address of Incorporation
10 Riverview Drive
Danbury, Connecticut 06810-5113

Agent Designated by the Corporation for Purposes of Service

Name	Address
United Agent Group Inc.	4000 Eagle Point Corporate Drive, Birmingham, AL 35242

Please provide all corporate officers

Name	Title	Address
Amer Akhras	South VP, Operations	1585 Sawdust Road, Suite 300 The Woodlands TX 77380 United States
Todd Dunn	VP, Operations	1585 Sawdust Road, Suite 300 The Woodlands TX 77380 United States

Does the applicant applying for coverage have a Parent Corporation?
Yes

Parent Corporation of Applicant

Name	Address
Linde Inc	10 Riverview Drive Danbury, Connecticut 06810-5113

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?
No

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:
Inorganic Chemicals

Give a brief description of all operations at this facility including primary products or services:
Linde Decatur facility operates a hydrogen manufacturing plant. Hydrogen manufacturing generates high purity hydrogen as product.

The carbon dioxide (CO2) from this process is removed on-site through absorption through a process utilizing monoethanolamine. This CO2 recovery unit is owned and operated by Linde. The CO2 removed from the syngas stream is processed through a liquidfaction unit, that is owned and operated by a third party, under Linde's supervision where the CO2 is dried. purified and liquified. The CO2 liquid is sent to storage and sold as beverage grade CO2 product.

Outfalls (1 of 2)

001

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
001

Receiving Water
Betty Rye 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:
Process Water commingled with Stormwater

Estimated Average Daily Flow (MGD)
1.148

Monitoring/Sampling Point Location
34.62972200000000, -87.01111100000000

Outfalls (2 of 2)

01A

Please click below if this discharge no longer exists or is no longer required:
NONE PROVIDED

Outfall Identifier
01A

Receiving Water
Betty Rye 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)
.758

Monitoring/Sampling Point Location
34.62972200000000, -87.01083300000001

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	No
Automatic Sampling Equipment	No

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

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

Please attach the process schematic with sampling equipment locations.
Linde Site Layout Figure 2.pdf - 01/06/2025 03:54 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:
Stabrex ST70
Sodium hypochlorite 12.5%
Caustic 25%
Nalco 3DT393
Nalco 3DT260
Tri-ACT 1820
NexGuard 22310
NexGuard 22300

Biocide/Corrosion Inhibitor Summary Sheet
Linde Decatur Chemical List 2025.pdf - 02/04/2025 09:50 AM
Comment
Attached is a list of ALL chemicals on-site or anticipated to be used in the future. All SDS's are attached at the end of application - additional information

Safety Data Sheets (SDS)
US_EN_1820_Tri-ACT 1820_SDS_74486026.pdf - 02/04/2025 09:53 AM
Comment
All SDS's are attached at the end of application - additional information

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
Spill protection
Other physical treatment

Grease or oil separation type:
Oily Water Separator

Other physical treatment:
DSN01A1 cooling of water through cascade flow

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:
DSN001 is a co-mingled stream with process wastewater and stormwater- the stormwater outfall is obtained at the same outfall, but sampled when the process water (DSN01A1) is not actively discharging. DSN002 is a non-representative stormwater outfall. DSN01A1 is only the process water flow.

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:
Oil Sludge	.25	Waste Contractor	Off-Site	Safety-Kleen /Clean Harbors
Non-Voc Solvent	.15	Waste Contractor	Off-Site	Safety-Kleen /Clean Harbors

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

Hauler Information

Name	Address	City	State	Zip
Safety-Kleen	1722 Cooper Creek Road	Denton	TX	76208
Clean Harbors	42 Longwater Drive	Norwell	MA	2061

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 3510-1 3-2025.pdf - 03/12/2025 02:24 PM
Comment
NONE PROVIDED

Additional EPA Forms (EPA Form 2C, 2D, 2E and/or 2F)
EPA application 3510-2C, 2025.pdf - 03/12/2025 02:24 PM
EPA stormwater 2F 2025.pdf - 03/13/2025 09:15 AM
Comment
NONE PROVIDED

Other attachments (as needed)
Linde Permit Samples Summary.pdf - 03/13/2025 09:16 AM
Linde Permit Stormwater Samples 2024.pdf - 03/13/2025 09:16 AM
Linde Decatur Lab Analysis 2-11-2025.pdf - 03/13/2025 09:19 AM
Linde Decatur Water Balance Flow Diagram.pdf - 03/13/2025 09:29 AM
Comment
Sampling Data and flow diagram

Additional Attachments

Please attach any additional information as needed.

Univar SDS Sodium Hypo 12.5 SDS 2-10-22.pdf - 02/04/2025 10:03 AM
SDS SODIUM BISULFITE SOLUTION 40 PERCENT (UNIVAR).pdf - 02/04/2025 10:03 AM
US_EN_22310_NexGuard 22310_SDS_74486026.pdf - 02/04/2025 10:03 AM
US_EN_1820_Tri-ACT 1820_SDS_74486026.pdf - 02/04/2025 10:04 AM
US_EN_3DT260_3D TRASAR 3DT260_SDS_74486026.pdf - 02/04/2025 10:04 AM
US_EN_3DT393_3D TRASAR 3DT393_SDS_74486026.pdf - 02/04/2025 10:04 AM
US_EN_22300_NexGuard 22300_SDS_74486026.pdf - 02/04/2025 10:04 AM
US_EN_ST70_NALCO STABREX ST70_SDS_74486026.pdf - 02/04/2025 10:04 AM
Univar SDS Caustic Soda 25% .pdf - 02/04/2025 10:05 AM
Linde DSN001 S. Similar Outfall.pdf - 03/12/2025 02:30 PM

Comment

SDSs for all chemicals & Substantially Similar outfall discussion

Application Preparer

Application Preparer

Prefix
Ms.

First Name	Last Name
Heather	McCormick

Title
LGUS Associate Director, Environmental

Organization Name
Linde Inc

Phone Type	Number	Extension
Business	3372873355	

Email
HEATHER.MCCORMICK@LINDE.COM

Address

PO Box 230

Geismar, LA, LA 70734

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 Brain Boyd on 03/13/2025 at 9:54 AM

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	Linde Decatur Facility	

Form 1 NPDES

EPA

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**? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. ☑ No	1.1.2	Is the facility a new or existing **treatment works treating domestic sewage**? If yes, STOP. Do NOT complete Form 1. Complete Form 2S. ☑ No

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		

SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(f)(2))

Name, Mailing Address, and Location

2.1 Facility Name

Linde Inc - Decatur Facility

2.2 EPA Identification Number

N/A

2.3 Facility Contact

Name (first and last)	Title	Phone number
Scott Boyd	Plant Manager	(256) 306-0305

Email address
SCOTT.BOYD@LINDE.COM

2.4 Facility Mailing Address

Street or P.O. box
900 LINDE LANE

City or town	State	ZIP code
DECATUR	ALABAMA	35601

Name, Mailing Address, and Location Continued

2.5 **Facility Location**

Street, route number, or other specific identifier
900 LINDE LANE

County name	County code (if known)	
MORGAN		

City or town	State	ZIP code
DECATUR	ALABAMA	35601

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))

SIC and NAICS Codes

3.1

SIC Code(s)	Description (optional)
2813	INDUSTRIAL GAS MANUFACTURING

3.2

NAICS Code(s)	Description (optional)
325120	INDUSTRIAL GAS MANUFACTURING

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))

Operator Information

4.1 **Name of Operator**

LINDE DECATUR FACILITY

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**

(256) 306-0305

Operator Information Continued

4.5 **Operator Address**

Street or P.O. Box
900 LINDE LANE

City or town	State	ZIP code
DECATUR	ALABAMA	35601

Email address of operator
SCOTT.BOYD@LINDE.COM

SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))

Indian Land

5.1 Is the facility located on Indian Land?

☐ Yes ☑ No

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	Linde Decatur Facility	

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) AL0072044	☐ RCRA (hazardous wastes)	☐ UIC (underground injection of fluids)
☐ PSD (air emissions)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☑ Other (specify) AIR PERMIT 712-0072

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 ☐ No ☐ 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.

HYDROGEN PRODUCTION: HYDROGEN GENERATING PLANT DESIGNED TO PRODUCE HIGH PURITY HYDROGEN AS A PRODUCT.

A CO-LOCATED COMPANY OWNS THE CARBON DIOXIDE REMOVAL PROCESS. LINDE OVERSEES THIS OPERATION. THE CARBON DIOXIDE (CO2) IS REMOVED THROUGH AN ABSORPTION PROCESS UTILIZING MONOETHANOLAMINE. THE CO2 REMOVED FROM THE SYNGAS STREAM IS PROCESSED THROUGH A LIQUIDFACTION UNIT, WHERE THE CO2 IS DRIED, PURIFIED AND LIQUIFIED. THE LIQUID IS SENT TO STORAGE AND SOLD AS BEVERAGE GRADE CO2 PRODUCT.

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.)

SOURCE IS THE CITY OF DECATUR

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))
- ☐ Non-conventional pollutants (CWA Section 301(c) and (g))
- ☑ Not applicable
- ☐ Water quality related effluent limitations (CWA Section 302(b)(2))
- ☐ Thermal discharges (CWA Section 316(a))

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	Linde Decatur Facility	

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 Form 2E & Form 2F
☑ 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 **Certification Statement**

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.

Name (print or type first and last name)	Official title
Scott Boyd	Plant Manager
Signature	**Date signed**
Scott Boyd	03/10/2025

Pinson, Theo

From: Scott Boyd <Scott.Boyd@linde.com>
Sent: Tuesday, August 26, 2025 12:55 PM
To: Pinson, Theo
Subject: Linde Water Analysis
Attachments: DF08994 SET_Rpt FINAL 08 26 2025 1126.pdf; DF08626 SET_Rpt_FINAL 08 26 2025 1121.pdf

Theo,

Grab samples were taken to be more representative of the plant discharge since the facility does not own or operate a composite sampler and does not have an adequate place at the outfall to take a representative sample by composite sampler.

Thank you,

Scott Boyd
Plant Manager
900 Linde Lane
Decatur, AL 35601
256-654-8553 cell

Making our world
more productive

Southern
ENVIRONMENTAL TESTING

August 26, 2025

Scott Boyd
Linde Gas, Inc.
900 Linde Avenue
Decatur, AL 35601

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

Lab ID	Sample Description	Date Collected	Date Submitted
DF08994-01	DSN01A Permit Renewal	08/26/2025	08/26/2025

Southern Environmental Testing is accredited to ISO/IEC 17025:2017 by the ANSI National Accreditation Board (ANAB) and certified by the Alabama Department of Environmental Management (ADEM) for specific tests. Our quality system meets the relevant quality system requirements of ISO 9001:2015. Not all tests performed by Southern Environmental Testing are covered by accreditation and certification. Tests within our ANAB scope of accreditation are indicated by a plus symbol (+) in the Test Result section of this report. Tests not included in our accreditation and certification are performed in accordance with Southern Environmental Testing standard operating procedures and our quality control program using, where applicable, US EPA approved methodology.

This cover page and the attached chain-of-custody records are integral parts of your report. Southern Environmental Testing considers this report your official record. This information shall remain in Southern Environmental Testing's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at 256-280-2567.

Reviewed by:

Taylor Terrell

Taylor Terrell
Project Manager

2919 Fairgrounds Road SW
Decatur, AL 35603
(256) 280-2567

PO Box 2084
Decatur, AL 35602
(256) 350-0686 Fax

3103 Northington Court
Florence, AL 35630
(256) 740-5532

SAMPLE RESULTS REPORT

Report Date/Time: 08/26/2025 11:26

REPORT TO
Scott Boyd **Linde Gas, Inc.** **900 Linde Avenue** **Decatur, AL 35601**

Southern Environmental Testing maintains ANAB accreditation to ISO/IEC 17025:2017 for testing (certificate AT-3114, AT-3114.01); Enersolv's certificate, AT-2597. Tests within the scope of accreditation and/or certification are denoted by a plus symbol (+).

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document. Results are only representative of the sample(s) received and information supplied by the client may affect the validity of results.

Disclaimer: Information provided by the customer can affect the validity of results.

Analyte Name	Result	Units	Qualifer	Regulatory Limit
Sample Point: DSN01A Permit Renew	**Sample ID: DF08994-01**	**Collected: 08/26/2025**		**Submitted: 08/26/2025**
On-Site Analysis				
+ Total Residual Chlorine	<0.02	mg/l		
+ pH	6.8	su		
Temperature	26.3	°C		

Southern

SAMPLE RESULTS REPORT

Report Date/Time: 08/26/2025 11:26

REPORT TO
Scott Boyd **Linde Gas, Inc.** **900 Linde Avenue** **Decatur, AL 35601**

Southern Environmental Testing maintains ANAB accreditation to ISO/IEC 17025:2017 for testing (certificate AT-3114, AT-3114.01); Enersolv's certificate, AT-2597. Tests within the scope of accreditation and/or certification are denoted by a plus symbol (+).

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Disclaimer: Information provided by the customer can affect the validity of results.

All calculations are performed prior to rounding per EPA and *Standard Methods* requirements. Calibration data for field analyses conducted by SET or *ENERSOLV* personnel are available upon request.

Data Qualifiers

< Less than reporting limit

Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date/Time	Analysis Start Date/Time	Analysis End Date/Time (BOD, CBOD, Coliforms)

2919 Fairgrounds Road SW
Decatur, AL 35603
(256) 280-2567

PO Box 2084
Decatur, AL 35602
(256) 350-0686 Fax

3103 Northington Court
Florence, AL 35630
(256) 740-5532

South

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

2919 FAIRGROUNDS ROAD SW, DECATUR AL 35603
3103 NORTHINGTON COURT, FLORENCE, AL 35630

(256) 350-0846 www.setesting.com

PAGE 1 of 1
Permit Renewal
Process Water

COMPANY/CLIENT NAME	CLIENT P O NUMBER	ENERSOLV PROJECT NUMBER
Linde Gas North America		
CLIENT POINT OF CONTACT	**CLIENT PHYSICAL ADDRESS**	**CITY/STATE/ZIP**
Scott Boyd	900 Linde Avenue	Decatur, AL 35601
CLIENT EMAIL	**PHONE NUMBER**	**OTHER INFORMATION**
scott.boyd@linde.com	256-306-0305	**NON-STORM EVENT - Permit Renewal**
SAMPLE COLLECTED BY	**EXPEDITED REPORT DELIVERY (SURCHARGE)**	
XPeek	**DATE DUE (REQUIRED)**	

REQUESTED ANALYSES

SET LAB NUMBER	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	PH	TRC	TEMP
DF0804LL-01	DSN01A PERMIT RENEWAL	8-26-25	1017	X		X	X	X

Comments:

MATRIX
☑ Water ☐ Solid ☐ Sludge
☐ Oil ☐ Drinking Water
☐ Stormwater

Collector to complete shaded areas, as applicable

COMPOSITE SAMPLER INFO		FIELD INFORMATION								Qty	Type - Cool 6c	pH	Parameters
		SM 4500H+B		SM 4500-Cl G (2011)		SM 4500-O G		SM 2550B					
Start Date		pH su	6.8	TRC mg/l	<0.02	DO mg/l		Temp deg C	26.3				
Start Time		Date	8-26-25	Date	8-26-25	Date		Date	8-26-25				
Stop Date		Time	1018	Time	1022	Time		Time	1018				
Stop Time		Analyst	XP	Analyst	XP	Analyst		Analyst	XP				

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
XPeek	8-26-25	1050						
RECEIVED BY (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**
RECEIVED FOR LABORATORY USE BY (SIGNATURE)	**DATE**	**TIME**	**SAMPLE TEMPERATURE RECEIVED @** _____					
Cynthia Vinson	8/26/25	1050						

SET-C01-FLD REV 0

Southern
ENVIRONMENTAL TESTING

August 26, 2025

Revised Report

Scott Boyd
Linde Gas, Inc.
900 Linde Avenue
Decatur, AL 35601

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

Lab ID	Sample Description	Date Collected	Date Submitted
DF08626-01	DSN01A Permit Renewal	08/14/2025	08/14/2025

Southern Environmental Testing is accredited to ISO/IEC 17025:2017 by the ANSI National Accreditation Board (ANAB) and certified by the Alabama Department of Environmental Management (ADEM) for specific tests. Our quality system meets the relevant quality system requirements of ISO 9001:2015. Not all tests performed by Southern Environmental Testing are covered by accreditation and certification. Tests within our ANAB scope of accreditation are indicated by a plus symbol (+) in the Test Result section of this report. Tests not included in our accreditation and certification are performed in accordance with Southern Environmental Testing standard operating procedures and our quality control program using, where applicable, US EPA approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at 256-280-2567.

