



Alabama Department of Environmental Management
adem.alabama.gov

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JULY 27, 2020

MR ARDEN SIMS
PRESIDENT
GLOBE METALLURGICAL SELMA
2401 OLD MONTGOMERY HIGHWAY
SELMA AL 36703

RE: DRAFT PERMIT
NPDES PERMIT NUMBER AL0025216

Dear Mr. Sims:

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 are currently utilizing the Department's web-based electronic environmental (E2) reporting system for submittal of discharge monitoring reports (DMRs). Your E2 DMRs will automatically update on the effective date of this permit, if issued.

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 Wayne Holt by e-mail at **WHolt@adem.alabama.gov** or by phone at **(334) 271-7847**.

Sincerely,

Scott Ramsey, 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



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: GLOBE METALLURGICAL INC

FACILITY: GLOBE METALLURGICAL INC
2401 OLD MONTGOMERY HWY
SELMA, AL 36703

PERMIT NUMBER: AL0025216

RECEIVING WATERS: 001: TARVER CREEK
002: ALABAMA RIVER

*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

INDUSTRIAL SECTION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

TABLE OF CONTENTS

PART I	DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS.....	1
A.	DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS	1
B.	DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS.....	4
1.	Representative Sampling	4
2.	Test Procedures	4
3.	Recording of Results	4
4.	Records Retention and Production.....	4
5.	Monitoring Equipment and Instrumentation.....	5
C.	DISCHARGE REPORTING REQUIREMENTS	5
1.	Reporting of Monitoring Requirements	5
2.	Noncompliance Notification.....	7
D.	OTHER REPORTING AND NOTIFICATION REQUIREMENTS	8
1.	Anticipated Noncompliance	8
2.	Termination of Discharge.....	8
3.	Updating Information	8
4.	Duty to Provide Information.....	8
5.	Cooling Water and Boiler Water Additives	8
6.	Permit Issued Based On Estimated Characteristics.....	8
E.	SCHEDULE OF COMPLIANCE.....	9
PART II	OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES	10
A.	OPERATIONAL AND MANAGEMENT REQUIREMENTS	10
1.	Facilities Operation and Maintenance.....	10
2.	Best Management Practices	10
3.	Spill Prevention, Control, and Management	10
B.	OTHER RESPONSIBILITIES	10
1.	Duty to Mitigate Adverse Impacts.....	10
2.	Right of Entry and Inspection.....	10
C.	BYPASS AND UPSET	10
1.	Bypass	10
2.	Upset	11
D.	DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES	11
1.	Duty to Comply	11
2.	Removed Substances	11
3.	Loss or Failure of Treatment Facilities	12
4.	Compliance with Statutes and Rules.....	12
E.	PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE.....	12
1.	Duty to Reapply or Notify of Intent to Cease Discharge	12
2.	Change in Discharge.....	12
3.	Transfer of Permit.....	13
4.	Permit Modification and Revocation	13
5.	Permit Termination.....	14
6.	Permit Suspension	14
7.	Request for Permit Action Does Not Stay Any Permit Requirement.....	14
F.	COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION	14
G.	DISCHARGE OF WASTEWATER GENERATED BY OTHERS.....	14
PART III	OTHER PERMIT CONDITIONS.....	15
A.	CIVIL AND CRIMINAL LIABILITY	15
B.	OIL AND HAZARDOUS SUBSTANCE LIABILITY	15
C.	PROPERTY AND OTHER RIGHTS	15
D.	AVAILABILITY OF REPORTS.....	16
E.	EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES	16
F.	COMPLIANCE WITH WATER QUALITY STANDARDS	16
G.	GROUNDWATER.....	16
H.	DEFINITIONS	16
I.	SEVERABILITY.....	19
PART IV	ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS	20
A.	BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS	20
B.	STORMWATER FLOW MEASUREMENT AND SAMPLING REQUIREMENTS.....	21
C.	COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS.....	22

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

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 following point source(s) outfall(s), described more fully in the permittee's application:

DSN0011: Non-contact cooling water and storm water associated with silicon metal production. 3/

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

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>			<u>MONITORING REQUIREMENTS 1/</u>				
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency 2/</u>	<u>Sample Type</u>	<u>Seasonal</u>
Temperature, Water Deg. Fahrenheit	-	-	-	-	90 F	Monthly	Grab	-
pH	-	-	6.0 S.U.	-	8.5 S.U.	Monthly	Grab	-
Solids, Total Suspended	-	-	-	-	REPORT mg/l	Monthly	Grab	-
Flow, In Conduit or Thru Treatment Plant	-	REPORT MGD	-	-	-	Monthly	Calculated 4/	-
Chlorine, Total Residual 5/	-	-	-	0.012 mg/l	0.020 mg/l	Monthly	Grab	-

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/ A measurement of Total Residual Chlorine below 0.050 mg/L shall be considered in compliance with the permit limitations above and should be reported as *B on the discharge monitoring reports.

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 following point source(s) outfall(s), described more fully in the permittee's application:

DSN001Q: Non-contact cooling water and storm water associated with silicon metal production. 3/

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

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>			<u>MONITORING REQUIREMENTS 1/</u>				
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency 2/</u>	<u>Sample Type</u>	<u>Seasonal</u>
pH	-	-	REPORT S.U.	-	REPORT S.U.	Quarterly	Grab	-
Solids, Total Suspended	-	-	-	-	REPORT mg/l	Quarterly	Grab	-
Oil & Grease	-	-	-	-	15.0 mg/l	Quarterly	Grab	-
Zinc Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	-
Copper Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	-
Flow, In Conduit or Thru Treatment Plant	-	REPORT MGD	-	-	-	Quarterly	Estimate	-

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.