Reviewed by:

Taylor Terrell

Taylor Terrell
Project Manager

2919 Fairgrounds Road SW
Decatur, AL 35603
(256) 280-2567

PO Box 2084
Decatur, AL 35602
(256) 350-0686 Fax

3103 Northington Court
Florence, AL 35630
(256) 740-5532

Southern
ENVIRONMENTAL TESTING

SAMPLE RESULTS REPORT

Report Date/Time: 08/26/2025 11:21

REPORT TO
Scott Boyd Linde Gas, Inc. 900 Linde Avenue Decatur, AL 35601

Southern Environmental Testing maintains ANAB accreditation to ISO/IEC 17025:2017 for testing (certificate AT-3114, AT-3114.01); Enersolv's certificate, AT-2597. Tests within the scope of accreditation and/or certification are denoted by a plus symbol (+).

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Disclaimer: Information provided by the customer can affect the validity of results.

Work Order Case Narrative

Removed feild parameters.

Southern

SAMPLE RESULTS REPORT

Report Date/Time: 08/26/2025 11:21

REPORT TO
Scott Boyd **Linde Gas, Inc.** **900 Linde Avenue** **Decatur, AL 35601**

Southern Environmental Testing maintains ANAB accreditation to ISO/IEC 17025:2017 for testing (certificate AT-3114. AT-3114.01); Enersolv's certificate. AT-2597. Tests within the scope of accreditation and/or certification are denoted by a plus symbol (+).

This report may contain information that is confidential and proprietary. The information is intended for the addressee only and may not be copied or disseminated, except in full, without the written consent of Southern Environmental Testing.

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document. Results are only representative of the sample(s) received and information supplied by the client may affect the validity of results.

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Analyte Name	Result	Units	Qualifer	Regulatory Limit
Sample Point: DSN01A Permit Renew	**Sample ID: DF08626-01**	**Collected: 08/14/2025**		**Submitted: 08/14/2025**
Inorganics				
+ Biochemical Oxygen Demand	16.4	mg/l		
+ Total Cyanide	0.00570	mg/l		
+ Chemical Oxygen Demand	136	mg/l		
+ Ammonia-Nitrogen	0.540	mg/l		
+ HEM (Oil and Grease)	<5.00	mg/l		
Phenolics (4AAP)	0.0400	mg/l		
+ Total Organic Carbon	29.8	mg/l		
+ Total Suspended Solids	4.00	mg/l		
Metals by ICP-MS				
Total Silver	<0.00250	mg/l		
+ Total Aluminum	0.103	mg/l		
+ Total Arsenic	<0.00250	mg/l		
+ Total Beryllium	<0.00250	mg/l		
+ Total Cadmium	<0.00250	mg/l		
+ Total Chromium	<0.00250	mg/l		
+ Total Copper	0.0163	mg/l		
+ Total Nickel	<0.00250	mg/l		
+ Total Lead	<0.00250	mg/l		
+ Total Antimony	<0.00250	mg/l		
+ Total Selenium	<0.00250	mg/l		
+ Total Zinc	0.0632	mg/l		
Miscellaneous Metals				
+ Total Mercury	<0.000200	mg/l		

SAMPLE RESULTS REPORT

Report Date/Time: 08/26/2025 11:21

REPORT TO
Scott Boyd **Linde Gas, Inc.** **900 Linde Avenue** **Decatur, AL 35601**

All calculations are performed prior to rounding per EPA and *Standard Methods* requirements. Calibration data for field analyses conducted by SET or *ENERSOLV* personnel are available upon request.

Data Qualifiers

M Sample matrix precluded reliable matrix spike/matrix spike duplicate recovery and/or precision. Non-homogeneity of sample or presence of interfering substances may result in spike recoveries outside acceptance limits.

Q One or more quality control criteria (LCS, continuing calibration, etc) failed. Data may be estimated or biased.

< Less than reporting limit

Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date/Time	Analysis Start Date/Time	Analysis End Date/Time (BOD, CBOD, Coliforms)
DF08626-01	Total Cyanide	ASTM D7511-12	SH	Decatur	08/14/2025 09:35	08/15/2025 10:53	
DF08626-01	HEM (Oil and Grease)	EPA 1664A Rev. 1999	AM	Decatur	08/14/2025 09:35	08/14/2025 14:00	
DF08626-01	Aluminum	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Antimony	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Arsenic	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Beryllium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Cadmium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Chromium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Copper	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Lead	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Nickel	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Selenium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	

Southern Environmental Testing

SAMPLE RESULTS REPORT

Report Date/Time: 08/26/2025 11:21

REPORT TO

Scott Boyd
Linde Gas, Inc.
900 Linde Avenue
Decatur, AL 35601

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Disclaimer: Information provided by the customer can affect the validity of results.

Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date/Time	Analysis Start Date/Time	Analysis End Date/Time (BOD, CBOD, Coliforms)
DF08626-01	Silver	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Zinc	EPA 200.8 Rev. 5.4 6020A	DD	Decatur	08/14/2025 09:35	08/19/2025 15:23	
DF08626-01	Total Mercury	EPA 245.1, Rev. 3.0	WCC	Florence	08/14/2025 09:35	08/22/2025 08:15	
DF08626-01	Phenolics (4AAP)	EPA 420.1 Rev. 1978	MN	Florence	08/14/2025 09:35	08/25/2025 08:30	
DF08626-01	Ammonia-Nitrogen	FIAlab 100	RAC	Decatur	08/14/2025 09:35	08/15/2025 07:30	
DF08626-01	Chemical Oxygen Demand	Hach 8000	RAC	Decatur	08/14/2025 09:35	08/15/2025 06:20	
DF08626-01	Biochemical Oxygen Demand	SM 5210 B-2016	HB	Decatur	08/14/2025 09:35	08/14/2025 14:00	08/19/2025 08:00
DF08626-01	Total Organic Carbon	SM 5310C-2014	MS	Decatur	08/14/2025 09:35	08/15/2025 17:40	
DF08626-01	Total Suspended Solids	USGS I-3765-85	AM	Decatur	08/14/2025 09:35	08/14/2025 11:15	

South

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

2919 FAIRGROUNDS ROAD SW, DECATUR AL 35603
3103 NORTHINGTON COURT, FLORENCE, AL 35630

(256) 350-0846 www.setesting.com

PAGE	1	of	1
Permit Renewal Process Water			

COMPANY/CLIENT NAME	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER
Linde Gas North America		
CLIENT POINT OF CONTACT	**CLIENT PHYSICAL ADDRESS**	**CITY/STATE/ZIP**
Scott Boyd	900 Linde Avenue	Decatur, AL 35601
CLIENT EMAIL	**PHONE NUMBER**	**OTHER INFORMATION**
scott.boyd@linde.com	256-306-0305	**NON-STORM EVENT - Permit Renewal**
SAMPLE COLLECTED BY	**EXPEDITED REPORT DELIVERY (SURCHARGE)**	
	DATE DUE (REQUIRED)	

SET LAB NUMBER	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	BOD	NH3	TOC	TSS	COD	SB,AS,BE,CD,CR	CU,PB,HG,NI,SE	AG,AL,ZN	CN	Phenolics	pH	CL- RES.	TEMP	OG
DF0412L-01	DSN01A PERMIT RENEWAL			X		X	X	X	X	X	X	X	X	X	X	X	X	X	X

REQUESTED ANALYSES

Comments:

Initial Temp: 5.3
Corrected Temp: 5.0
IR Gun# 0452

MATRIX

☑ Water ☐ Solid ☐ Sludge
☐ Oil ☐ Drinking Water
☐ Stormwater

Collector to complete shaded areas as applicable

COMPOSITE SAMPLER INFO		FIELD INFORMATION								Qty	Type - Cool 6c	pH	Parameters
		SM 4500H+ B		SM 4500 Cl G (2011)		SM 4500-O G		SM 2550B					
Start Date		pH su		TRC mg/l		DO mg/l		Temp deg C		1	1 Liter HDPE		BOD, TSS
Start Time		Date		Date		Date		Date		2	1 Liter Glass H2SO4		OG
Stop Date		Time		Time		Time		Time		1	250mL HDPE H2SO4		NH3,COD
Stop Time		Analyst		Analyst		Analyst		Analyst		1	250ML HDPE H3PO4		TOC
										1	250mL HDPE HN03		Metals ICP
										1	250mL HDPE HN03		Metals
										1	60mL Amber Glass NaOH		CN
										1	1 Liter Amber Glass H2SO4		Phenolics

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**
RECEIVED FOR LABORATORY USE BY (SIGNATURE)	**DATE**	**TIME**	**SAMPLE TEMPERATURE RECEIVED @**					
	4/19/23	1005						

SET-001-FLD REV 0

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	Linde- Decatur Facility	

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

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
DSN001	Betty Rye Branch	34° 37′ 47″	87° 0′ 39″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″

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

Line Drawing

2.1 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 ☐ No

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

Average Flows and Treatment

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

****Outfall Number**** DSN001

Operations Contributing to Flow

Operation	Average Flow
HYCO Non-Contact Cooling Tower and boiler blowdown	.61 mgd
Steam Condensates, Other utility water	.013 mgd
CO2 Plant non-contact Cooling Tower, Boiler Blowdown	.135 mgd
Stormwater	.39 mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
500 gallon Oily Water Separator	1-X	oil sludge waste disposal
Neutralization- Carbon Dioxide	2-K	

Average Flows and Treatment Continued

3.1 cont.

****Outfall Number**** N/A

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 Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge

****Outfall Number**** N/A

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 Table 2C-1	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 ☐ No

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	Linde- Decatur Facility	

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

Intermittent Flows

4.1 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.

4.2 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
		days/week	months/year	mgd	mgd	days

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

Applicable ELGs

5.1 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.

5.2 Provide the following information on applicable ELGs.

ELG Category	ELG Subcategory	Regulatory Citation

Production-Based Limitations

5.3 Are any of the applicable ELGs expressed in terms of production (or other measure of operation)?

☐ Yes ☑ No → SKIP to Section 6.

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

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

Upgrades and Improvements

6.1 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 Item 6.3.

6.2 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

6.3 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? *(optional item)*

☐ 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

7.1 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls?

☐ Yes ☑ No ➔ SKIP to Item 7.3.

7.2 If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application.

Outfall Number _____ Outfall Number _____ Outfall Number _____

7.3 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 ☐ No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.

Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

7.4 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.

7.5 Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?

☐ Yes ☐ No

7.6 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.

Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)			
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? ☐ Yes ☐ No
7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? ☑ Yes ☐ No
7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? ☐ Yes ➔ Note that you qualify at the top of Table B, then SKIP to Item 7.12. ☑ No
7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
Table C. Certain Conventional and Non-Conventional Pollutants	
7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? ☑ Yes ☐ No
7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☑ Yes ☐ No
Table D. Certain Hazardous Substances and Asbestos	
7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☑ Yes ☐ No
7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? ☑ Yes ☐ No
Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)	
7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? ☐ Yes ➔ Complete Table E. ☑ No ➔ SKIP to Section 8.
7.17	Have you completed Table E by reporting *qualitative* data for TCDD? ☐ Yes ☐ No

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. 1. 4. 7. 2. 5. 8. 3. 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) on 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?	Date Submitted
		☐ 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	Southern Environmental Testing, Inc	ENERSOLVE	
Laboratory address	2919 Fairground Road SW Decatur, AL 35603	PO BOX 1646 DECATUR, AL 35602	
Phone number	-		
Pollutant(s) analyzed	Water Permit Required Pollutants- see attachments.	Lab consulting firm	

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.

1.	4.
2.	5.
3.	6.

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N/A	AL0072044	Linde- Decatur Facility	

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.

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/ explanation for identical outfalls ☐ w/ small business exemption request ☐ w/ other attachments ☑ w/ Table A ☑ w/ Table B ☑ w/ Table C ☑ w/ Table D ☐ w/ Table E ☑ 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

12.2 **Certification Statement**

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.

Name (print or type first and last name)	Official title
Scott Boyd	Plant Manager
Signature: Scott Boyd	Date signed: 03/10/2025

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N/A	AL0072044	Linde- Decatur Facility	DSN01A

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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 *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration	mg/l	45.9	26.95		5		
			Mass	lbs	19.92	12.33		5		
2.	Chemical oxygen demand (COD)	☐	Concentration	mg/l	44.0			1		
			Mass	lbs	14.32			1		
3.	Total organic carbon (TOC)	☐	Concentration	mg/l	30.4	21.28		4		
			Mass	lbs	13.19	9.48		4		
4.	Total suspended solids (TSS)	☐	Concentration	mg/l	32	22.3		5		
			Mass	lbs	19.92	9.91		5		
5.	Ammonia (as N)	☐	Concentration	mg/l	18.10			4		
			Mass	lbs	7.85			4		
6.	Flow	☐	Rate	MGD	.1170	.05		5		
7.	Temperature (winter)	☐	°C	°C	73.2	73.2	72.75	2		
	Temperature (summer)	☐	°C	°C	85.5	85.5	84.05	2		
8.	pH (minimum)	☐	Standard units	s.u.	7.6	6.9	6.57	13		
	pH (maximum)	☐	Standard units	s.u.	8.1	8.1	7.54	13		

[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).

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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						
					Mass						
1.2	Arsenic, total (7440-38-2)	☐	☐	☑	Concentration						
					Mass						
1.3	Beryllium, total (7440-41-7)	☐	☐	☑	Concentration						
					Mass						
1.4	Cadmium, total (7440-43-9)	☐	☐	☑	Concentration						
					Mass						
1.5	Chromium, total (7440-47-3)	☐	☐	☑	Concentration						
					Mass						
1.6	Copper, total (7440-50-8)	☐	☑	☐	Concentration		0.0065			1		
					Mass						
1.7	Lead, total (7439-92-1)	☐	☐	☑	Concentration		.0025			1		
					Mass						
1.8	Mercury, total (7439-97-6)	☐	☐	☑	Concentration						
					Mass						
1.9	Nickel, total (7440-02-0)	☐	☐	☑	Concentration						
					Mass						
1.10	Selenium, total (7782-49-2)	☐	☐	☑	Concentration						
					Mass						
1.11	Silver, total (7440-22-4)	☐	☐	☑	Concentration						
					Mass						

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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							
					Mass							
1.13	Zinc, total (7440-66-6)	☐	☑	☐	Concentration		0.169			1		
					Mass							
1.14	Cyanide, total (57-12-5)	☐	☐	☑	Concentration							
					Mass							
1.15	Phenols, total	☐	☐	☑	Concentration							
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☐	☐	☑	Concentration							
					Mass							
2.2	Acrylonitrile (107-13-1)	☐	☐	☑	Concentration							
					Mass							
2.3	Benzene (71-43-2)	☐	☐	☑	Concentration							
					Mass							
2.4	Bromoform (75-25-2)	☐	☐	☑	Concentration							
					Mass							
2.5	Carbon tetrachloride (56-23-5)	☐	☐	☑	Concentration							
					Mass							
2.6	Chlorobenzene (108-90-7)	☐	☐	☑	Concentration							
					Mass							
2.7	Chlorodibromomethane (124-48-1)	☐	☐	☑	Concentration							
					Mass							
2.8	Chloroethane (75-00-3)	☐	☐	☑	Concentration							
					Mass							

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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							
					Mass							
2.10	Chloroform (67-66-3)	☐	☐	☑	Concentration							
					Mass							
2.11	Dichlorobromomethane (75-27-4)	☐	☐	☑	Concentration							
					Mass							
2.12	1,1-dichloroethane (75-34-3)	☐	☐	☑	Concentration							
					Mass							
2.13	1,2-dichloroethane (107-06-2)	☐	☐	☑	Concentration							
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	☐	☐	☑	Concentration							
					Mass							
2.15	1,2-dichloropropane (78-87-5)	☐	☐	☑	Concentration							
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	☐	☐	☑	Concentration							
					Mass							
2.17	Ethylbenzene (100-41-4)	☐	☐	☑	Concentration							
					Mass							
2.18	Methyl bromide (74-83-9)	☐	☐	☑	Concentration							
					Mass							
2.19	Methyl chloride (74-87-3)	☐	☐	☑	Concentration							
					Mass							
2.20	Methylene chloride (75-09-2)	☐	☐	☑	Concentration							
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☐	☐	☑	Concentration							
					Mass							