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 following point source(s) outfall(s), described more fully in the permittee's application:

DSN002Q: Storm water runoff associated with silicon metal production activities. 3/

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

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>			<u>MONITORING REQUIREMENTS 1/</u>				
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency 2/</u>	<u>Sample Type</u>	<u>Seasonal</u>
pH	-	-	REPORT S.U.	-	REPORT S.U.	Quarterly	Grab	-
Solids, Total Suspended	-	-	-	-	REPORT mg/l	Quarterly	Grab	-
Oil & Grease	-	-	-	-	15.0 mg/l	Quarterly	Grab	-
Zinc Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	-
Copper Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	-
Flow, In Conduit or Thru Treatment Plant	-	REPORT MGD	-	-	-	Quarterly	Estimate	-

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.

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 by utilizing the Department's web-based Electronic Environmental (E2) Reporting System.

- (1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's E2 Reporting 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 E2 Reporting 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 E2 Reporting System resuming operation, the permittee shall enter the data into the E2 Reporting System, unless an alternate timeframe is approved by the Department. An attachment should be included with the E2 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
Permits and Services Division
Environmental Data Section
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
Permits and Services Division
Environmental Data Section
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;
- (2) quantities to be used;
- (3) frequencies of use;
- (4) 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. For Outfall DSN001 only, the Permittee shall complete and submit an EPA NPDES Application Form 2E (EPA Form 3510-2E) no later than 6 months (180 days) after the date that Non-contact cooling waters from Outfall DSN001 commence.
3. 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:
 - (a) one hundred micrograms per liter;
 - (b) 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;
 - (c) 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:
 - (a) five hundred micrograms per liter;
 - (b) one milligram per liter for antimony;
 - (c) ten times the maximum concentration value reported for that pollutant in the permit application.

3. Transfer of Permit

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

4. Permit Modification and Revocation

a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

- (1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit;
- (2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or
- (3) If modification or revocation and reissuance is requested by the permittee and cause exists, the Director may grant the request.

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

- (1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;
- (2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;
- (3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;
- (4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;
- (5) Errors in calculation of discharge limitations or typographical or clerical errors were made;
- (6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;
- (7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;
- (8) To agree with a granted variance under 301(c), 301(g), 301(h), 301(k), or 316(a) of the FWPCA or for fundamentally different factors;
- (9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;
- (10) When required by the reopener conditions in this permit;
- (11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);
- (12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;
- (13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or
- (14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules.

5. Permit Termination

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

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

6. Permit Suspension

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

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

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

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

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

G. DISCHARGE OF WASTEWATER GENERATED BY OTHERS

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

PART III OTHER PERMIT CONDITIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

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

2. False Statements

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

3. Permit Enforcement

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

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

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

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

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

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

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

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

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

4. Relief from Liability

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

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

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

C. PROPERTY AND OTHER RIGHTS

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

D. AVAILABILITY OF REPORTS

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

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

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

F. COMPLIANCE WITH WATER QUALITY STANDARDS

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

G. GROUNDWATER

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

H. DEFINITIONS

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

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

28. New Discharger – means a person, owning or operating any building, structure, facility or installation:
- from which there is or may be a discharge of pollutants;
 - that did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and
 - 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:
- 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;
 - 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
 - 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 to ensure that the BMP is continually implemented and effective;
- 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, 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

- 1. 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: June 29, 2020

PREPARED BY: Wayne Holt

Permittee Name: Globe Metallurgical Inc

Facility Name: Globe Metallurgical Inc

Permit Number: AL0025216

PERMIT IS REISSUANCE DUE TO EXPIRATION

DISCHARGE SERIAL NUMBERS & DESCRIPTIONS:

DSN001: Non-contact cooling water and storm water associated with silicon metal production activities.

DSN002: Storm water runoff associated with silicon metal production activities.

INDUSTRIAL CATEGORY: NON-CATEGORICAL

MAJOR: N

STREAM INFORMATION:

Outfall	DSN001	DSN002
GPS Coordinates	32° 22' 28" -86° 59' 15"	32° 22' 45" -86° 59' 26"
Receiving Stream:	Tarver Creek	Alabama River
Classification:	Fish and Wildlife	Fish and Wildlife
River Basin:	Alabama	Alabama
7Q10:	0.05 cfs	3840 cfs
1Q10:	0.04 cfs	2880 cfs
Annual Average Flow:	8.63 cfs	26,170 cfs
303(d) List:	No	No
Impairment:	----	----
TMDL:	No	No

DISCUSSION:

Globe Metallurgical Inc produces silicon metal by utilizing submerged arc furnaces. Due to market conditions, the facility shut down its operations on November 30, 2018. The facility requests to renew and maintain its current permit.

Because of the facility operations being down, some of the facility information in the application is based on data during times the facility was operating. The proposed permit will include an updated application submittal during a time the facility is operating. See **Schedule of Compliance** subsection under the discussion for Outfall DSN001, below.

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.

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.

0011:

<u>Parameter</u>	<u>Monthly Avg Loading</u>	<u>Daily Max Loading</u>	<u>Daily Min Concentration</u>	<u>Monthly Avg Concentration</u>	<u>Daily Max Concentration</u>	<u>Sample Frequency</u>	<u>Sample Type</u>	<u>Basis*</u>
Temperature, Water Deg. Fahrenheit	-	-	-	-	90 F	Monthly	Grab	WQBEL
pH	-	-	6.0 S.U.	-	8.5 S.U.	Monthly	Grab	WQBEL
Solids, Total Suspended	-	-	-	-	REPORT mg/l	Monthly	Grab	BPJ
Flow, In Conduit or Thru Treatment Plant	-	REPORT MGD	-	-	-	Monthly	Estimate	BPJ
Chlorine, Total Residual	-	-	-	0.012 mg/l	0.020 mg/l	Monthly	Grab	WQBEL

001Q:

<u>Parameter</u>	<u>Monthly Avg Loading</u>	<u>Daily Max Loading</u>	<u>Daily Min Concentration</u>	<u>Monthly Avg Concentration</u>	<u>Daily Max Concentration</u>	<u>Sample Frequency</u>	<u>Sample Type</u>	<u>Basis*</u>
Zinc Total Recoverable	-	-	-	0.213 mg/l	0.213 mg/l	Quarterly	Grab	BPJ
Chromium Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	BPJ
Copper Total Recoverable	-	-	-	0.014 mg/l	0.019 mg/l	Quarterly	Grab	BPJ
Oil and Grease	-	-	-	-	15 mg/l	Quarterly	Grab	BPJ
Flow, In Conduit or Thru Treatment Plant	-	REPORT MGD	-	-	-	Quarterly	Estimate	BPJ

002Q:

<u>Parameter</u>	<u>Monthly Avg Loading</u>	<u>Daily Max Loading</u>	<u>Daily Min Concentration</u>	<u>Monthly Avg Concentration</u>	<u>Daily Max Concentration</u>	<u>Sample Frequency</u>	<u>Sample Type</u>	<u>Basis*</u>
pH	-	-	REPORT S.U.	-	REPORT S.U.	Quarterly	Grab	BPJ
Solids, Total Suspended	-	-	-	-	REPORT mg/l	Quarterly	Grab	BPJ
Zinc Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	BPJ
Copper Total Recoverable	-	-	-	-	REPORT mg/l	Quarterly	Grab	BPJ
Oil and Grease	-	-	-	-	15.0 mg/l	Quarterly	Grab	BPJ
Flow, In Conduit or Thru Treatment Plant	-	REPORT MGD	-	-	-	Quarterly	Estimate	BPJ

*Basis for Permit Limitation

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

Discussion

DSN001:

Best Professional Judgment (BPJ)

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

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.

Water Quality Based Effluent Limits (WOBEL)

Temperature

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5) -- Specific Water Fish and Wildlife classified streams states: "The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90 °F." Based on BPJ, this limit is reasonable and should be achievable of the NCCW leaving the site through the permitted outfall.

pH

ADEM Administrative Code, Division 6 Regulations, specifically 335-6-10-.09(5) -- Specific Water Fish and Wildlife classified streams states: "Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from then normal or natural pH, nor be less than 6.0, nor greater than 8.5 standard units." Based on BPJ of the dilution afforded from the receiving stream, the limits for pH are proposed at 6.0 to 8.5 s.u.

Metals

Based on a review of the application and DMRs, monitoring for total recoverable zinc, total recoverable chromium, and total recoverable copper is proposed to continue. A reasonable potential calculation was performed for the metals and found that Copper and Zinc have a reasonable potential to violate water quality. Total Recoverable Copper will be given numerical limits of 0.107 mg/l daily maximum and 0.0921 mg/l monthly average. Total Recoverable Zinc will be given numerical limits of 1.17 mg/l daily maximum. Because the calculated monthly average limit is higher than the daily maximum, the monthly average will also be limited to 1.17mg/l. Chromium is proposed to be monitored as "Report Only" with no numerical limits at this time.

Total Residual Chlorine

Total Residual Chlorine (TRC) is in the proposed permit is based on EPA's Water Quality Criteria for TRC of 0.011 mg/l for chronic toxicity and 0.019 mg/l for acute toxicity. The calculation for the TRC daily maximum limit of 0.020 mg.l is shown below. The daily maximum calculation of this limit is shown below.

Stream 1Q10 = 0.04 cfs = 0.0215 MGD

Facility discharge flow = 0.311 MGD

Industrial TRC Daily Max Limit = $\frac{(\text{Stream 1Q10} + \text{Total Industrial flow}) * \text{Acute WQ criterion}}{\text{Total Industrial flow}}$

Industrial TRC Daily Max Limit (mg/l) = $\frac{(0.0215 + 0.311) * 0.019}{0.311}$

Industrial TRC Daily Max Limit = 0.020 mg/l.

In a similar manner, the TRC monthly average limit is calculated to be 0.012 mg/l.

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. The following footnote will be added to the permit:

5/ 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 *B on the discharge monitoring reports.

Schedule of Compliance

For Outfall DSN001 only, the Permittee shall complete and submit an EPA NPDES Application Form 2E (EPA Form 3510-2E) no later than 6 months (180 days) after the date that Non-contact cooling waters from Outfall DSN001 commence.

DSN002:

Best Professional Judgment (BPJ)

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

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.

Best Management Practices (BMPs)

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.

Cooling Water Intake Structure.

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. This information will be noted in Part IV of the permit.

Reporting Frequency:

For outfall DSN001, the permittee's current permit has a sampling/reporting frequency of "Monthly due Quarterly".

To standardize the reporting period with other permittees, and to more readily provide EPA with the permittee's information, the sampling/reporting frequency of "Monthly due Monthly" is proposed.