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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							
					Mass							
2.23	Toluene (108-88-3)	☐	☐	☑	Concentration							
					Mass							
2.24	1,2-trans-dichloroethylene (156-60-5)	☐	☐	☑	Concentration							
					Mass							
2.25	1,1,1-trichloroethane (71-55-6)	☐	☐	☑	Concentration							
					Mass							
2.26	1,1,2-trichloroethane (79-00-5)	☐	☐	☑	Concentration							
					Mass							
2.27	Trichloroethylene (79-01-6)	☐	☐	☑	Concentration							
					Mass							
2.28	Vinyl chloride (75-01-4)	☐	☐	☑	Concentration							
					Mass							
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☐	☐	☑	Concentration							
					Mass							
3.2	2,4-dichlorophenol (120-83-2)	☐	☐	☑	Concentration							
					Mass							
3.3	2,4-dimethylphenol (105-67-9)	☐	☐	☑	Concentration							
					Mass							
3.4	4,6-dinitro-o-cresol (534-52-1)	☐	☐	☑	Concentration							
					Mass							
3.5	2,4-dinitrophenol (51-28-5)	☐	☐	☑	Concentration							
					Mass							

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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							
					Mass							
3.7	4-nitrophenol (100-02-7)	☐	☐	☑	Concentration							
					Mass							
3.8	p-chloro-m-cresol (59-50-7)	☐	☐	☑	Concentration							
					Mass							
3.9	Pentachlorophenol (87-86-5)	☐	☐	☑	Concentration							
					Mass							
3.10	Phenol (108-95-2)	☐	☐	☑	Concentration							
					Mass							
3.11	2,4,6-trichlorophenol (88-05-2)	☐	☐	☑	Concentration							
					Mass							
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☐	☐	☑	Concentration							
					Mass							
4.2	Acenaphthylene (208-96-8)	☐	☐	☑	Concentration							
					Mass							
4.3	Anthracene (120-12-7)	☐	☐	☑	Concentration							
					Mass							
4.4	Benzidine (92-87-5)	☐	☐	☑	Concentration							
					Mass							
4.5	Benzo (a) anthracene (56-55-3)	☐	☐	☑	Concentration							
					Mass							
4.6	Benzo (a) pyrene (50-32-8)	☐	☐	☑	Concentration							
					Mass							

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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
4.7	3,4-benzofluoranthene (205-99-2)	☐	☐	☑	Concentration							
					Mass							
4.8	Benzo (ghi) perylene (191-24-2)	☐	☐	☑	Concentration							
					Mass							
4.9	Benzo (k) fluoranthene (207-08-9)	☐	☐	☑	Concentration							
					Mass							
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☐	☐	☑	Concentration							
					Mass							
4.11	Bis (2-chloroethyl) ether (111-44-4)	☐	☐	☑	Concentration							
					Mass							
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☐	☐	☑	Concentration							
					Mass							
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☐	☐	☑	Concentration							
					Mass							
4.14	4-bromophenyl phenyl ether (101-55-3)	☐	☐	☑	Concentration							
					Mass							
4.15	Butyl benzyl phthalate (85-68-7)	☐	☐	☑	Concentration							
					Mass							
4.16	2-chloronaphthalene (91-58-7)	☐	☐	☑	Concentration							
					Mass							
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☐	☐	☑	Concentration							
					Mass							
4.18	Chrysene (218-01-9)	☐	☐	☑	Concentration							
					Mass							
4.19	Dibenzo (a,h) anthracene (53-70-3)	☐	☐	☑	Concentration							
					Mass							

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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							
					Mass							
4.21	1,3-dichlorobenzene (541-73-1)	☐	☐	☑	Concentration							
					Mass							
4.22	1,4-dichlorobenzene (106-46-7)	☐	☐	☑	Concentration							
					Mass							
4.23	3,3-dichlorobenzidine (91-94-1)	☐	☐	☑	Concentration							
					Mass							
4.24	Diethyl phthalate (84-66-2)	☐	☐	☑	Concentration							
					Mass							
4.25	Dimethyl phthalate (131-11-3)	☐	☐	☑	Concentration							
					Mass							
4.26	Di-n-butyl phthalate (84-74-2)	☐	☐	☑	Concentration							
					Mass							
4.27	2,4-dinitrotoluene (121-14-2)	☐	☐	☑	Concentration							
					Mass							
4.28	2,6-dinitrotoluene (606-20-2)	☐	☐	☑	Concentration							
					Mass							
4.29	Di-n-octyl phthalate (117-84-0)	☐	☐	☑	Concentration							
					Mass							
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☐	☐	☑	Concentration							
					Mass							
4.31	Fluoranthene (206-44-0)	☐	☐	☑	Concentration							
					Mass							
4.32	Fluorene (86-73-7)	☐	☐	☑	Concentration							
					Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	Linde- Decatur Facility	DSN001

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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						
					Mass						
4.34	Hexachlorobutadiene (87-68-3)	☐	☐	☑	Concentration						
					Mass						
4.35	Hexachlorocyclopentadiene (77-47-4)	☐	☐	☑	Concentration						
					Mass						
4.36	Hexachloroethane (67-72-1)	☐	☐	☑	Concentration						
					Mass						
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☐	☐	☑	Concentration						
					Mass						
4.38	Isophorone (78-59-1)	☐	☐	☑	Concentration						
					Mass						
4.39	Naphthalene (91-20-3)	☐	☐	☑	Concentration						
					Mass						
4.40	Nitrobenzene (98-95-3)	☐	☐	☑	Concentration						
					Mass						
4.41	N-nitrosodimethylamine (62-75-9)	☐	☐	☑	Concentration						
					Mass						
4.42	N-nitrosodi-n-propylamine (621-64-7)	☐	☐	☑	Concentration						
					Mass						
4.43	N-nitrosodiphenylamine (86-30-6)	☐	☐	☑	Concentration						
					Mass						
4.44	Phenanthrene (85-01-8)	☐	☐	☑	Concentration						
					Mass						
4.45	Pyrene (129-00-0)	☐	☐	☑	Concentration						
					Mass						

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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							
					Mass							
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							

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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							

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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).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	Linde- Decatur Facility	DSN01A

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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 on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
1.	Bromide (24959-67-9)	☐	☑	Concentration							
				Mass							
2.	Chlorine, total residual	☑	☐	Concentration	mg/l	0.03			4		
				Mass	lbs	0.011			4		
3.	Color	☐	☑	Concentration							
				Mass							
4.	Fecal coliform	☐	☑	Concentration							
				Mass							
5.	Fluoride (16984-48-8)	☐	☑	Concentration							
				Mass							
6	Nitrate-nitrite	☑	☐	Concentration	mg/l	0.133			1		
				Mass	lbs						
7.	Nitrogen, total organic (as N)	☑	☐	Concentration	mg/l	0.876			1		
				Mass	lbs						
8.	Oil and grease	☑	☐	Concentration		0	0		5		
				Mass		0	0		5		
9.	Phosphorus (as P), total (7723-14-0)	☑	☐	Concentration		0.46			1		
				Mass							
10.	Sulfate (as SO_4) (14808-79-8)	☐	☑	Concentration							
				Mass							
11.	Sulfide (as S)	☐	☑	Concentration							
				Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	Linde- Decatur Facility	DSN01A

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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							
				Mass							
14.	Aluminum, total (7429-90-5)	☐	☑	Concentration							
				Mass							
15.	Barium, total (7440-39-3)	☐	☑	Concentration							
				Mass							
16.	Boron, total (7440-42-8)	☐	☑	Concentration							
				Mass							
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☐	☑	Concentration							
				Mass							
19.	Magnesium, total (7439-95-4)	☐	☑	Concentration							
				Mass							
20.	Molybdenum, total (7439-98-7)	☐	☑	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☐	☑	Concentration							
				Mass							
22.	Tin, total (7440-31-5)	☐	☑	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☐	☑	Concentration							
				Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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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).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	Linde- Decatur Facility	DSN01A

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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	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	Linde- Decatur Facility	DSN01A

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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.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☐	☑		
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☐	☑		
38.	Furfural	☐	☑		

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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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	☐	☑		

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	☐	☑		

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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).

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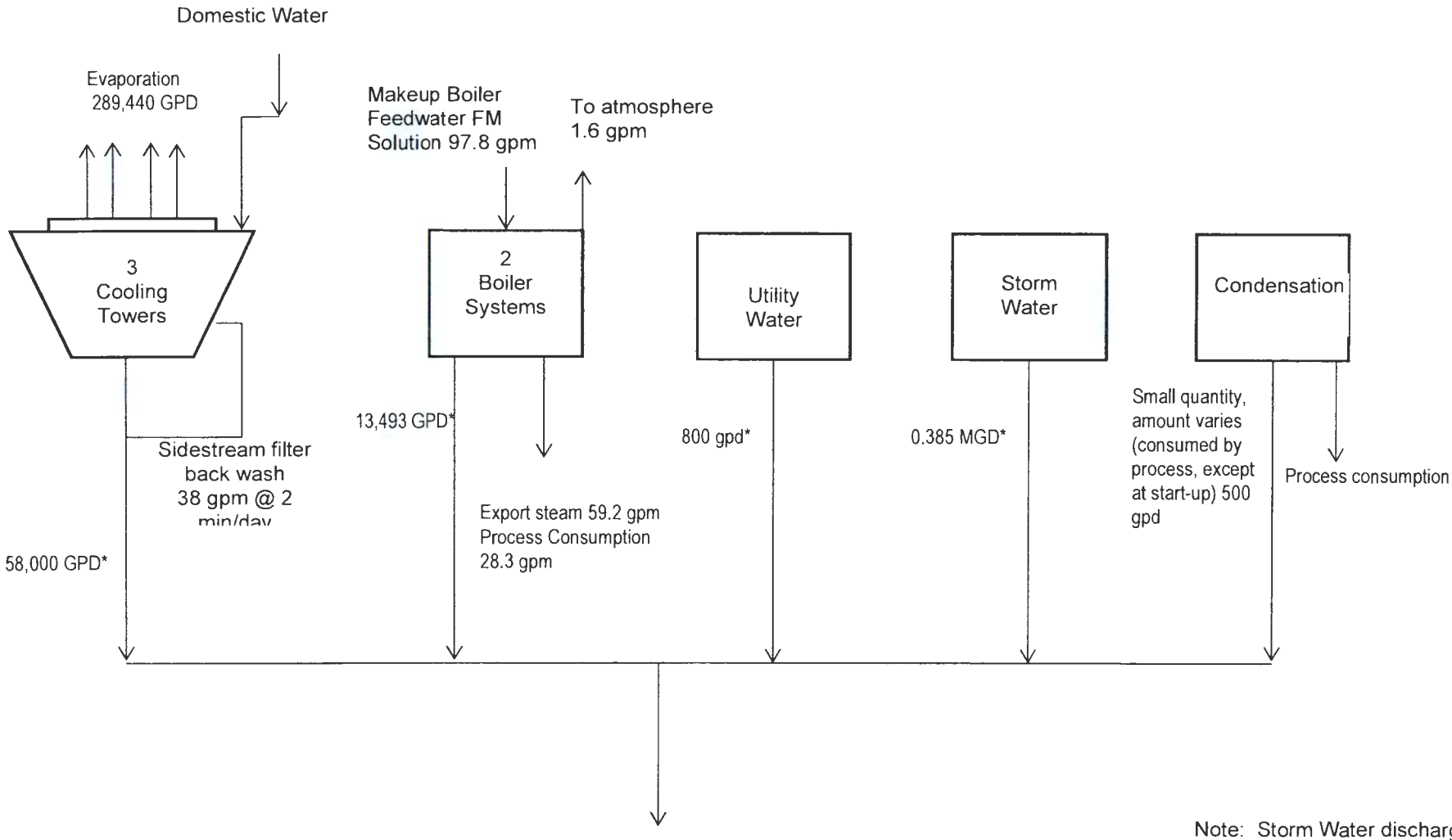
TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

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

Water Balance Flow Diagram

Linde Inc – Decatur Facility
Decatur, AL



Outfall 001 – Betty Rye Branch
82,000 GPD* (excludes storm water)

Note: Storm Water discharge based on avg. rainfall of 57.8", at an avg. of 188 days/yr. and total drainage area of 292,444 sq. ft. (rainfall coefficient 0.65)

*All values are average estimations

DMR DATA- PERMIT APPLICATION RENEWAL | **DSN01A** | **PROCESS WATER OUTFALL, 365 DAYS OF PERMIT SAMPLING PLUS COMPOSITE SAMPLE ON 2/11/2025**

DATE	AVG FLOW IN MGD	MAX FLOW in MGD	pH Min	pH Max	Temp Max	COD mg/l	COD AVG LBS/DAY	BOD Max MG/L	BOD AVG LBS/DAY	TSS Max MG/L	TSS AVG LBS/DAY	Oil & Grease Max MG/L	OIL & GREASE AVG LBS/DAY	Ammonia Max MG/L	Ammonia AVG LBS/DAY	TOC Max MG/L	TOC AVG LBS/DAY	TRC AVG in MG/L	TRC Max in MG/L	TRC AVG LBS/DAY
Feb-25	0.039000	0.039000	7.60	7.60		44.00	14.32	3.06	1.00	24.00	7.81									0.00
Jan-24	0.048000	0.072000	6.70	8.10	73.20			28.40	17.07	32.00	19.23	0.00	0.00	0.62	0.37	12.70	7.63	0.00	0.00	0.00
Feb-24	0.049000	0.117000	6.50	7.00																
Mar-24	0.03600	0.091000	6.70	7.90																
Apr-24	0.034000	0.046000	6.80	7.90	82.60			24.50	9.41	32.00	12.29	0.00	0.00	1.42	0.55	22.40	8.60	0.03	0.03	0.01
May-24	0.034000	0.046000	6.70	7.80																
Jun-24	0.038000	0.052000	6.60	7.30																
Jul-24	0.03900	0.05200	6.60	7.60	85.50			32.90	14.28	8.00	3.47	0.00	0.00	1.46	0.63	30.40	13.19	0.00	0.00	0.00
Aug-24	0.023000	0.039000	6.90	7.70																
Sep-24	0.039000	0.060000	6.80	7.50																
Oct-24	0.035000	0.052000	6.50	7.40	72.30			45.90	19.92	15.50	6.73	0.00	0.00	18.10	7.86	19.60	8.51	0.00	0.00	0.00
Nov-24	0.03600	0.052000	6.50	7.10																
Dec-24	0.034000	0.046000	6.50	7.20																
MAXIMUM	0.0490	0.1170	7.6000	8.1000	85.5000		14.3235	45.9000	19.9226	32.0000	19.2315	0.0000	0.0000	18.1000	7.8562	30.4000	13.1949	0.0300	0.0300	0.0115
MINIMUM	0.02	0.04	6.50	7.00	72.30		14.32	3.06	1.00	8.00	3.47	0.00	0.00	0.62	0.37	12.70	7.63	0.00	0.00	0.00
AVERAGE	0.0372	0.0588	6.7231	7.5462	78.4000		14.3235	26.9520	12.3348	22.3000	9.9062	0.0000	0.0000	5.3993	2.3515	21.2750	9.4839	0.0075	0.0075	0.0023

DMR DATA- PERMIT APPLICATION RENEWAL- STORMWATER | **DSN001** **365 days of permit grab samples**

	DATE	MAX FLOW in MGD	pH Min	pH Max	Oil & Grease Max MG/L	OIL & GREASE AVG LBS/DAY	BOD Max MG/L	BOD AVG LBS/DAY	TSS Max MG/L	TSS AVG LBS/DAY	COD Max MG/L
1	Jan-24	0.050000	6.70	6.70	8.70	3.63	0.00	0.00	22.00	9.15	
	Feb-24					0.00		0.00		0.00	
	Mar-24					0.00		0.00		0.00	
2	Apr-24	0.091000	7.60	7.60	0.00	0.00	3.70	2.81	14.43	10.96	
	May-24					0.00		0.00		0.00	
	Jun-24					0.00		0.00		0.00	
3	Jul-24	0.18000	6.90	6.90	0.00	0.00	7.20	10.82	7.60	11.42	
	Aug-24					0.00		0.00		0.00	
	Sep-24					0.00		0.00		0.00	
4	Oct-24	0.113000	6.90	6.90	5.70	5.38	98.40	92.81	14.00	13.20	
	Nov-24					0.00		0.00		0.00	
	Dec-24					0.00		0.00		0.00	
GRAB MAXIMUM		0.1800	7.6000	7.6000	5.7000	5.3763	98.4000	92.8120	14.4300	13.2050	
MINIMUM		0.09	6.90	6.90	0.00	0.00	3.70	0.00	7.60	0.00	
AVERAGE		0.1280	7.1333	7.1333	1.9000	0.5376	36.4333	10.6440	12.0100	3.5584	

Permit Renewal Materials for NPDES Permit AL0072044
Linde Inc., 900 Linde Avenue, Decatur, Alabama

Representative Discharges from Substantially similar outfalls

The EPA/ADEM NPDES Water Discharge Permit allows for the monitoring of one outfall, as representative, when there are multiple stormwater outfalls of substantially similar discharge. The industrial activities that occur in the drainage area of these two outfalls are similar in nature (See Figure 1).