$Q_d * C_d + Q_{d2} * C_{d2} + Q_s * C_s = Q_r * C_r$							Enter Max Daily Discharge as reported by Applicant (C _{max})	Enter Avg Daily Discharge as reported by Applicant (C _{avg})	Partition Coefficient (Stream / Lake)
ID	Pollutant	Carbonogen "yes"	Type	Background from upstream source (C _{d1}) Daily Max	Background from upstream source (C _{d2}) Monthly Ave	Background Instream (C _s) Daily Max	Background Instream (C _s) Monthly Ave		
1	Arsimony		Metals	0	0	0	0	0	-
2	Arsenic**	YES	Metals	0	0	0	0	0	0.574
3	Beryllium		Metals	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	-
7	Copper**		Metals	0	0	0	0	255	104
8	Lead**		Metals	0	0	0	0	0	0.467
9	Mercury**		Metals	0	0	0	0	0	0.006
10	Nickel**		Metals	0	0	0	0	0	0.905
11	Selenium		Metals	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	-
14	Zinc**		Metals	0	0	0	0	991	429
15	Cyanide		Metals	0	0	0	0	0	0.330
16	Total Phenolic Compounds		Metals	0	0	0	0	0	-
17	Hardness (As CaCO3)		Metals	0	0	0	0	0	-
18	Acrolin		VOC	0	0	0	0	0	-
19	Acrylonitrile*	YES	VOC	0	0	0	0	0	-
20	Aldrin	YES	VOC	0	0	0	0	0	-
21	Benzene*	YES	VOC	0	0	0	0	0	-
22	Bromoform*	YES	VOC	0	0	0	0	0	-
23	Carbon Tetrachloride*	YES	VOC	0	0	0	0	0	-
24	Chlordane	YES	VOC	0	0	0	0	0	-
25	Chlorobenzene		VOC	0	0	0	0	0	-
26	Chlorodibromo-Methane*	YES	VOC	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	-
29	Chloroform*	YES	VOC	0	0	0	0	0	-
30	4,4'-DDD	YES	VOC	0	0	0	0	0	-
31	4,4'-DDE	YES	VOC	0	0	0	0	0	-
32	4,4'-DDT	YES	VOC	0	0	0	0	0	-
33	Dichlorobromo-Methane*	YES	VOC	0	0	0	0	0	-
34	1,1-Dichloroethane		VOC	0	0	0	0	0	-
35	1,2-Dichloroethane*	YES	VOC	0	0	0	0	0	-
36	Trans-1,2-Dichloro-Ethylene		VOC	0	0	0	0	0	-
37	1,1-Dichloroethylene*	YES	VOC	0	0	0	0	0	-
38	1,2-Dichloropropane		VOC	0	0	0	0	0	-
39	1,3-Dichloro-Propylene		VOC	0	0	0	0	0	-
40	Dieldrin	YES	VOC	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	-
44	Methylene Chloride*	YES	VOC	0	0	0	0	0	-
45	1,1,2,2-Tetrachloro-Ethane*	YES	VOC	0	0	0	0	0	-
46	Tetrachloro-Ethylene*	YES	VOC	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	-
48	Toxaphene	YES	VOC	0	0	0	0	0	-
49	Tributyltin (TBT)	YES	VOC	0	0	0	0	0	-
50	1,1,1-Trichloroethane	YES	VOC	0	0	0	0	0	-
51	1,1,2-Trichloroethane*	YES	VOC	0	0	0	0	0	-
52	Trichloroethylene*	YES	VOC	0	0	0	0	0	-
53	Vinyl Chloride*	YES	VOC	0	0	0	0	0	-
54	p-Chloro-m-Cresol		Acids	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	-
56	2,4-Dichlorophenol		Acids	0	0	0	0	0	-
57	2,4-Dinitrophenol		Acids	0	0	0	0	0	-
58	4,6-Dinitro-o-Cresol		Acids	0	0	0	0	0	-
59	2,4-Dinitrophenol		Acids	0	0	0	0	0	-
60	4,6-Dinitro-2-methylphenol	YES	Acids	0	0	0	0	0	-
61	Dioxin (2,3,7,8-TCDD)	YES	Acids	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	0	-
64	Polychlorophenol*	YES	Acids	0	0	0	0	0	-
65	Phenol		Acids	0	0	0	0	0	-
66	2,4,6-Trichlorophenol*	YES	Acids	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	-
70	Benzo(a)anthracene	YES	Bases	0	0	0	0	0	-
71	Benzo(a)anthracene*	YES	Bases	0	0	0	0	0	-
72	Benzo(a)pyrene*	YES	Bases	0	0	0	0	0	-
73	3,4-Benzo-Fluoranthene		Bases	0	0	0	0	0	-
74	Benzo(ghi)perylene		Bases	0	0	0	0	0	-
75	Benzo(k)fluoranthene		Bases	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	-
77	Bis (2-Chloroethyl)-Ether*	YES	Bases	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	-
79	Bis (2-Ethylhexyl) Phthalate*	YES	Bases	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Bases	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	-
83	4-Chloronaphthyl Phenyl Ether		Bases	0	0	0	0	0	-
84	Chrysene*	YES	Bases	0	0	0	0	0	-
85	Di-n-Butyl Phthalate		Bases	0	0	0	0	0	-
86	Di-n-Octyl Phthalate		Bases	0	0	0	0	0	-
87	Dibenz(a,h)anthracene*	YES	Bases	0	0	0	0	0	-
88	1,2-Dichlorobenzene		Bases	0	0	0	0	0	-
89	1,3-Dichlorobenzene		Bases	0	0	0	0	0	-
90	1,4-Dichlorobenzene		Bases	0	0	0	0	0	-
91	3,3-Dichlorobenzene*	YES	Bases	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	-
94	2,4-Dinitrotoluene*	YES	Bases	0	0	0	0	0	-
95	2,6-Dinitrotoluene		Bases	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	-
97	Endosulfan (alpha)	YES	Bases	0	0	0	0	0	-
98	Endosulfan (beta)	YES	Bases	0	0	0	0	0	-
99	Endosulfan sulfate	YES	Bases	0	0	0	0	0	-
100	Endrin	YES	Bases	0	0	0	0	0	-
101	Endrin Alderhyde	YES	Bases	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	-
104	Heptachlor	YES	Bases	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	-
106	Hexachlorobenzene*	YES	Bases	0	0	0	0	0	-
107	Hexachlorobutadiene*	YES	Bases	0	0	0	0	0	-
108	Hexachlorocyclohexane (alpha)	YES	Bases	0	0	0	0	0	-
109	Hexachlorocyclohexane (beta)	YES	Bases	0	0	0	0	0	-
110	Hexachlorocyclohexane (gamma)	YES	Bases	0	0	0	0	0	-
111	Hexachlorocyclopentadiene		Bases	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	-
113	Indeno(1,2,3-cd)Pyrene*	YES	Bases	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	-
117	N-Nitrosodi-N-Propylamine*	YES	Bases	0	0	0	0	0	-
118	N-Nitrosodi-N-Methylamine*	YES	Bases	0	0	0	0	0	-
119	N-Nitrosodi-N-Phenylamine*	YES	Bases	0	0	0	0	0	-
120	PCB-1016	YES	Bases	0	0	0	0	0	-
121	PCB-1221	YES	Bases	0	0	0	0	0	-
122	PCB-1232	YES	Bases	0	0	0	0	0	-
123	PCB-1242	YES	Bases	0	0	0	0	0	-
124	PCB-1248	YES	Bases	0	0	0	0	0	-
125	PCB-1254	YES	Bases	0	0	0	0	0	-
126	PCB-1260	YES	Bases	0	0	0	0	0	-
127	Phenanthrene		Bases	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	-
129	1,2,4-Trichlorobenzene		Bases	0	0	0	0	0	-

0.311	Enter Q _d = wastewater discharge flow from facility (MGD)
0.481188	Q _d = wastewater discharge flow (cfs) (This value is calculated from the MGD)
0	Enter or estimated, Q _{d2} = background stream flow from upstream source (cfs)
0.05	Enter TQ10, Q _s = background stream flow in cfs above point of discharge
0.04	Enter or estimated, TQ10, Q _s = background stream flow in cfs above point of discharge (TQ10 estimated at 75% of TQ10)
0	Enter flow from upstream discharge Q _{d2} = background stream flow in MGD above point of discharge
8.63	Enter Mean Annual Flow, Q _s = background stream flow in cfs above point of discharge
0	Enter TQ2, Q _s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter to Left	Enter C _s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q _d + Q _{d2} + Q _s	Q _s = resultant in-stream flow, after discharge
C _d + C _{d2} + C _s	C _s = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
50	Enter, Background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, Background pH above point of discharge
YES	Enter, Is discharge to a stream? "YES" Other option would be to a Lake. (This changes the partition coefficients for the metals)

** Using Partition Coefficients

July 17, 2020

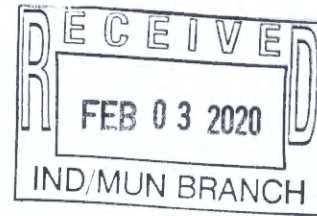
Facility Name: Globe Metallurgical																			
NPDES No.: AL0925216- Outfall																			
Freshwater F&W Classification:				Freshwater Acute (µg/l) Q _h = 1Q10				Freshwater Chronic (µg/l) Q _h = 7Q10				Human Health Consumption Fish only (µg/l) Carcinogen Q _h = Annual Average Non-Carcinogen Q _h = 7Q10							
ID	Pollutant	RP?	Carcinogen year	Background from upstream source (GG) Daily Max	Max Daily Discharge as reported by Applicant (C _{max})	Water Quality Criteria (C _h)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?	Background from upstream source (GG) Monthly Ave	Avg Daily Discharge as reported by Applicant (C _{max})	Water Quality Criteria (C _h)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C _h)	Draft Permit Limit (C _{max})	20% of Draft Permit Limit	RP?
1	Antimony		YES	0	0	-	-	-	No	0	0	-	-	-	No	3.73E+02	4.12E+02	8.24E+01	No
2	Arsenic		YES	0	0	562.334	641.574	128.315	No	0	0	261.324	288.478	57.696	No	3.03E-01	5.74E+00	1.15E+00	No
3	Beryllium			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
4	Cadmium			0	0	4.347	4.708	0.942	No	0	0	0.644	0.710	0.142	No	-	-	-	No
5	Chromium/ Chromium III			0	0	1537.913	1665.756	333.151	No	0	0	200.051	220.836	44.168	No	-	-	-	No
6	Chromium/ Chromium VI			0	0	16.000	17.330	3.466	No	0	0	11.000	12.143	2.429	No	-	-	-	No
7	Copper	YES		255	18.026	19.525	3.905	Yes	No	104	12.766	14.092	2.818	Yes	1.30E+03	1.44E+03	2.87E+02	No	
8	Lead			0	64.531	69.895	13.979	No	0	0	2.515	2.778	0.555	No	-	-	-	No	
9	Mercury			0	2.420	2.600	0.520	No	0	0	0.012	0.013	0.003	No	4.24E-02	4.69E-02	9.37E-03	No	
10	Nickel			0	515.824	558.704	111.741	No	0	0	57.292	63.245	12.649	No	9.93E+02	1.10E+03	2.19E+02	No	
11	Selenium			0	20.000	21.663	4.333	No	0	0	5.000	5.520	1.104	No	2.43E+03	2.68E+03	5.37E+02	No	
12	Silver			0	0.978	1.058	0.212	No	0	0	0	0	0	No	-	-	-	No	
13	Thallium			0	0	-	-	-	No	0	0	-	-	-	No	2.74E-01	3.02E-01	6.04E-02	No
14	Zinc	YES		991	197.369	213.776	42.755	Yes	No	409	199.983	219.660	43.932	Yes	1.93E+04	1.84E+04	3.29E+03	No	
15	Cyanide			0	22.000	23.829	4.798	No	0	0	5.200	5.740	1.148	No	9.45E+03	1.03E+04	2.06E+03	No	
16	Total Phenolic Compounds			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
17	Hardness (As CaCO3)			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
18	Acrolein			0	0	-	-	-	No	0	0	-	-	-	No	6.43E+00	5.99E+00	1.20E+00	No
19	Acrylonitrile	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.44E-01	2.73E+00	5.45E-01	No
20	Aldrin	YES		0	3.000	3.249	0.650	No	No	0	1.300	1.435	0.287	No	2.94E-05	5.57E-04	1.11E-04	No	
21	Benzene	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.55E+01	2.93E+02	5.86E+01	No
22	Bromoform	YES		0	0	-	-	-	No	0	0	-	-	-	No	7.88E+01	1.49E+03	2.98E+02	No
23	Carbon Tetrachloride	YES		0	0	-	-	-	No	0	0	-	-	-	No	9.57E+01	1.81E+03	3.63E+02	No
24	Chlordane	YES		0	2.400	2.600	0.520	No	No	0	0.004	0.005	0.001	No	4.73E-04	8.95E-03	1.79E-03	No	