There are 2 external stormwater outfalls that leave the Linde Decatur Hydrogen facility. There are 4 interior stormwater drain paths throughout the facility inside the fence line, that route to these 2 external outfall storm drains. Each internal drain has the same industrial activity associated with it.

The natural gas, syn-gas and hydrogen and CO2 are contained within the process piping and will not be exposed to stormwater. Any chemicals on-site are in concrete containment areas. Only rainwater will run as sheet flow into these interior drain paths and drain off-site to two outfalls leaving the Linde property.

Stormwater collected in the 6 process containment areas are routed to the oily water separator and will discharge out of the Linde permitted NPDES combined process wastewater/stormwater outfall, DSN001. This outfall is sampled only for stormwater when the process water is not discharging and the process water discharges are sampled only when it is not raining.

Due to the low flow from DSN002, samples cannot be obtained in a representative > .1 inch of rainfall without sampling until after the water reaches the receiving water and/or creating a sampling location from the gravel/muddy bottom of this ditch, which creates additional TSS from dirt disturbance. The outfall on-site location does not have enough flow or volume to obtain a sample. The outfall receiving water after co-mingling of Linde discharges and off-site water, is not representative of Linde stormwater discharges.

To Summarize:

- The significant materials stored and handled at the drainage of these two outfalls are the same.
- The management practices and pollution control structures that occur within the drainage area of these two outfalls are the same.
- The facility is constructed and graded to drain to DSN001. The impervious square feet of DSN001 is 132,000 versus the impervious area of drainage for DSN002 is 26,000 making DSN001 the best representation of the stormwater discharges.
- Off-site storm water from the surrounding area drains to Outfall DSN002, making it not representative of the Linde Decatur facility storm water discharges.

For the reasons listed above, we consider these DSN001 & DSN002 outfalls to be substantially similar for any Linde representative discharges. However, the facility is designed for DSN001 to be the is representative stormwater outfall. Stormwater sampling is represented and conducted at the DSN001 permitted stormwater sampling point. Samples provided in this application are only for DSN001.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	LINDE DECATUR FACILITY	

Form 2F NPDES

EPA

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
DSN001	BETTY RYE BRANCH	34° 37′ 47″	87° 0′ 39″
DSN002	BETTY RYE BRANCH	34° 37′ 47″	87° 0′ 39″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″

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? (Optional Item)

☐ Yes ☐ No

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
N/A	AL0072044	LINDE DECATUR FACILITY	

SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(c)(1)(i)(A))

Site Drainage Map

3.1 Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)

☑ Yes ☐ No

SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(c)(1)(i)(B))

Pollutant Sources

4.1 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)	
DSN001	132,000	specify units SQ FT	254,444	specify units SQ FT
DSN002	26,000	specify units SQ FT	38,000	specify units SQ FT
		specify units		specify units
		specify units		specify units
		specify units		specify units
		specify units		specify units

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

SOME OIL OR CHEMICAL CONTAINERS AND EQUIPMENT ARE STORED ON-SITE, ALL WITHIN SECONDARY CONTAINMENT OR HAVE MANAGEMENT AND INSPECDURES IN PLACE TO ENSURE CONTACT WITH STORMWATER IS MINIMIZED. THE FACILITY HAS COMPREHENSIVE STORMWATER POLLUTION PREVENTION, SPILL CONTROL AND COUNTERMEATURE AND EMERGENCY RESPONSE PLANS, WITH INSPECTIONS AND PROCEDURES TO MITIGATE ANY POTENTIAL STORMWATER CONTAMINATION.

4.3 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)**
DSN002	A minor amount of facility stormwater sheet flows off-site. This outfall is not represenative	
	and samples are not taken for this outfall. Site-Wide Visual Inspections are conducted.	
DSN001	Stormwater sheet flows to storm water drains through the facility, which are routed to an	
	intermittent process water outfall. Stormwater which does not infiltrate or evaporate drains	
	to this outfall. This outfall is representative of the facility stormwater discharges since the	
	samples are taken when the process water is not discharging.	

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

Non-Stormwater Discharges

5.1 *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.*

Name (print or type first and last name)	Official title
Scott Boyd	Plant Manager
Signature	**Date signed**
Scott Boyd	03/13/2025

5.2 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
DSN001	VISUAL INSPECTION	03/03/2025	PLANT WIDE
DSN002	SITE WIDE INSPECTION OF FACILITY STORMWATER	3/4/2025	PLANT WIDE

SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D))

Significant Leaks or Spills

6.1 Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years.

NONE.

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.

7.1 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

7.2 Have you completed Table A for each outfall?

☑ Yes ☐ No

Discharge Information Continued

7.3	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.
7.4	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 ☐ No
7.5	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.
7.6	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 ☐ No
7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions? ☐ Yes ➔SKIP to Item 7.18. ☑ No
7.8	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.
7.9	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 ☐ No
7.10	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.
7.11	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 ☐ No
7.12	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.
7.13	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 ☐ No
7.14	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 ☐ No
7.15	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.
7.16	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 ☐ No
7.17	Have you provided information for the storm event(s) sampled in Table D? ☑ Yes ☐ No

Discharge Information Continued

Used or Manufactured Toxics

7.18 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.

7.19 List the pollutants below, including TCDD if applicable.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11))

Biological Toxicity Testing Data

8.1 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. 03/13/2025

8.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))

Contract Analysis Information

9.1 Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm?

☑ Yes ☐ No ➔ SKIP to Section 10.

9.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	ENERSOLVE	SOUTHERN ENVIRONMENTAL TESTING, INC	
Laboratory address	PO BOX 1646 DECATUR, AL 35602	2919 FAIRGROUND ROAD SW DECATUR, AL 35603	
Phone number	(256) 350-0846	(256) 280-2567	
Pollutant(s) analyzed	LAB CONSULTING FIRM	Water Permit Required Pollutants: SEE ATTACHMENT	

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 ☐ w/ small business exemption request ☑ Table B ☑ w/ analytical results as an attachment ☐ Table C ☐ Table D
☑ Section 8	☐ w/attachments
☑ Section 9	☐ w/attachments (e.g., responses for additional contact laboratories or firms)
☑ Section 10	☐

10.2 **Certification Statement**

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.

Name (print or type first and last name)	Official title
Scott Boyd	Plant Manager
Signature	**Date signed**
Scott Boyd	03/13/2025

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	LINDE DECATUR FACILITY	DSN001

Form Approved 03/05/19
OMB No. 2040-0004

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	5.7 mg/l		1.9 mg/l		5	
2.	Biochemical oxygen demand (BOD_5)	4.98 mg/l				5	
3.	Chemical oxygen demand (COD)	48.0 mg/l				1	
4.	Total suspended solids (TSS)	35.0 mg/l		13.21 mg/l		5	
5.	Total phosphorus	0.55 mg/l				1	
6.	Total Kjeldahl nitrogen (TKN)	3.75 mg/l					
7.	Total nitrogen (as N)	5.50 mg/l					
8.	pH (minimum)	6.9				4	
	pH (maximum)	7.6				4	

[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).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	LINDE DECATUR FACILITY	DSN001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))[1]

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	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		
TRC		N/A		N/A		
PH		N/A		N/A		
Temperature		N/A		N/A		

[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).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
N/A	AL0072044	LINDE DECATUR FACILITY	DSN001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))[1]

List each pollutant shown in Exhibits 2F–2, 2F–3, and 2F–4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	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		
N/A						

[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).

EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
N/A	AL0072044	LINDE DECATUR FACILITY	DSN001

Form Approved 03/05/19
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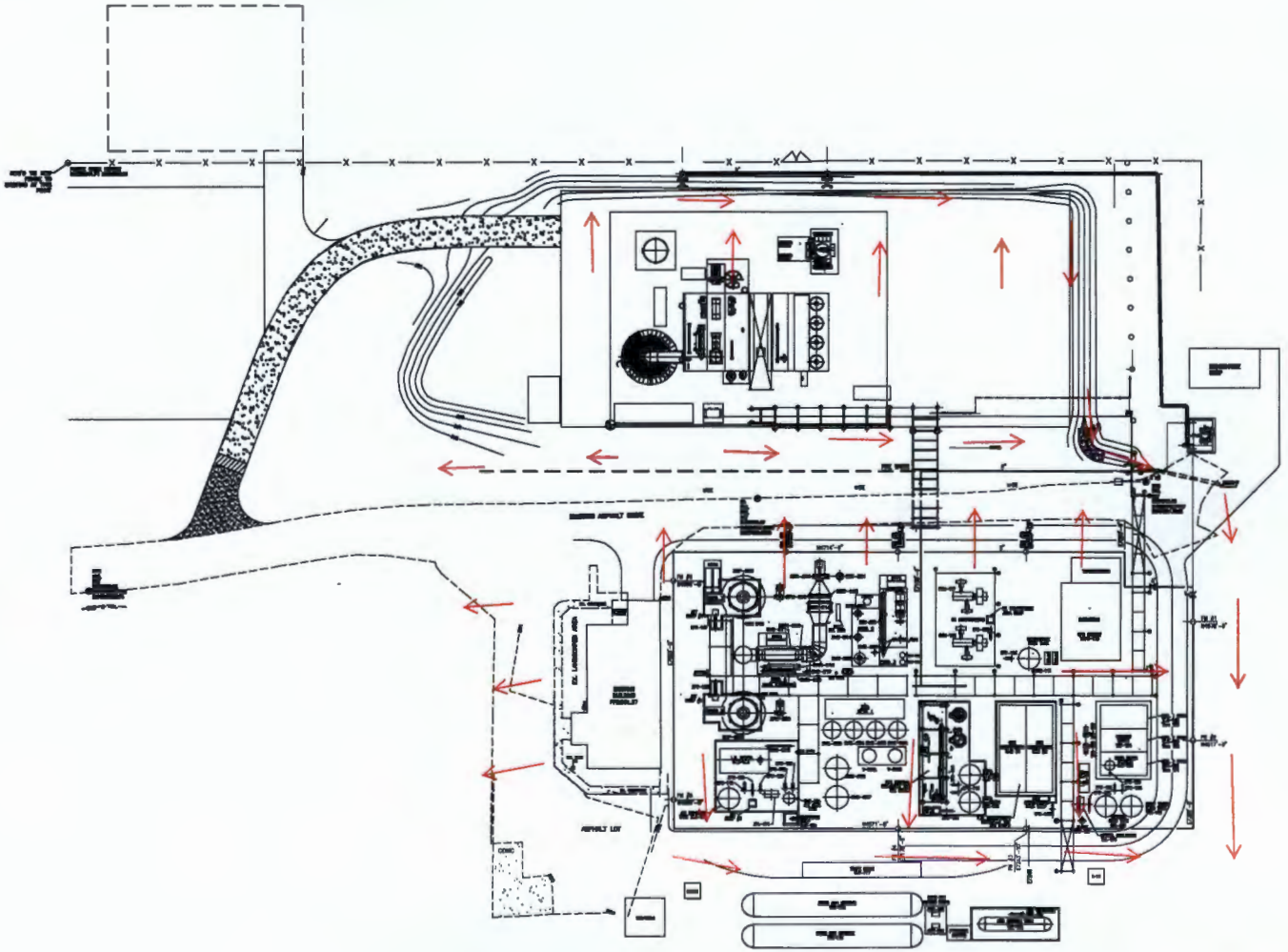
TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

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)
02/11/2025	2.75	1.10	261.6	.024 MG	0.024 MG

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

ESTIMATION BASED ON AMOUNT OF RAINFALL AND IMPERVIOUS AND PERVIOUS SQ FT AS STATED IN THE FACILITY STORMWATER PLAN.



DRWG. NO.	REFERENCE DRAWINGS	NO.	DATE	DWN.	REVISION	ENG.	SUPV.	OPER.	MAINT.

UNIT

ENG. JOB NO.

W.O. NO.

APP'N. NO.

DRAWN BY BILL WELCH DATE

HCS PROJECT No.

UNIT ENG. APPR. ORIGINALLY DRAWN BY DATE

UNIT SUPV. APPR. ORIGINALLY DRAWN BY DATE

HCS Engineering Company, Inc.

-PROPRIETARY-
TO BE MAINTAINED IN CONFIDENCE

LINDE GAS

DECATUR SITE OVERALL PLAN

SCALE AS SHOWN

REV. A

Figure 2. Site Layout Map
Linde Inc. Decatur HYCO - Decatur Morgan County, Alabama

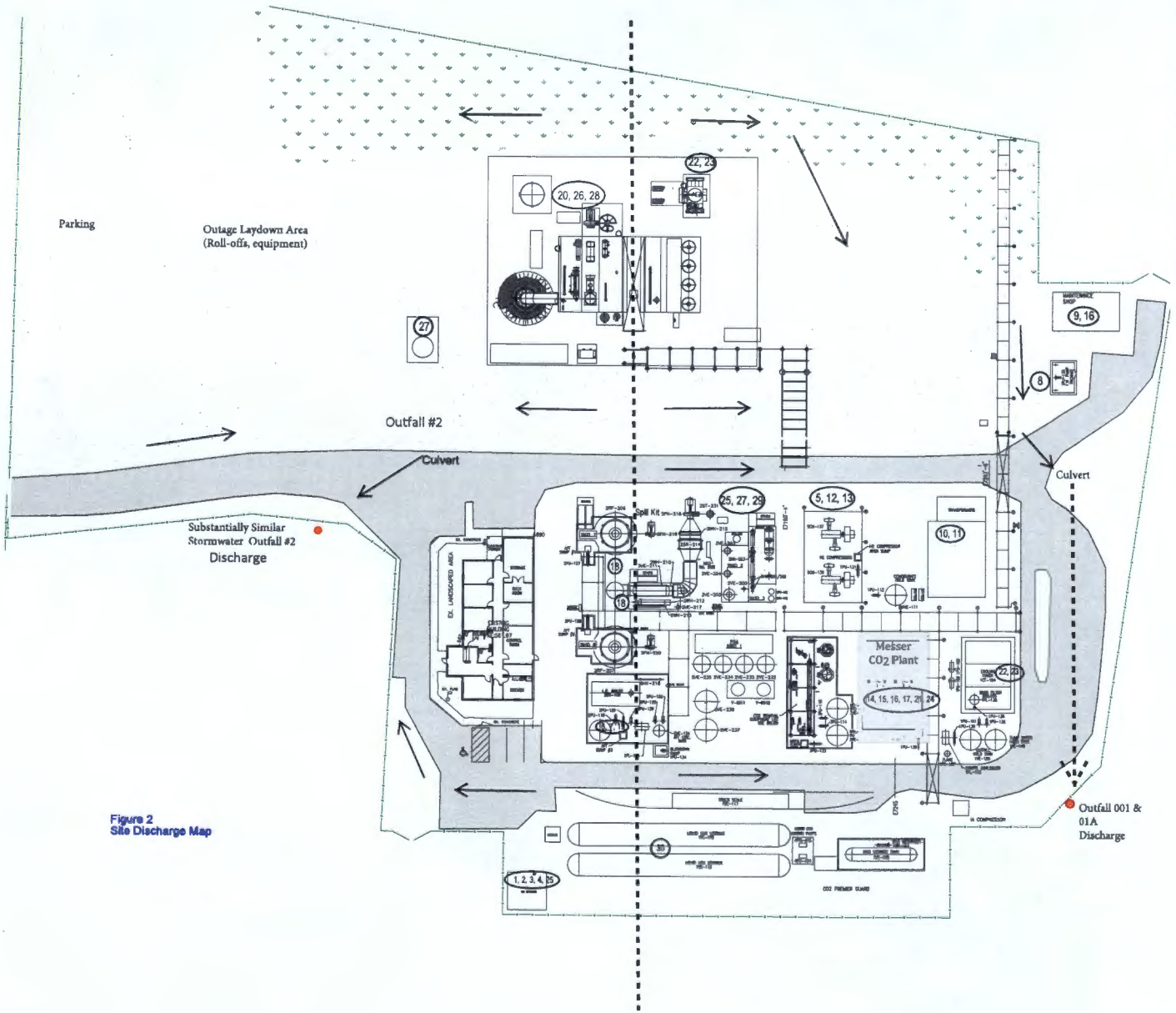


Figure 2
Site Discharge Map

	Sources	Secondary Containment and Discretionary Structure
1	Used Oil (2)	Covered, open shed with concrete dike and closed valve
2	Food Grade Oil RC7449 (4)	Covered, open shed with concrete dike and closed valve
3	Refrigeration Oil (4)	Covered, open shed with concrete dike and closed valve
4	N2 Compressor Oil, Torrenic 150 (4)	Covered, open shed with concrete dike and closed valve
5	Compressor oil for Hydrogen Compressor (2)	Concrete dike containment area for Hydrogen compressor
6	AFT Fuel Tank	Concrete dike and closed valve
7	AFT Rundown Tank	Concrete dike and closed valve
8	Fire Pump Tank	Covered containment area
9	Transformer No 1 LTC 154 Oil	Covered containment area with a closed valve
10	Transformer No 2 LTC 154 Oil	Concrete dike with closed valve
11	Transformer No 3 LTC 154 Oil	Concrete dike with closed valve
12	N_2 Compressor SCM 187 Oil	Concrete dike with closed valve
13	H_2 Compressor SCM 188 Oil	Concrete dike with closed valve
14	CO_2 Compressor RC-744-P and Associated Oil Cooler	Concrete dike with closed valve
15	NH_3 Compressor RC-744-P and Associated Oil Cooler	Concrete dike with closed valve
16	Diesel Fuel Tank	Concrete dike with closed valve
17	Oil Separator	Concrete dike with closed valve
18	Reformers	Concrete dike with closed valve
19	AFT Heater	Concrete dike with closed valve
20	BFW Treatment	Concrete dike with closed valve
21	Product Transfer Area - Oil Separator	Active control measures
22	12.5% Sodium hypochlorite	Concrete dike with closed valve
23	Trasar Water Treatment	Concrete dike with closed valve
24	Ammonia	Concrete dike with closed valve
25	AMDEA 86	Covered, open shed with concrete dike and closed valve
26	BFW Treatment	Concrete dike with closed valve
27	Liquid Nitrogen	Concrete dike with closed valve
28	Sodium Hydroxide	Concrete dike with closed valve
29	Sodium Hydroxide 25%	Concrete dike with closed valve
30	Ammonia	Concrete dike with closed valve

Pinson, Theo

From: Scott Boyd <Scott.Boyd@linde.com>
Sent: Thursday, August 7, 2025 12:21 PM
To: Pinson, Theo
Subject: RE: Fuel Area BMPS

Hi Theo,

We have two Diesel Tanks on site,

1) 200 Gallon tank for the Fire water pump. It's in a covered building with secondary Containment.
2) 50 Gallon portable Fuel Tank with secondary containment for the forklift. It's kept in an enclosed shed with concrete curbing sloping to a sump

- During transfers, site personal must always be with the equipment to respond to any potential spills. In the event of a spill, dry clean up methods are to be used.
- Fuling area inspections are performed twice per week.

Let me know if you need more details.

Scott

From: Pinson, Theo <tpinson@adem.alabama.gov>
Sent: Thursday, August 7, 2025 9:58 AM
To: Scott Boyd <Scott.Boyd@linde.com>
Subject: Fuel Area BMPS

Good Morning Scott,

We are close to sending out a proposed draft AL0072044 permit for the Decatur facility but would like to document some information about your fueling area to go along with the application. Will you provide the number of fuel tanks, what they hold, if they are within secondary containment/double walled, and a brief narrative on the BMPs in place to minimize the potential for stormwater contamination?

Thank you,

Theo

Theo Pinson
Industrial Section
Water Division
Alabama Department of Environmental Management
(334) 274 – 4202

Alabama Environmental Permitting and Compliance System (AEPACS)

For general information about AEPACS, visit http://adem.alabama.gov/egov/AEPACS.cnt. For NPDES and SID program specific information about AEPACS, visit http://adem.alabama.gov/egov/AEPACSwater.cnt.

If you have questions or need assistance with AEPACS, please contact the ADEM Web Portal/AEPACS Help Desk at ademwebportal@adem.alabama.gov. The email box is monitored Monday through Friday, 7:00 am –5:00 pm.

Southern
ENVIRONMENTAL TESTING

February 19, 2025

Scott Boyd
Linde Gas, Inc.
900 Linde Avenue
Decatur, AL 35601

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

Lab ID	Sample Description	Date Collected	Date Submitted
DF01651-01	DSN001 Permit Renewal	02/11/2025	02/12/2025
DF01651-02	DSN001 Permit Renewal	02/11/2025	02/12/2025

Southern Environmental Testing is accredited to ISO/IEC 17025:2017 by the ANSI National Accreditation Board (ANAB) and certified by the Alabama Department of Environmental Management (ADEM) for specific tests. Our quality system meets the relevant quality system requirements of ISO 9001:2015. Not all tests performed by Southern Environmental Testing are covered by accreditation and certification. Tests within our ANAB scope of accreditation are indicated by a plus symbol (+) in the Test Result section of this report. Tests not included in our accreditation and certification are performed in accordance with Southern Environmental Testing standard operating procedures and our quality control program using, where applicable, US EPA approved methodology.

This cover page and the attached chain-of-custody records are integral parts of your report. Southern Environmental Testing considers this report your official record. This information shall remain in Southern Environmental Testing's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at 256-280-2567.

Reviewed by:

Taylor Terrell

Taylor Terrell
Project Manager

2919 Fairgrounds Road SW
Decatur, AL 35603
(256) 280-2567

PO Box 2084
Decatur, AL 35602
(256) 350-0686 Fax

3103 Northington Court
Florence, AL 35630
(256) 740-5532

Southern
ENVIRONMENTAL TESTING

SAMPLE RESULTS REPORT

Report Date/Time: 02/19/2025 13:40

REPORT TO

Scott Boyd
Linde Gas, Inc.
900 Linde Avenue
Decatur, AL 35601

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Analyte Name	Result	Units	Qualifer	Regulatory Limit
Sample Point: DSN001 Permit Renewa	**Sample ID: DF01651-01**	**Collected: 02/11/2025**		**Submitted: 02/12/2025**
Anions by IC				
+ Nitrite-Nitrogen	0.133	mg/l		
+ Nitrate-Nitrogen	0.876	mg/l		
Inorganics				
+ Biochemical Oxygen Demand	3.06	mg/l		
+ Total Cyanide	<0.00500	mg/l		
+ Chemical Oxygen Demand	44.0	mg/l		
+ Total Phosphorus	0.460	mg/l		
Phenolics (4AAP)	<0.0200	mg/l		
+ Total Kjeldahl Nitrogen	3.30	mg/l		
+ Total Nitrogen	4.31	mg/l		
+ Total Suspended Solids	24.0	mg/l		
Metals by ICP-MS				
Total Silver	<0.00250	mg/l		
+ Total Beryllium	<0.00250	mg/l		
+ Total Cadmium	<0.00250	mg/l		
+ Total Chromium	<0.00250	mg/l		
+ Total Copper	0.00650	mg/l		
+ Total Nickel	<0.00250	mg/l		
+ Total Lead	0.00252	mg/l		
+ Total Selenium	<0.00250	mg/l		
+ Total Thallium	<0.00250	mg/l		
+ Total Zinc	0.169	mg/l		
Miscellaneous Metals				
+ Total Mercury	<0.000200	mg/l		
Sample Point: DSN001 Permit Renewa	**Sample ID: DF01651-02**	**Collected: 02/11/2025**		**Submitted: 02/12/2025**

Southern
ENVIRONMENTAL TESTING

SAMPLE RESULTS REPORT

Report Date/Time: 02/19/2025 13:40

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This report may contain information that is confidential and proprietary. The information is intended for the addressee only and may not be copied or disseminated, except in full, without the written consent of Southern Environmental Testing.

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Analyte Name	Result	Units	Qualifer	Regulatory Limit
Sample Point: DSN001 Permit Renewa **Sample ID: DF01651-02** **Collected: 02/11/2025** **Submitted: 02/12/2025**				
Anions by IC				
+ Nitrite-Nitrogen	0.533	mg/l		
+ Nitrate-Nitrogen	1.22	mg/l		
Inorganics				
+ Biochemical Oxygen Demand	4.98	mg/l		
+ Total Cyanide	<0.00500	mg/l		
+ Chemical Oxygen Demand	48.0	mg/l		
+ HEM (Oil and Grease)	<5.00	mg/l		
+ Total Phosphorus	0.550	mg/l		
Phenolics (4AAP)	<0.0200	mg/l		
+ Total Kjeldahl Nitrogen	3.75	mg/l		
+ Total Nitrogen	5.50	mg/l		
+ Total Suspended Solids	35.0	mg/l		
Metals by ICP-MS				
Total Silver	<0.00250	mg/l		
+ Total Beryllium	<0.00250	mg/l		
+ Total Cadmium	<0.00250	mg/l		
+ Total Chromium	<0.00250	mg/l		
+ Total Copper	0.00375	mg/l		
+ Total Nickel	<0.00250	mg/l		
+ Total Lead	<0.00250	mg/l		
+ Total Selenium	<0.00250	mg/l		
+ Total Thallium	<0.00250	mg/l		
+ Total Zinc	0.110	mg/l		
Miscellaneous Metals				
+ Total Mercury	<0.000200	mg/l		

Southern
ENVIRONMENTAL TESTING

SAMPLE RESULTS REPORT

Report Date/Time: 02/19/2025 13:40

REPORT TO
Scott Boyd Linde Gas, Inc. 900 Linde Avenue Decatur, AL 35601

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Analyte Name	Result	Units	Qualifer	Regulatory Limit
Sample Point: DSN001 Permit Renewa	**Sample ID: DF01651-02**	**Collected: 02/11/2025**		**Submitted: 02/12/2025**
On-Site Analysis				
+ pH	7.6	su		

Southern
ENVIRONMENTAL TESTING

SAMPLE RESULTS REPORT

Report Date/Time: 02/19/2025 13:40

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Linde Gas, Inc.
900 Linde Avenue
Decatur, AL 35601

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All calculations are performed prior to rounding per EPA and *Standard Methods* requirements. Calibration data for field analyses conducted by SET or *ENERSOLV* personnel are available upon request.

Data Qualifiers

< Less than reporting limit

Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date/Time	Analysis Start Date/Time	Analysis End Date/Time (BOD, CBOD, Coliforms)
DF01651-01	Total Cyanide	ASTM D7511-12	LLW	Decatur	02/11/2025 12:00	02/14/2025 10:27	
DF01651-01	Beryllium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Cadmium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Chromium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Copper	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Lead	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Nickel	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Selenium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Silver	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Thallium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Zinc	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 12:00	02/13/2025 13:39	
DF01651-01	Total Mercury	EPA 245.1, Rev. 3.0	WCC	Florence	02/11/2025 12:00	02/14/2025 09:05	
DF01651-01	Nitrate-Nitrogen	EPA 300.0, Rev 2.1	LLW	Decatur	02/11/2025 12:00	02/12/2025 10:41	
DF01651-01	Nitrite-Nitrogen	EPA 300.0, Rev 2.1	LLW	Decatur	02/11/2025 12:00	02/12/2025 10:41	
DF01651-01	Phenolics (4AAP)	EPA 420.1 Rev. 1978	WCC	Florence	02/11/2025 12:00	02/17/2025 07:50	
DF01651-01	Total Kjeldahl Nitrogen	FIAlab 100	RAC	Decatur	02/11/2025 12:00	02/13/2025 05:00	

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Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date/Time	Analysis Start Date Time	Analysis End Date/Time (BOD, CBOD, Coliforms)
DF01651-01	Chemical Oxygen Demand	Hach 8000	RAC	Decatur	02/11/2025 12:00	02/12/2025 08:30	
DF01651-01	Total Phosphorus	SM 4500-P E-2011	JW	Decatur	02/11/2025 12:00	02/14/2025 08:00	
DF01651-01	Biochemical Oxygen Demand	SM 5210 B-2016	AM	Decatur	02/11/2025 12:00	02/12/2025 15:30	02/17/2025 11:00
DF01651-01	Total Suspended Solids	USGS I-3765-85	JRW	Decatur	02/11/2025 12:00	02/13/2025 08:00	

Southern
ENVIRONMENTAL TESTING

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Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date/Time	Analysis Start Date/Time	Analysis End Date/Time (BOD, CBOD, Coliforms)
DF01651-02	Total Cyanide	ASTM D7511-12	LLW	Decatur	02/11/2025 08:55	02/14/2025 10:27	
DF01651-02	HEM (Oil and Grease)	EPA 1664A Rev. 1999	AM	Decatur	02/11/2025 08:55	02/14/2025 05:45	
DF01651-02	Beryllium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Cadmium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Chromium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Copper	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Lead	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Nickel	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Selenium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Silver	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Thallium	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Zinc	EPA 200.8 Rev. 5.4/6020A	DD	Decatur	02/11/2025 08:55	02/13/2025 13:39	
DF01651-02	Total Mercury	EPA 245.1, Rev. 3.0	WCC	Florence	02/11/2025 08:55	02/14/2025 09:05	
DF01651-02	Nitrate-Nitrogen	EPA 300.0, Rev 2.1	LLW	Decatur	02/11/2025 08:55	02/12/2025 10:50	
DF01651-02	Nitrite-Nitrogen	EPA 300.0, Rev 2.1	LLW	Decatur	02/11/2025 08:55	02/12/2025 10:50	
DF01651-02	Phenolics (4AAP)	EPA 420.1 Rev. 1978	WCC	Florence	02/11/2025 08:55	02/17/2025 07:50	
DF01651-02	Total Kjeldahl Nitrogen	FIAlab 100	RAC	Decatur	02/11/2025 08:55	02/13/2025 05:00	
DF01651-02	Chemical Oxygen Demand	Hach 8000	RAC	Decatur	02/11/2025 08:55	02/12/2025 08:30	
DF01651-02	Total Phosphorus	SM 4500-P E-2011	JW	Decatur	02/11/2025 08:55	02/14/2025 08:00	
DF01651-02	Biochemical Oxygen Demand	SM 5210 B-2016	AM	Decatur	02/11/2025 08:55	02/12/2025 15:30	02/17/2025 11:00

Southern
ENVIRONMENTAL TESTING

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Analysis Information

Lab Number	Analysis	Referenced Method	Analyst	SET Facility	Collection Date Time	Analysis Start Date Time	Analysis End Date/Time (BOD, CBOD, Coliforms)
DF01651-02	Total Suspended Solids	USGS I-3765-85	JRW	Decatur	02 11 2025 08:55	02 13 2025 08:00	

Southern ENVIRONMENTAL TESTING

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD
2919 FAIRGROUNDS ROAD SW, DECATUR AL 35603
3103 NORTHINGTON COURT, FLORENCE, AL 35630