25	Chlorobenzene			0	0	-	-	-	No	0	0	-	-	-	No	9.06E+02	1.00E+03	2.00E+02	No
26	Chlorodibromo-Methane	YES		0	0	-	-	-	No	0	0	-	-	-	No	7.41E+06	1.40E+02	2.81E+01	No
27	Chloroethane			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
29	Chloroform	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.02E+02	1.93E+03	3.86E+02	No
30	4,4' - DDD	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.81E-04	3.43E-03	6.87E-04	No
31	4,4' - DDE	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.28E-04	2.42E-03	4.85E-04	No
32	4,4' - DDT	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.28E-04	2.42E-03	4.85E-04	No
33	Dichlorodibromo-Methane	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.00E+01	1.90E+02	3.80E+01	No
34	1,1-Dichloroethane			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
35	1,2-Dichloroethane	YES		0	0	-	-	-	No	0	0	-	-	-	No	2.14E+01	4.05E+02	8.09E+01	No
36	Trans-1,2-Dichloro-Ethylene			0	0	-	-	-	No	0	0	-	-	-	No	5.91E+03	6.52E+03	1.30E+03	No
37	1,1-Dichloroethylene	YES		0	0	-	-	-	No	0	0	-	-	-	No	4.17E+03	7.89E+04	1.58E+04	No
38	1,2-Dichloropropane			0	0	-	-	-	No	0	0	-	-	-	No	8.49E+00	9.38E+00	1.88E+00	No
39	1,3-Dichloro-Propylene			0	0	-	-	-	No	0	0	-	-	-	No	1.23E+01	1.36E+01	2.71E+00	No
40	Dieldrin	YES		0	0.240	0.260	0.052	No	No	0	0.056	0.062	0.012	No	3.12E-05	5.91E-04	1.18E-04	No	
41	Ethylbenzene			0	0	-	-	-	No	0	0	-	-	-	No	1.24E+03	1.37E+03	2.75E+02	No
42	Methyl Bromide			0	0	-	-	-	No	0	0	-	-	-	No	8.71E-02	9.62E-02	1.92E-02	No
43	Methyl Chloride			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
44	Methylene Chloride	YES		0	0	-	-	-	No	0	0	-	-	-	No	3.46E+02	6.55E+03	1.31E+03	No
45	1,1,2,2-Tetrachloro-Ethane	YES		0	0	-	-	-	No	0	0	-	-	-	No	2.33E+00	4.42E+01	8.84E+00	No
46	Tetrachloro-Ethylene	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.92E+00	3.63E+01	7.26E+00	No
47	Toluene			0	0	-	-	-	No	0	0	-	-	-	No	8.72E+03	9.63E+03	1.93E+03	No
48	Toxaphene	YES		0	0.730	0.791	0.158	No	No	0	0.0002	0.000	0.000	No	1.62E-04	3.07E-03	6.13E-04	No	
49	Tributyltin (TBT)	YES		0	0.480	0.498	0.100	No	No	0	0.072	0.079	0.015	No	-	-	-	No	
50	1,1,1-Trichloroethane			0	0	-	-	-	No	0	0	-	-	-	No	9.10E+00	1.72E+02	3.44E+01	No
51	1,1,2-Trichloroethane	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.75E+01	3.31E+02	6.62E+01	No
52	Trichloroethylene			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
53	Vinyl Chloride	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.42E+00	2.70E+01	5.39E+00	No
54	p-Chloro-M-Cresol			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
55	2-Chlorophenol			0	0	-	-	-	No	0	0	-	-	-	No	8.71E+01	9.61E+01	1.92E+01	No
56	2,4-Dichlorophenol			0	0	-	-	-	No	0	0	-	-	-	No	1.72E+02	1.90E+02	3.80E+01	No
57	2,4-Dimethylphenol			0	0	-	-	-	No	0	0	-	-	-	No	4.98E+02	5.49E+02	1.10E+02	No
58	4,6-Dinitro-O-Cresol			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
59	4-Dinitrophenol			0	0	-	-	-	No	0	0	-	-	-	No	3.11E+03	3.43E+03	6.87E+02	No
60	4,6-Dinitro-2-methylphenol	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.65E+02	3.13E+03	6.27E+02	No
61	Dioxin (2,3,7,8-TCDD)	YES		0	0	-	-	-	No	0	0	-	-	-	No	2.67E-08	5.05E-07	1.01E-07	No
62	2-Nitrophenol			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
63	4-Nitrophenol			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
64	Pentachlorophenol	YES		0	8.723	9.448	1.890	No	No	0	6.893	7.388	1.478	No	1.77E+00	3.35E+01	6.89E+00	No	
65	Phenol			0	0	-	-	-	No	0	0	-	-	-	No	5.00E+05	5.52E+05	1.10E+05	No
66	2,4,6-Trichlorophenol	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.41E+00	2.66E+01	5.36E+00	No
67	Acenaphthene			0	0	-	-	-	No	0	0	-	-	-	No	5.79E+02	6.39E+02	1.28E+02	No
68	Acenaphthylene			0	0	-	-	-	No	0	0	-	-	-	No	-	-	-	No
69	Anthracene			0	0	-	-	-	No	0	0	-	-	-	No	2.32E+04	2.58E+04	5.15E+03	No
70	Benzo(a)anthracene			0	0	-	-	-	No	0	0	-	-	-	No	1.18E-04	1.29E-04	2.58E-05	No
71	Benzo(a)anthracene	YES		0	0	-	-	-	No	0	0	-	-	-	No	1.07E-02	2.02E-01	4.03E-02	

National Pollutant Discharge Elimination System (NPDES) Permit Renewal Application

Globe Metallurgical, Inc.
(AL0025216)

2401 Old Montgomery Highway
Selma, AL 36703

January 2020



Prepared By:

R.E. McGough, Inc.