(256) 350-0846 www.setesting.co

PAGE 1 of 1
Stormwater
Permit Renewal

COMPANY/CLIENT NAME	CLIENT P.O. NUMBER	PROJECT NUMBER
Linde Gas North America		ENE 25-0014
CLIENT POINT OF CONTACT	**CLIENT PHYSICAL ADDRESS**	**CITY/STATE/ZIP**
Scott Boyd	900 Linde Avenue	Decatur, AL 35601
CLIENT EMAIL	**PHONE NUMBER**	**OTHER INFORMATION**
scott.boyd@linde.com	256-306-0305	**PERMIT RENEWAL**
SAMPLE COLLECTED BY	**EXPEDITED REPORT DELIVERY (SURCHARGE)**	
Paul Everitt	DATE DUE (REQUIRED)	

SET LAB NUMBER	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	BOD	COD	TSS	PT	TN	BE,CD,CR,CU,PB	HG,NI,SE,AG,TL,ZN	CN	Phenolics	OG	pH	X Sample collect		
DF01651 -01	DSN001 Permit Renewal	2-11-25	1200		X	X	X	X	X	X	X	X	X	X			X		
		2-11-25	0855	X		X	X	X	X	X	X	X	X	X	X	X			

REQUESTED ANALYSES

Comments:

MATRIX
☐ Water ☐ Solid ☐ Sludge
☐ Oil ☐ Drinking Water
☑ Stormwater

Collector to complete shaded areas, as applicable

COMPOSITE SAMPLER INFO		FIELD INFORMATION								Qty	Type - Cool 6c	pH	Parameters
		SM 4500H+B		SM 4500-Cl G (2011)		SM 4500-O G		SM 2550B					
Start Date	2-11-25	pH mg/l	7.6	TRC mg/l		DO mg/l		Temp deg C		1/Site	1 Liter HDPE		BOD, TSS, NN
Start Time	0920	Date	2-11-25	Date		Date		Date		2	1 Liter Glass H2SO4		OG
Stop Date	2-11-25	Time	0858	Time		Time		Time		1/site	250mL HDPE H2SO4		TKN,COD,PT
Stop Time	1200	Analyst	DC	Analyst		Analyst		Analyst		1/Site	250mL HDPE HN03		Metals ICP
										1/Site	250mL HDPE HN03		Metals
										1/site	60mL Amber Glass NaOH		CN
										1/site	1 Liter Amber Glass H2SO4		Phenolics

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Paul Everitt	2-12-25	0814						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE TEMPERATURE RECEIVED @
Lyndsay Kennedy	2/12/25	8:14	0.3

SET-001-FLD REV. 0

Project Location: Linde Gas

Date: 2/11/2025

DSN001

Total Required Volume (V) = 5000 mL

Sample No.	Time	(A) Cumulative Rainfall (CR) (Inches)	(B) Incremental Rainfall (IR) (Inches)	(C) Proportion of This Sample In Composite	(D) Add This Volume To Make Composite (ml)
1	9:20	0.26	0.26	0.23636	1182
2	9:40	0.36	0.10	0.09091	455
3	10:00	0.50	0.14	0.12727	636
4	10:20	0.62	0.12	0.10909	545
5	10:40	0.70	0.08	0.07273	364
6	11:00	0.71	0.01	0.00909	45
7	11:20	0.95	0.24	0.21818	1091
8	11:40	1.04	0.09	0.08182	409
9	12:00	1.10	0.06	0.05455	273

TR = A9

(B) Incremental Rainfall - B1 = A1; B2 = A2-A1; B3 = A3-A2; etc.

(C) Proportion of Sample - C1 = B1/TR; C2 = B2/TR; etc.

(D) C1 X V

Linde Inc
900Linde Lane
Decatur, AL
Permit# AL0072044

Trade Name	Function	Composition	Quantities Used Lb./day	Frequency of Use	Discharge Concentration ppm	96-hour median tolerance limit (unless noted) mg/l	EPA Registration#
Stabrex ST70	Biological Control	Sodium Bromide Sodium Hypochlorite Sodium Chloride Sodium Hydroxide	Varies	Daily/continuous	0.1	96 Hr LC50 fathead minnow = 8.3 mg/l 48 Hr LC50 cladoceran = 1.6 mg/l	1706-179
NexGuard 22300	Boiler system corrosion protection		22	Daily/continuous	41.2	96 Hr LC50 fathead minnow = >8,100 mg/l 48 Hr EC50 daphnia magna = 6,274 mg/l	n/a
NexGuard 22310	Boiler system corrosion protection		15	Daily/continuous	28	96 Hr LC50 fathead minnow = 2,861 mg/l 48 Hr LC50 cladoceran = 1,473 mg/l	n/a
Tri-ACT 1820	Boiler Condensate corrosion protection	Cyclohexylamine Morpholine Diethylethanolamine	0.12	Intermittent	0.02	96 Hr LC50 fathead minnow = 399 mg/l 48 Hr LC50 cladoceran = 115 mg/l	n/a
Nalco 3DT260	Cooling tower and ammonia condenser corrosion and scale prevention	2-Phosphono -1,2,4-Butanetricarboxylic Acid Phosphonic acid ester Substituted aromatic amine	16.0	Daily/continuous	8.5	96 Hr LC50 fathead minnow = 1,436 mg/l 48 Hr LC50 cladoceran = 884 mg/l	n/a

Nalco 3DT393	Cooling Tower corrosion and scale prevention	2-Phosphono -1,2,4-Butanetricarboxylic Acid Sulfuric Acid Benzotriazole Tolytriazole	18	Daily/continuous	77	96 Hr LC50 fathead minnow = 2,324 mg/l 48 Hr LC50 cladoceran = 1,768 mg/l	n/a
Sodium hypochlorite 12.5%	Biological control		Varies	Daily/continuous	0.1	Bluegill Sunfish 96h LC50 0.6 mg/l Ceriodaphnia dubia 96h LC50 1.23 ppm Fathead Minnow 96h LC50 1.19 ppm	n/a
Caustic 25%	Boiler System Corrosion Protection		Varies	Daily/continuous	0.1	Bluegill Sunfish 96h LC50 0.6 mg/l Ceriodaphnia dubia 96h LC50 1.23 ppm Fathead Minnow 96h LC50 1.19 ppm	n/a
Sodium Bi-Sulfite 40%	Chlorine Removal		0.75	Daily/continuous	<0.02	Bluegill Sunfish 96h LC50 0.6 mg/l Ceriodaphnia dubia 96h LC50 1.23 ppm Fathead Minnow 96h LC50 1.19 ppm	n/a

ECOLAB

SAFETY DATA SHEET

SODIUM BISULFITE SOLUTION 40 PERCENT

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	SODIUM BISULFITE SOLUTION 40 PERCENT
Other means of identification	:	Not applicable
Recommended use	:	Maintenance Product
Restrictions on use	:	Reserved for industrial and professional use.
Product dilution information	:	Product is sold ready to use.
Company	:	Ecolab Inc. 1 Ecolab Place St. Paul, Minnesota USA 55102 1-800-352-5326
Emergency health information	:	1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)
Issuing date	:	05/01/2019

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : Harmful if swallowed.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product.
Response:
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : The head space of containers containing this product may accumulate Sulphur Dioxide (SO2). SO2 is a toxic and irritating gas that can be hazardous if inhaled.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical name	CAS-No.	Concentration (%)
sodium bisulfite	7631-90-5	30 - 60

SECTION 4. FIRST AID MEASURES

In case of eye contact	:	Rinse with plenty of water.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.
Protection of first-aiders	:	No special precautions are necessary for first aid responders.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Heating or fire can release toxic gas. May evolve oxides of sulfur (SOx) under fire conditions.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides Sulfur oxides
Special protective equipment for fire-fighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Wash hands thoroughly after handling. Containers should be opened cautiously and only in well ventilated areas.
Conditions for safe storage	:	Keep out of reach of children. Store in a well-ventilated place. Store in suitable labeled containers. Do not store at elevated temperature.
Storage temperature	:	40 °C to 5 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
sodium bisulfite	7631-90-5	TWA	5 mg/m3	ACGIH
		TWA	5 mg/m3	NIOSH REL
sulphur dioxide	7446-09-5	STEL	0.25 ppm	ACGIH
		TWA	2 ppm 5 mg/m3	NIOSH REL
		STEL	5 ppm 13 mg/m3	NIOSH REL
		TWA	5 ppm 13 mg/m3	OSHA Z1

Exposure limits are listed for sulfur dioxide (SO2) since this product evolves SO2 when open to the atmosphere.

Engineering measures	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection	:	No special protective equipment required.
Hand protection	:	No special protective equipment required.
Skin protection	:	No special protective equipment required.
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	yellow
Odor	:	pungent
pH	:	3.5, (100 %)
Flash point	:	Not applicable
Odor Threshold	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and	:	> 100 °C

boiling range		
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.34
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Molecular weight	:	No data available
VOC	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Evolves SO2 when open to atmosphere. The rate of SO2 evolution increases with temperature and/or transfer of product.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Keep away from heat and sources of ignition.
Incompatible materials	:	Acids Organic materials SO2 may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides Sulfur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Health injuries are not known or expected under normal use.

Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Harmful if swallowed.
Inhalation	:	May release toxic, irritating and/or corrosive gases.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate : 1,250 mg/kg
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	No data available
Skin corrosion/irritation	:	No data available
Serious eye damage/eye irritation	:	No data available
Respiratory or skin sensitization	:	Contains an ingredient that can cause asthmatic-like reactions in sulfite-sensitive individuals.
Carcinogenicity	:	No data available
Reproductive effects	:	No data available
Germ cell mutagenicity	:	No data available
Teratogenicity	:	No data available
STOT-single exposure	:	No data available
STOT-repeated exposure	:	No data available
Aspiration toxicity	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	No data available
Toxicity to daphnia and other aquatic invertebrates	:	No data available
Toxicity to algae	:	No data available

Components

Toxicity to fish	:	sodium bisulfite

96 h LC50 Fish: 177.8 mg/l

Persistence and degradability

Not applicable - inorganic

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

UN number	:	2693
Description of the goods	:	Bisulfites, aqueous solutions, n.o.s. (sodium bisulfite)
Class	:	8
Packing group	:	III
Environmentally hazardous	:	no

Sea transport (IMDG/IMO)

UN number	:	2693
Description of the goods	:	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (sodium bisulfite)
Class	:	8
Packing group	:	III
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
sodium bisulfite	7631-90-5	5000	12500

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

United States TSCA Inventory :
On the inventory, or in compliance with the inventory

Canadian Domestic Substances List (DSL) :
All components of this product are on the Canadian DSL

Australia Inventory of Chemical Substances (AICS) :
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemical Substances :
On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :
On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI) :
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
On the inventory, or in compliance with the inventory

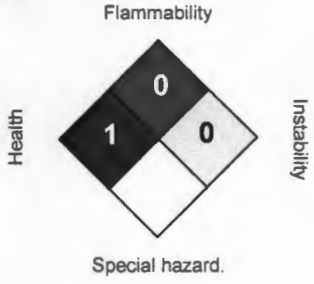
China. Inventory of Existing Chemical Substances in China (IECSC) :
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI) :
On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

SODIUM BISULFITE SOLUTION 40 PERCENT

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing date	:	05/01/2019
Version	:	1.2
Prepared by	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Univar Solutions

Safety Data Sheet
CAUSTIC SODA 25%

Version 1.2 Revision Date: 08/02/2021

SECTION 1. IDENTIFICATION

Product name : CAUSTIC SODA 25%

Synonyms : Sodium Hydroxide

Recommended use of the chemical and restrictions on use

Recommended use : Industrial chemical

Restricted Uses : No data available

Manufacturer or supplier's details

Company : Univar Solutions Canada Ltd.

Address 9800 Van Horne Way
Richmond, BC V6X1W5
Canada

Emergency telephone number:
Local Emergency Contact : During Office hours Monday-Friday, 8.00 am - 4.30 pm (Pacific Standard Time) : 1-866-686-4827

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Corrosive to metals : Category 1

Skin corrosion : Category 1A

Serious eye damage : Category 1

Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P234 Keep only in original packaging.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
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.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 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.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	% by Weight	Synonyms
1310-73-2	Sodium hydroxide	10 - 30	Sodium hydroxide

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST-AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

If swallowed	:	If eye irritation persists, consult a specialist. Take victim immediately to hospital. Keep respiratory tract clear. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1310-73-2	Sodium hydroxide	(c)	2 mg/m3	CA AB OEL
		C	2 mg/m3	CA BC OEL
		C	2 mg/m3	CA QC OEL

Personal protective equipment
Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Colour : colorless

Odour : odorless
Odour Threshold : No data available
pH : 14 @ 20 - 25 °C (68 - 77 °F)

Freezing Point : No data available
Boiling Point : No data available
Flash point : > 93 °C (> 199 °F)
No data available

Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.27 - 1.28Reference substance: (water = 1)
Density	:	No data available
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available
Incompatible materials	:	Acids Halogenated compounds Metals organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

1310-73-2:
Acute oral toxicity : LD50 (Rabbit): 325 mg/kg

Skin corrosion/irritation

Components:

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:
1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:
Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
Dispose of in accordance with all applicable local, state and federal regulations.

do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions EHS Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 08/02/2021

Material number:
16178437, 16176600, 16176259, 16175654, 16175444, 16175415, 16174721, 16176744, 16170086, 16169860, 16169683, 16168188, 16168798, 16146335, 16146334, 16143884, 16145401, 16145323, 16145278, 16145243, 16145242, 16125921, 16116103, 16113730, 755848, 650799, 546389, 70561, 53072, 574261, 53570, 16150734, 16149350, 16149457, 16144981, 16145777, 16147137, 16163653, 102698, 16160832, 16137556, 16137474, 16137324, 16152197, 16158393, 16152426, 16144481, 16147885, 16159715, 16143521, 16160487, 16160771, 16160572, 16160486, 16147888, 16147884, 16147854, 16147799, 16148872, 16144724, 16144461, 16148802, 16152705, 16145049, 16136108, 16135898, 16135793, 16135298, 16143511, 16143409, 16143472, 16143461, 16143389, 16142429, 16140693, 16140424, 16142307, 16142009, 16141867, 16140353, 16141665, 16140968, 16142282, 16140375, 16140289, 16140979, 16141187, 16145400, 16145399, 16140956, 16140806, 16140704

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological

			Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50		Lethal Concentration 50%	

Univar Solutions

Safety Data Sheet
SODIUM HYPOCHLORITE 12.5%

Version 1.18 Revision Date: 02/10/2022

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SODIUM HYPOCHLORITE 12.5%

Recommended use of the chemical and restrictions on use

Recommended use : Reserved for industrial and professional use.

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc.
Address 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
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/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 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.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
7681-52-9	Sodium hypochlorite	12.5
1310-73-2	Sodium hydroxide	0 - 5

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

Synonyms : Liquichlor, Bleach,

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Take victim immediately to hospital.

Move to fresh air.

If breathing has stopped, apply artificial respiration.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing. If irritation develops, get medical attention. Burns must be treated by a physician.
In case of eye contact	:	In case of eye contact Immediately flush eye(s) with plenty of water. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If easy to do, remove contact lens, if worn. If eye irritation persists, consult a specialist. Take victim immediately to hospital.
If swallowed	:	Take victim immediately to hospital. Do NOT induce vomiting. Rinse mouth with water. If victim is fully conscious, give a cupful of water. If a person vomits when lying on his back, place him in the recovery position.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO_2) Foam Dry powder
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Neutralise with acid. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7681-52-9	Sodium hypochlorite	STEL	2 mg/m3	US WEEL
1310-73-2	Sodium hydroxide	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0
		C	2 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection	:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and

use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear yellow
Odour	:	Chlorine
Odour Threshold	:	No data available
pH	:	11.5 - 13
Freezing Point (Melting point/freezing point)	:	-20 - -15 °C (-4 - 5 °F)
Boiling Point ()	:	230 °F (230 °F) Decomposition: Decomposition temperature
Flash point	:	Not Flammable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available

Lower explosion limit	:	No data available
Vapour pressure	:	12 - 17.5 mmHg @ 20 °C (68 °F)
Relative vapour density	:	No data available
Relative density	:	1.17 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	1.17 g/cm3
Solubility(ies) Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Combustible material Halogenated compounds Metals metal salts Organic materials organic nitro compounds Zinc

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

7681-52-9:
Acute oral toxicity : LD50 (Rat, male): > 2,000 mg/kg

1310-73-2:
Acute oral toxicity : LD50 (Rabbit): 325 mg/kg

Skin corrosion/irritation

Components:

7681-52-9:
Species: Rabbit
Result: Causes burns.