1655 McFarland Blvd. N.

Suite 169

Tuscaloosa, AL 35406

(205) 345-6399

CERTIFICATIONS**PREPARER CERTIFICATION**

I certify that this document was prepared by me or someone under my direct supervision and that I am a Licensed Professional Engineer in the State of Alabama.



Randy McGough, P.E.
AL License No. 24454

1/29/2020

Date

RESPONSIBLE OFFICIAL TRUTH AND ACCURACY 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 persons who manage the system or those directly responsible for gathering the information, the information 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 submitting false information, including the possibility of fine and imprisonment for knowing violations.

A blue ink signature of Steve Smith.

Steve Smith
Plant Manager
Globe Metallurgical, Inc.

1/31/2020

Date

1 EXECUTIVE SUMMARY

Globe Metallurgical, Inc. currently holds NPDES Permit AL0052516. The current permit became effective August 1, 2015 and is scheduled to expire on July 31, 2020. Due to market conditions, the Globe Metallurgical facility shut down its operations on November 30, 2018. The facility intends to renew and maintain its current NPDES Permit. This application is for the renewal of the current NPDES Permit.

When in operation, the facility produces silicon metal (SIC Code 3313). In 2018, the facility was authorized by ADEM to produce an additional product, ferrosilicon (SIC Code 3313), but did not produce any of this product prior to the shutdown.

The facility is located on 2401 Old Montgomery Highway in Selma (Dallas County), Alabama.

Figure 1 shows the location of the facility on an excerpt from the Selma USGS Map. **Figure 2** shows the site map with existing features. **Figure 3** shows the water flow schematic.

When in operation, site production consists of smelting of raw silicon and carbon materials in an electric arc furnace to produce silicon metal. Silfume is also produced and collected at the baghouse. Production takes place within the furnace buildings. Some raw materials and finished products are stored outside and are exposed to storm water. Some chemicals are utilized at the site including water treatment chemicals and standard petroleum fuels and oils.

Current discharges from the facility are authorized by NPDES Permit AL0025216. Two outfalls exist at the site, 001 and 002. The currently permitted discharges and their outfalls are as follows:

- DSN0011 – Non-contact cooling water
- DSN001Q – Storm water runoff
- DSN002Q – Storm water runoff

Outfall 001 discharges to Tarver Creek and Outfall 002 discharges to the Alabama River. These outfalls are shown on **Figure 2**.

Other than approval to produce ferrosilicon, there have been no changes at this facility since the current NPDES permit was re-issued in 2015. The purpose of this application is to apply for re-coverage under the current NPDES permit. The facility is requesting no changes to the current permit except any deemed necessary to facilitate monitoring in accordance with the new approval to produce ferrosilicon.

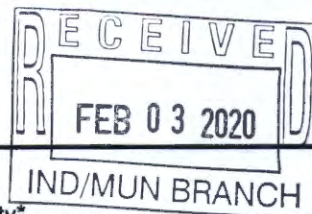
Included in this application are the following completed forms:

ADEM Form 187; EPA Form 1; Form 2E; Form 2F

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
NPDES INDIVIDUAL PERMIT APPLICATION
SUPPLEMENTARY INFORMATION FOR INDUSTRIAL FACILITIES

Instructions: This form should be used to submit the required supplementary information for an application for an NPDES individual permit for industrial facilities. The completed application should be submitted to ADEM in duplicate. If insufficient space is available to address any item, please continue on an attached sheet of paper. Please mark "N/A" in the appropriate box when an item is not applicable to the applicant. Please type or print legibly in blue or black ink. Mail the completed application to:

ADEM-Water Division
Industrial Section
P O Box 301463
Montgomery, AL 36130-1463



PURPOSE OF THIS APPLICATION

- ☐ Initial Permit Application for New Facility*
☐ Modification of Existing Permit
☐ Revocation & Reissuance of Existing Permit

- ☐ Initial Permit Application for Existing Facility*
☒ Reissuance of Existing Permit

* An application for participation in the ADEM's Electronic Environmental (E2) Reporting must be submitted to allow permittee to electronically submit reports as required.

SECTION A - GENERAL INFORMATION

1. Facility Name: Globe Metallurgical, Inc.
- a. Operator Name: Globe Metallurgical, Inc.
- b. Is the operator identified in A.1.a, the owner of the facility? ☒ Yes ☐ No
If no, provide name and address of the operator and submit information indicating the operator's scope of responsibility for the facility.
2. NPDES Permit Number: AL 0025216 (not applicable if initial permit application)
3. SID Permit Number (if applicable): IU _____ - _____ - _____
4. NPDES General Permit Number (if applicable): ALG _____
5. Facility Physical Location: (Attach a map with location marked; street, route no. or other specific identifier)
Street: 2401 Old Montgomery Highway
City: Selma County: Dallas State: AL Zip: 36703
Facility Location (Front Gate): Latitude: 32 22 35 N Longitude: 86 59 25 W
6. Facility Mailing Address: 2401 Old Montgomery Highway
City: Selma County: Dallas State: AL Zip: 36703
7. Responsible Official (as described on the last page of this application):
Name and Title: Steve Smith, Plant Manager
Address: 2401 Old Montgomery Highway
City: Selma State: AL Zip: 36703
Phone Number: 334-874-9351 Email Address: ssmith@ferroglobe.com
8. Designated Facility Contact:
Name and Title: Jason Smith, Purchasing Manager
Phone Number: 334-874-2017 Email Address: jsmith@ferroglobe.com

9. Designated Discharge Monitoring Report (DMR) Contact:

Name and Title: Jason Smith, Purchasing Manager

Phone Number: 334-874-2017

Email Address: jsmith@ferroglobe.com

10. Type of Business Entity:

- ☒ Corporation ☐ General Partnership ☐ Limited Partnership ☐ Limited Liability Company ☐ Sole Proprietorship
☐ Other (Please Specify) _____