1310-73-2:
Species: Rabbit
Result: Causes severe burns.

Serious eye damage/eye irritation

Components:

7681-52-9:
Species: Rabbit
Result: Risk of serious damage to eyes.

1310-73-2:
Species: Rabbit
Result: Risk of serious damage to eyes.

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

STOT - single exposure

Components:

7681-52-9:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

7681-52-9:

Toxicity to fish	:	LC50 (Salmo gairdneri (Rainbow Fish)): 0.06 mg/l Exposure time: 96 h Test Type: flow-through test LC50 (Pimephales promelas (fathead minnow)): 5.9 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.141 mg/l Exposure time: 48 h Test Type: flow-through test EC50 (Ceriodaphnia dubia): 0.035 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae	:	IC50: 0.023 mg/l Exposure time: 7 d Test Type: flow-through test
M-Factor (Acute aquatic toxicity)	:	10
Acute aquatic toxicity- Assessment	:	Very toxic to aquatic life.
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I

Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1791, Hypochlorite solutions, 8, III , Marine Pollutant (SODIUM HYPOCHLORITE)

IATA (International Air Transport Association):
UN1791, Hypochlorite solution, 8, III

IMDG (International Maritime Dangerous Goods):
UN1791, HYPOCHLORITE SOLUTION, 8, III, Marine Pollutant (SODIUM HYPOCHLORITE)

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hypochlorite	7681-52-9	100	800
Sodium hydroxide	1310-73-2	1000	20000

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Corrosive to metals

Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

Pennsylvania Right To Know

7732-18-5	Water
7681-52-9	Sodium hypochlorite
1310-73-2	Sodium hydroxide

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

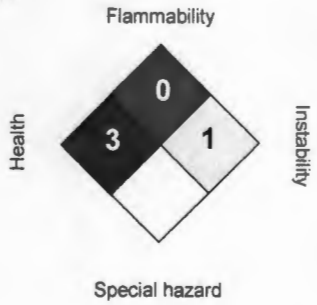
KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3/
FLAMMABILITY	0
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Revision Date : 02/10/2022

Legacy SDS: : R0004191

Material number:
16185565, 16185315, 16182803, 16182803, 16182146, 16180800, 16151747, 16144335, 16147791, 16179440, 16164756, 16164762, 16164766, 16173035, 16172686, 16173104, 16164347, 16164592, 16164731, 16164730, 16164686, 16164337, 16172598, 16147922, 16146040, 16151002, 16149524, 16158615, 16145640, 16148059, 16144666, 16147989, 16163791, 16160423, 16160441, 16158853, 16151253, 16149870, 16148071, 16148060, 16147684, 16147117, 16146776, 16146856, 16146855, 16146854, 16145965, 16145895, 16145890, 16145584, 16145144, 16145142, 16145140, 16145138, 16145137, 16145133, 16145130, 16145079, 16159810, 16150495, 16149123, 16147041, 16145471, 16144665, 16145772, 16145833, 16148433, 16148183, 16148162, 16145046, 16143737, 16135287, 16163624, 16161401, 16148721, 16155765, 16158840, 16145484, 16166710, 16148748, 16148260, 16166763, 16166591, 16145834, 16166014, 16159793, 16162934, 16165524, 16165444, 16165066, 16137823, 16137455, 16137753, 16147687, 16144215, 16150496, 16149504, 16145673, 16149243, 16136536

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

3D TRASAR™ 3DT260

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT260
Other means of identification	:	Not applicable.
Recommended use	:	MULTIFUNCTIONAL COOLING WATER TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	04/10/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion	:	Category 1
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.

Precautionary Statements :

Prevention:
Wash skin 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. Immediately call a POISON CENTER/doctor. 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 or doctor/ physician. Wash contaminated clothing before reuse.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
2-Phosphono-1,2,4-Butanetricarboxylic Acid	37971-36-1	1 - 5
Phosphonic acid ester	Proprietary	1 - 5
Substituted aromatic amine	Proprietary	1 - 5
Substituted aromatic amine	Proprietary	0.1 - 1

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Special protective equipment for firefighters : Use personal protective equipment.

Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions for safe storage	:	Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Stainless Steel 304, Brass, Buna-N, Polyethylene (rigid), Polypropylene (rigid), CPVC (rigid), Plasite 4300, Stainless Steel 316**, Chlorosulfonated polyethylene rubber, Fluoroelastomer
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Neoprene, Polyurethane, EPDM, Plasite 7122

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
2-Phosphono-1,2,4-Butanetricarboxylic Acid	37971-36-1	TWA (Aerosol.)	10 mg/m3	AIHA WEEL

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	no data available
Odour	:	odourless
Flash point	:	Not applicable.
pH	:	1.6,(100 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -3.9 °C
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.08, (25.0 °C),
Density	:	1.08 g/cm3 , 9.0 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-	:	no data available

octanol/water		
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, 0 g/l, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	Freezing temperatures.
Incompatible materials	:	Strong bases
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Causes digestive tract burns.
Inhalation	:	May cause nose, throat, and lung irritation.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion

Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity	:	Phosphonic acid ester LD50 rabbit: > 10,000 mg/kg Substituted aromatic amine LD50 rabbit: > 10,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): 1,436 mg/l Exposure time: 96 hrs Test substance: Product Test Type: Static NOEC Pimephales promelas (fathead minnow): 156 mg/l Exposure time: 96 hrs Test substance: Product Test Type: Static
Toxicity to daphnia and other	:	LC50 Ceriodaphnia dubia: 884 mg/l

aquatic invertebrates	Exposure time: 48 hrs Test substance: Product Test Type: Static NOEC Ceriodaphnia dubia: 625 mg/l Exposure time: 48 hrs Test substance: Product Test Type: Static

Components

Toxicity to algae :	2-Phosphono-1,2,4-Butanetricarboxylic Acid EC50 Desmodesmus subspicatus (green algae): 140 mg/l Exposure time: 72 h Substituted aromatic amine EC50 algae: 15.4 mg/l Exposure time: 72 h Substituted aromatic amine EC50 Skeletonema costatum (marine diatom): 53 mg/l Exposure time: 72 h

Components

Toxicity to fish (Chronic toxicity) :	2-Phosphono-1,2,4-Butanetricarboxylic Acid NOEC: > 1,042 mg/l Exposure time: 14 d Species: Danio rerio (zebra fish)

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) :	2-Phosphono-1,2,4-Butanetricarboxylic Acid NOEC: 104 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Substituted aromatic amine NOEC: 0.97 mg/l Exposure time: 21 d

Persistence and degradability

The organic portion of this preparation is expected to be inherently biodegradable.

Total Organic Carbon (TOC) : 80,000 mg/l

Chemical Oxygen Demand (COD): 210,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	850 mg/l	Product

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input

and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	30 - 50%
Soil	:	50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste:	:	D002
Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	Carboxylic acid, Phosphonic acid ester
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	III

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	Carboxylic acid, Phosphonic acid ester
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8

Packing group	:	III

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	Carboxylic acid, Phosphonic acid ester
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	III

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Taiwan Chemical Substance Inventory

All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)
On the inventory, or in compliance with the inventory.

Japan. ENCS - Existing and New Chemical Substances Inventory
not determined

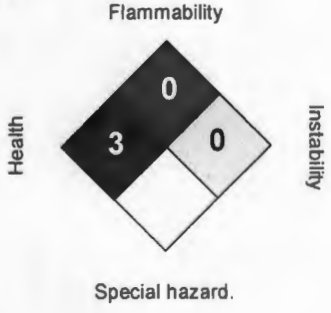
Korea. Korean Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory.

China Inventory of Existing Chemical Substances
On the inventory, or in compliance with the inventory.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	04/10/2024
Version Number	:	2.0
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.ecolab.com/sds and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

3D TRASAR 3DT393

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR 3DT393
Other means of identification	:	Not applicable.
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	08/13/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Reproductive toxicity : Category 2

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : Suspected of damaging fertility or the unborn child.

Precautionary Statements :

Prevention:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF exposed or concerned: Get medical advice/attention.

Storage:
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
2-Phosphono-1,2,4-Butanetricarboxylic Acid	37971-36-1	1 - 5
Sulfuric Acid	7664-93-9	1 - 5

Benzotriazole	95-14-7	1 - 5
Tolyltriazole	29385-43-1	0.1 - 1

Section: 4. FIRST AID MEASURES

In case of eye contact	:	Rinse with plenty of water. Get medical attention if symptoms occur.
In case of skin contact	:	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.
Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Wash hands thoroughly after handling. Use only with adequate ventilation. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	Keep in properly labelled containers.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
2-Phosphono-1,2,4-Butanetricarboxylic Acid	37971-36-1	TWA (Aerosol.)	10 mg/m3	AIHA WEEL
Sulfuric Acid	7664-93-9	TWA (Thoracic particulate matter)	0.2 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		TWA	1 mg/m3	OSHA Z1

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety glasses
Hand protection	:	Wear protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	Clear to slightly hazy yellow
Odour	:	None
Flash point	:	> 120 °C
pH	:	1.3 - 2.3, (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -2.8 °C
Initial boiling point and boiling range	:	97 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.09 - 1.12, (25 °C),
Density	:	no data available
Water solubility	:	Complete
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	3.27 mm2/s
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	None known.

Incompatible materials	:	None known.
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Suspected of damaging fertility or the unborn child.

Experience with human exposure

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	Test substance: Product
Serious eye damage/eye irritation	:	Test substance: Product
Respiratory or skin sensitization	:	no data available

Carcinogenicity

IARC	**Group 1: Carcinogenic to humans**	
	Sulfuric Acid	7664-93-9

OSHA		No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP		**Known to be human carcinogen** Sulfuric Acid 7664-93-9
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity	:	Benzotriazole LD50 rabbit: > 10,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Fathead Minnow: 2,324 mg/l Exposure time: 96 hrs Test substance: Product NOEC Fathead Minnow: 1,800 mg/l Exposure time: 96 hrs Test substance: Product LC50 Rainbow Trout: 1,894 mg/l Exposure time: 96 hrs Test substance: Product NOEC Rainbow Trout: 1,080 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	EC50 Ceriodaphnia dubia: 1,768 mg/l Exposure time: 48 hrs Test substance: Product LC50 Ceriodaphnia dubia: 1,768 mg/l Exposure time: 48 hrs Test substance: Product NOEC Ceriodaphnia dubia: 1,250 mg/l Exposure time: 48 hrs Test substance: Product

Components

Toxicity to algae : 2-Phosphono-1,2,4-Butanetricarboxylic Acid
EC50 Desmodesmus subspicatus (green algae): 140 mg/l
Exposure time: 72 h

Benzotriazole
EC50 algae: 15.4 mg/l
Exposure time: 72 h

Tolyltriazole
EC50 Skeletonema costatum (marine diatom): 53 mg/l
Exposure time: 72 h

Components

Toxicity to fish (Chronic toxicity) : 2-Phosphono-1,2,4-Butanetricarboxylic Acid
NOEC: > 1,042 mg/l
Exposure time: 14 d
Species: Danio rerio (zebra fish)

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : 2-Phosphono-1,2,4-Butanetricarboxylic Acid
NOEC: 104 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Benzotriazole
NOEC: 0.97 mg/l
Exposure time: 21 d

Persistence and degradability

Total Organic Carbon (TOC) : 65,000 mg/l

Chemical Oxygen Demand (COD): 150,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	700 mg/l	

Mobility

no data available

Bioaccumulative potential

no data available

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s)	:	Sulfuric Acid
UN/ID No.	:	UN 3264
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	71,531 lbs
RQ Component	:	SULFURIC ACID

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s)	:	Sulfuric Acid
UN/ID No.	:	UN 3264
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	71,531 lbs
RQ Component	:	SULFURIC ACID

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name(s)	:	Sulfuric Acid
UN/ID No.	:	UN 3264
Transport hazard class(es)	:	8
Packing group	:	III

Section: 15. REGULATORY INFORMATION

TSCA list	:	No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric Acid	7664-93-9	1000	71530

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric Acid	7664-93-9	1000	71530

SARA 311/312 Hazards : Reproductive toxicity

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Sulfuric Acid 7664-93-9

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Sulfuric Acid 7664-93-9 1 - 5 %

California Prop. 65

⚠ **WARNING:** Cancer - www.P65Warnings.ca.gov

Sulfuric Acid 7664-93-9

INTERNATIONAL CHEMICAL CONTROL LAWS :

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

United States TSCA Inventory
On or in compliance with the active portion of the TSCA inventory

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)
On the inventory, or in compliance with the inventory.

Japan. ENCS - Existing and New Chemical Substances Inventory
not determined

Korea. Korean Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory.

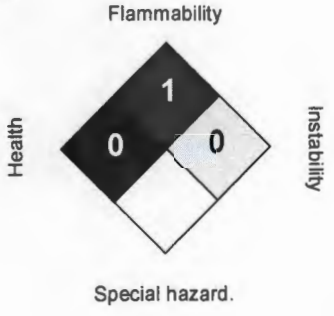
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory.

China Inventory of Existing Chemical Substances
On the inventory, or in compliance with the inventory.

Taiwan Chemical Substance Inventory
not determined

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	08/13/2024
Version Number	:	2.1
Prepared By	:	Regulatory Affairs

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NALCO Water
An Ecolab Company

SAFETY DATA SHEET

Tri-ACT™ 1820

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Tri-ACT™ 1820
Other means of identification	:	Not applicable.
Recommended use	:	CORROSION INHIBITOR
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/16/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1
Serious eye damage	:	Category 1
Reproductive toxicity	:	Category 2

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Flammable liquid and vapour.
Harmful if swallowed.
Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Take precautionary measures against static discharge. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. 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 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 or doctor/ physician.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Cyclohexylamine	108-91-8	10 - 30
Morpholine	110-91-8	10 - 30
Diethylethanolamine	100-37-8	5 - 10

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam
Carbon dioxide
Dry powder
Other extinguishing agent suitable for Class B fires
For large fires, use water spray or fog, thoroughly drenching the burning material.

Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx)
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Do not store near acids. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Cyclohexylamine	108-91-8	TWA	10 ppm	ACGIH
		TWA	10 ppm 40 mg/m3	NIOSH REL
Morpholine	110-91-8	TWA	20 ppm	ACGIH
		TWA	20 ppm 70 mg/m3	NIOSH REL
		STEL	30 ppm 105 mg/m3	NIOSH REL
		TWA	20 ppm 70 mg/m3	OSHA Z1
Diethylethanolamine	100-37-8	TWA	2 ppm	ACGIH
		TWA	10 ppm 50 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z1

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear impervious chemical-resistant gloves when handling this product.
The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.
butyl-rubber
Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne vapour and mist.
Where concentrations in air may exceed the limits given in this section or when significant vapours are generated, use an approved air purifying respirator fitted with a gas and vapour cartridge.
Use a particulate pre-filter where operations generate significant mists or aerosols.
Recommended gas and vapour cartridge:
Multi-purpose combination filter
In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used.

		When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless
Odour	:	amine-like
Flash point	:	55 °C, Method: ASTM D 93, Pensky-Martens closed cup
pH	:	12.0 - 13.0,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -3 °C, ASTM D-1177
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	6 mm Hg, (20 °C), ASTM D 2879-86,
Relative vapour density	:	no data available
Relative density	:	0.98 - 0.99, (25 °C), ASTM D-1298
Density	:	0.98 - 0.99 g/cm3 , 8.1 - 8.2 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	3 - 7 mPa.s (22 °C) 5 mPa.s (25 °C), Method: ASTM D 2983
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Strong acids
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx)

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Toxic in contact with skin. Causes severe skin burns.
Ingestion	:	Harmful if swallowed. Causes digestive tract burns.
Inhalation	:	May cause nose, throat, and lung irritation.
Chronic Exposure	:	Suspected of damaging fertility or the unborn child.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 779 mg/kg Test substance: Similar Product
Acute inhalation toxicity	:	Acute toxicity estimate: 33.55 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	Result: 8.0 Method: Draize Test Test substance: Similar Product
Serious eye damage/eye irritation	:	Result: 110.0 Method: Draize Test Test substance: Similar Product
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	Prolonged exposure to cyclohexylamine in the diet has produced reproductive effects in rats. The relevance to humans is unknown.
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity	:	Cyclohexylamine LD50 rabbit: 208 mg/kg Morpholine LD50 rabbit: 500 mg/kg Diethylethanolamine LD50 rabbit: 1,100 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	Harmful to aquatic life.

Product

Toxicity to fish	:	LC50 Oncorhynchus mykiss (rainbow trout): 130 mg/l Exposure time: 96 hrs Test substance: Product LC50 Cyprinodon variegatus (sheepshead minnow): 454 mg/l Exposure time: 96 hrs Test substance: Product LC50 Fish: 650 mg/l

Test substance: Product

LC50 Inland Silverside: 500.0 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 32 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Cyprinodon variegatus (sheepshead minnow): 250 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Inland Silverside: 250 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Fathead Minnow: 465 mg/l
Exposure time: 48 h
Test substance: Product

LC50 Fathead Minnow: 399 mg/l
Exposure time: 96 h
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 190 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): 131 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 100 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 40 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 115 mg/l
Exposure time: 48 h
Test substance: Product

NOEC Ceriodaphnia dubia: 72 mg/l
Exposure time: 48 h
Test substance: Product

Toxicity to algae : LC50 Algae: 5,000 mg/l
Test substance: Product

Toxicity to bacteria : LC50 Pseudomonas putida: 7,500 mg/l

Test substance: Product

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Cyclohexylamine NOEC: 1.6 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Morpholine NOEC: 8.134 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

Persistence and degradability

Biodegradability : Result: Readily biodegradable.

The organic portion of this preparation is expected to be readily biodegradable.

Chemical Oxygen Demand (COD): 563,000 mg/l

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	30 - 50%
Soil	:	50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Disposal methods : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling

		is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical name(s)	:	Cyclohexylamine, Morpholine
UN/ID No.	:	UN 2920
Transport hazard class(es)	:	8, 3
Packing group	:	II
Reportable Quantity (per package)	:	45,682 lbs
RQ Component	:	Cyclohexylamine

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical name(s)	:	Cyclohexylamine, Morpholine
UN/ID No.	:	UN 2920
Transport hazard class(es)	:	8, 3
Packing group	:	II
Reportable Quantity (per package)	:	45,682 lbs
RQ Component	:	Cyclohexylamine

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical name(s)	:	Cyclohexylamine, Morpholine
UN/ID No.	:	UN 2920
Transport hazard class(es)	:	8, 3
Packing group	:	II

Section: 15. REGULATORY INFORMATION

TSCA list	:	No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Cyclohexylamine	108-91-8	10000	45682

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Reproductive toxicity
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Cyclohexylamine 108-91-8

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
On or in compliance with the active portion of the TSCA inventory

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)
On the inventory, or in compliance with the inventory.

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

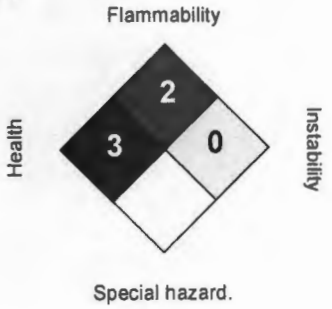
Korea. Korean Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory.

China Inventory of Existing Chemical Substances
On the inventory, or in compliance with the inventory.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	2
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	10/16/2024
Version Number	:	2.1
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.ecolab.com/sds and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NexGuard® 22300

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NexGuard® 22300
Other means of identification	:	Not applicable.
Recommended use	:	BOILER WATER TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	06/07/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements	:	**Prevention:** Wash hands thoroughly after handling. **Response:** Get medical advice/ attention if you feel unwell. **Storage:** Store in accordance with local regulations.
Other hazards	:	None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture	:	Mixture

No hazardous ingredients

Section: 4. FIRST AID MEASURES

In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
In case of skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed	:	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
If inhaled	:	Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Stainless Steel 304, Stainless Steel 316L, Neoprene, EPDM, Polyurethane, Polyethylene, Polypropylene, PVC, HDPE (high density polyethylene), Buna-N, Epoxy phenolic resin, 100% phenolic resin liner, Chlorosulfonated polyethylene rubber, Fluoroelastomer
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Mild steel

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow
Odour	:	Slight
Flash point	:	> 93.3 °C, Method: ASTM D 93, Pensky-Martens closed cup
pH	:	8,(100 %), (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -1 °C, ASTM D-1177
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.065 - 1.105, (25 °C), ASTM D-1298
Density	:	1.05 - 1.10 g/cm3 , 8.8 - 9.2 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature
		None known.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid,

perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.
Strong acids

Hazardous decomposition products : In case of fire, hazardous decomposition products may be produced such as:
Carbon oxides
nitrogen oxides (NOx)
Sulphur oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes : Causes serious eye damage.

Skin : Causes severe skin burns.

Ingestion : Causes digestive tract burns.

Inhalation : May cause nose, throat, and lung irritation.

Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion

Skin contact : Redness, Pain, Corrosion

Ingestion : Corrosion, Abdominal pain

Inhalation : Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity : rat: > 5,000 mg/kg
Test substance: Similar Product

Acute inhalation toxicity : no data available

Acute dermal toxicity : no data available

Skin corrosion/irritation : no data available

Serious eye damage/eye irritation : no data available

Respiratory or skin sensitization : no data available

Carcinogenicity : no data available

Reproductive effects : no data available

Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : Harmful to aquatic life.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): > 1,000 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

LC50 Inland Silverside: > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Inland Silverside: 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Pimephales promelas (fathead minnow): > 8,100 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 8,100 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Mysid Shrimp (Mysidopsis bahia): > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

EC50 Daphnia magna: 6,274 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna: 4,860 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : EC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 53 mg/l
End point: Growth

Exposure time: 96 hrs
Test substance: Product

NOEC Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): approximately 13 mg/l
End point: Growth
Exposure time: 96 hrs
Test substance: Product

Persistence and degradability

Biodegradability : Result: Biodegradable/Eliminated from aquatic environment

The organic portion of this preparation is expected to be poorly biodegradable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	30 - 50%
Soil	:	50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Disposal methods : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory
This product and/or component(s) are exempt or excluded from the list of Existing and New Chemical Substances (ENCS) under the Law Regulating the Manufacture and Importation Of Chemical Substances.

Korea. Korean Existing Chemicals Inventory (KECI)
On the Korea Existing Chemicals Inventory.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

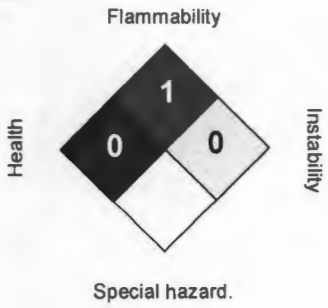
China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	06/07/2024
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.ecolab.com/sds and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NexGuard™ 22310

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NexGuard™ 22310
Other means of identification	:	Not applicable.
Recommended use	:	BOILER WATER INTERNAL TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	08/28/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements	:	**Prevention:** Wash hands thoroughly after handling. **Response:** Get medical advice/ attention if you feel unwell. **Storage:** Store in accordance with local regulations.
Other hazards	:	None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture	:	Mixture

No hazardous ingredients

Section: 4. FIRST AID MEASURES

In case of eye contact	:	Rinse with plenty of water. Get medical attention if symptoms occur.
In case of skin contact	:	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.

Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Wash hands after handling.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers. Protect product from freezing.

		Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Stainless Steel 304, EPDM, Buna-N, HDPE (high density polyethylene), Polyurethane, Neoprene, Polypropylene, Polyethylene, Stainless Steel 316L, 100% phenolic resin liner, Chlorosulfonated polyethylene rubber, Fluoroelastomer, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Mild steel, Epoxy phenolic resin

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection	:	Safety glasses
Hand protection	:	Wear protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Wash hands before breaks and immediately after handling the product.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow-orange fluorescent
Odour	:	ammoniacal
Flash point	:	does not flash
pH	:	8.5 - 12.5, (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -6 °C, ASTM D-1177
Initial boiling point and boiling range	:	no data available

Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	similar to water
Relative vapour density	:	no data available
Relative density	:	1.17 - 1.22, (25 °C),
Density	:	9.9 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Freezing temperatures. None known.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Oncorhynchus mykiss (rainbow trout): 7,070 mg/l Exposure time: 96 hrs Test substance: Product LC50 Inland Silverside: > 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Inland Silverside: 5,000 mg/l Exposure time: 96 hrs Test substance: Product LC50 Fathead Minnow: 2,935 mg/l Exposure time: 48 hrs Test substance: Product LC50 Fathead Minnow: 2,861 mg/l Exposure time: 96 hrs Test substance: Product NOEC Fathead Minnow: 2,160 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Daphnia magna (Water flea): 1,650 mg/l Exposure time: 48 hrs Test substance: Product LC50 Mysid Shrimp (Mysidopsis bahia): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Mysid Shrimp (Mysidopsis bahia): 5,000 mg/l Exposure time: 96 hrs Test substance: Product LC50 Ceriodaphnia dubia: 1,473 mg/l Exposure time: 48 hrs Test substance: Product NOEC Ceriodaphnia dubia: 778 mg/l Exposure time: 48 hrs Test substance: Product

Persistence and degradability

Biodegradability	:	Result: Biodegradable/Eliminated from aquatic environment

The organic portion of this preparation is expected to be poorly biodegradable.

Total Organic Carbon (TOC) : 87,000 mg/l

Chemical Oxygen Demand (COD): 240,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	6,200 mg/l	Product

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	: <5%
Water	: 10 - 30%
Soil	: 50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

Disposal methods	: Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	: Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On or in compliance with the active portion of the TSCA inventory

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)

This product and/or component(s) are exempt or excluded from the Korean Existing Chemicals List (KECL) under the Toxic Chemicals Control Law (TCCL).

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

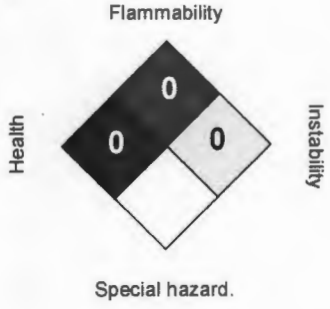
China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	08/28/2024
Version Number	:	1.4
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.ecolab.com/sds and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

STABREX™ ST70

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	STABREX™ ST70
Other means of identification	:	Not applicable.
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	12/12/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1
Serious eye damage	:	Category 1
Reproductive toxicity	:	Category 2

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. 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. Immediately call a POISON CENTER/doctor. 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 or doctor/ physician. Wash contaminated clothing before reuse.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : Mixing this product with acid or ammonia releases chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Bromide	7647-15-6	9.23
Sodium Hypochlorite	7681-52-9	6.36
Sodium Chloride	7647-14-5	1 - 5
Sodium Hydroxide	1310-73-2	1 - 5

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	This product is toxic to fish and other aquatic organisms. It is not to be used in circumstances that would cause or allow it to enter lakes, streams, ponds, estuaries, oceans or other waters in contravention of federal or provincial regulatory requirements. DO NOT discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. The requirements of applicable laws should be determined before using the product.
Methods and materials for containment and cleaning up	:	Clean-up methods - small spillage Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean-up methods - large spillage For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. Mixing this product with acid or ammonia releases chlorine gas.
Conditions for safe storage	:	Do not store near acids. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Polyethylene, Polypropylene, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., HDPE (high density polyethylene), Neoprene, PVC, Polyurethane, Chlorosulfonated polyethylene rubber, Fluoroelastomer

Unsuitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Buna-N, EPDM, Stainless Steel 316L, Stainless Steel 304, 100% phenolic resin liner, Epoxy phenolic resin, Mild steel

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Hypochlorite	7681-52-9	STEL	2 mg/m3	AIHA WEEL
Sodium Hydroxide	1310-73-2	Ceiling	2 mg/m3	ACGIH
		Ceiling	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z1

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear impervious chemical-resistant gloves when handling this product.
The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.
Nitrile-rubber, Butyl-Rubber and Neoprene gloves.
Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne mist and vapor.
Where concentrations in air may exceed the limits given in this section or when significant mists, vapors, aerosols are generated, an approved air purifying respirator equipped with suitable filter cartridges is recommended.
Use a particulate pre-filter where operations generate significant mists or aerosols.
Recommended gas and vapour cartridge:
Combined particulates and inorganic gas/vapour type
In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk

assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	yellow
Odour	:	odourless
Flash point	:	Not flammable
pH	:	13.0
Odour Threshold	:	no data available
Melting point/freezing point	:	-8.2 °C, ASTM D-1177
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	7.7 mm Hg, (25 °C), ASTM D 2879-86, 27 mm Hg, (46 °C), ASTM D 2879-86,
Relative vapour density	:	no data available
Relative density	:	1.305 - 1.380, (25 °C), ASTM D-1298
Density	:	11.0 - 11.3 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	7 mPa.s
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Mixing this product with acid or ammonia releases chlorine gas.

Conditions to avoid	:	Avoid extremes of temperature. Heat and light which can accelerate decomposition. Freezing temperatures.
Incompatible materials	:	Strong acids
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Harmful if swallowed. Causes digestive tract burns.
Inhalation	:	Harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure	:	Suspected of damaging fertility or the unborn child.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 1,500 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	Species: rabbit Result: 7.9 Method: Draize Test Test substance: Similar Product
Serious eye damage/eye irritation	:	Species: rabbit Result: Corrosive

Method: Draize Test
Test substance: Similar Product

Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity : Sodium Bromide
LD50 rat: > 2,000 mg/kg

Sodium Hypochlorite
LD50 rabbit: > 10,000 mg/kg

Sodium Chloride
LD50 rat: > 10,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : Toxic to aquatic life.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): 4.5 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Cyprinodon variegatus (sheepshead minnow): 16 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Pimephales promelas (fathead minnow): 8.3 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 1.3 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Cyprinodon variegatus (sheepshead minnow): 8 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 3.6 mg/l
Exposure time: 96 hrs

Test substance: Product

LC50 Pimephales promelas (fathead minnow): 7.1 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 5.0 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 4.3 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): 27 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1.6 mg/l
Exposure time: 48 hrs
Test substance: Product

EC50 Daphnia magna (Water flea): 4.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 2.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 13 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 3.66 mg/l
Exposure time: 72 hrs
Test substance: Product

NOEC Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 2.5 mg/l
Exposure time: 72 hrs
Test substance: Product

Toxicity to fish (Chronic toxicity) : EC25 / IC25: 3.34 mg/l
End point: Growth
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

LOEC: 5 mg/l
End point: Growth
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

NOEC: 2.5 mg/l
End point: Growth
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC25 / IC25: 15.6 mg/l
End point: Reproduction
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 2.5 mg/l
End point: Reproduction
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

LOEC: 5.0 mg/l
End point: Reproduction
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 20.0 mg/l
End point: Survival
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

LOEC: 40.0 mg/l
End point: Survival
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

Persistence and degradability

Biodegradability : Result: Not applicable - inorganic

Chemical Oxygen Demand (COD): 89,900 mg/l

Biochemical Oxygen Demand (BOD):This material is an oxidizing biocide and is not expected to persist in the environment.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	30 - 50%
Soil	:	30 - 50%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste:	:	D002
Disposal methods	:	Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per package)	:	15,625 lbs
RQ Component	:	Sodium Hydroxide

Air transport (IATA)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	

UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per package)	:	15,625 lbs
RQ Component	:	Sodium Hydroxide

Sea transport (IMDG/IMO)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPA Reg. No. : 1706-179

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium Hydroxide	1310-73-2	1000	15625

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Reproductive toxicity
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

Canadian Domestic Substances List (DSL)
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

Korea. Korean Existing Chemicals Inventory (KECI)
On the Korea Existing Chemicals Inventory.

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)
On the inventory, or in compliance with the inventory.

China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Japan. ENCS - Existing and New Chemical Substances Inventory
not determined

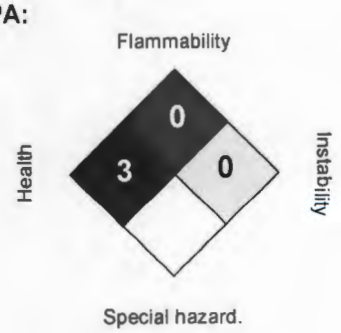
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory.

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	: 12/12/2024
Version Number	: 2.1
Prepared By	: Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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