11. Complete this section if the Applicant's business entity is a Corporation

a) Location of Incorporation:

Address: 2401 Old Montgomery Highway

City: Selma County: Dallas State: AL Zip: 36703

b) Parent Corporation of Applicant:

Name: Ferroglobe

Address: P.O. Box 157

City: Beverly State: OH Zip: 45715

c) Subsidiary Corporation(s) of Applicant:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

d) Corporate Officers:

Name: Paul Lojek, Vice-President of Operations

Address: P.O. Box 157

City: Beverly State: OH Zip: 45715

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

e) Agent designated by the corporation for purposes of service:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

12. If the Applicant's business entity is a Partnership, please list the general partners.

Name: _____

Name: _____

Address: _____

Address: _____

City: _____ State: _____ Zip: _____

City: _____ State: _____ Zip: _____

13. If the Applicant's business entity is a Proprietorship, please enter the proprietor's information.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

14. Permit numbers for Applicant's previously issued NPDES Permits and identification of any other State of Alabama Environmental Permits presently held by the Applicant, its parent corporation, or subsidiary corporations within the State of Alabama:

<u>Permit Name</u>	<u>Permit Number</u>	<u>Held By</u>
NPDES	AL0025216	Globe Metallurgical, Inc.
Title V	104-0001	Globe Metallurgical, Inc.
RCRA	ALD051235562	Globe Metallurgical, Inc.
_____	_____	_____
_____	_____	_____

15. Identify all Administrative Complaints, Notices of Violation, Directives, Administrative Orders, or Litigation concerning water pollution, if any, against the Applicant, its parent corporation or subsidiary corporations within the State of Alabama within the past five years (attach additional sheets if necessary):

<u>Facility Name</u>	<u>Permit Number</u>	<u>Type of Action</u>	<u>Date of Action</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SECTION B – BUSINESS ACTIVITY

1. Indicate applicable Standard Industrial Classification (SIC) Codes for all processes. If more than one applies, list in order of importance:

- a. 3313
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

2. If your facility conducts or will be conducting any of the processes listed below (regardless of whether they generate wastewater, waste sludge, or hazardous waste), place a check beside the category of business activity (check all that apply):

Industrial Categories

- | | |
|---|--|
| <input type="checkbox"/> Aluminum Forming
<input type="checkbox"/> Asbestos Manufacturing
<input type="checkbox"/> Battery Manufacturing
<input type="checkbox"/> Can Making
<input type="checkbox"/> Canned and Preserved Fruit and Vegetables
<input type="checkbox"/> Canned and Preserved Seafood
<input type="checkbox"/> Cement Manufacturing
<input type="checkbox"/> Centralized Waste Treatment
<input type="checkbox"/> Carbon Black
<input type="checkbox"/> Coal Mining
<input type="checkbox"/> Coil Coating
<input type="checkbox"/> Copper Forming
<input type="checkbox"/> Electric and Electronic Components Manufacturing
<input type="checkbox"/> Electroplating
<input type="checkbox"/> Explosives Manufacturing
<input type="checkbox"/> Feedlots
<input checked="" type="checkbox"/> Ferroalloy Manufacturing
<input type="checkbox"/> Fertilizer Manufacturing
<input type="checkbox"/> Foundries (Metal Molding and Casting)
<input type="checkbox"/> Glass Manufacturing
<input type="checkbox"/> Grain Mills
<input type="checkbox"/> Gum and Wood Chemicals Manufacturing
<input type="checkbox"/> Inorganic Chemicals
<input type="checkbox"/> Iron and Steel
<input type="checkbox"/> Leather Tanning and Finishing
<input type="checkbox"/> Metal Finishing
<input type="checkbox"/> Meat Products | <input type="checkbox"/> Metal Molding and Casting
<input type="checkbox"/> Metal Products
<input type="checkbox"/> Nonferrous Metals Forming
<input checked="" type="checkbox"/> Nonferrous Metals Manufacturing
<input type="checkbox"/> Oil and Gas Extraction
<input type="checkbox"/> Organic Chemicals Manufacturing
<input type="checkbox"/> Paint and Ink Formulating
<input type="checkbox"/> Paving and Roofing Manufacturing
<input type="checkbox"/> Pesticides Manufacturing
<input type="checkbox"/> Petroleum Refining
<input type="checkbox"/> Phosphate Manufacturing
<input type="checkbox"/> Photographic
<input type="checkbox"/> Pharmaceutical
<input type="checkbox"/> Plastic & Synthetic Materials
<input type="checkbox"/> Plastics Processing Manufacturing
<input type="checkbox"/> Porcelain Enamel
<input type="checkbox"/> Pulp, Paper, and Fiberboard Manufacturing
<input type="checkbox"/> Rubber
<input type="checkbox"/> Soap and Detergent Manufacturing
<input type="checkbox"/> Steam and Electric
<input type="checkbox"/> Sugar Processing
<input type="checkbox"/> Textile Mills
<input type="checkbox"/> Timber Products
<input type="checkbox"/> Transportation Equipment Cleaning
<input type="checkbox"/> Waste Combustion
<input type="checkbox"/> Other (specify) _____ |
|---|--|

A facility with processes inclusive in these business areas may be covered by Environmental Protection (EPA) categorical standards. These facilities are termed "categorical users" and should skip to question 2 of Section C.

3. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

Silicon Metal Production (primary)

Ferrosilicon Production (Approved in 2018 but no actual production)

SECTION C – WASTEWATER DISCHARGE INFORMATION

Facilities that checked activities in B.2 and are considered Categorical Industrial Users should skip to C.2 of this section.

1. **For Non-Categorical Users Only:** Provide wastewater flows for each of the processes or proposed processes. Using the process flow schematic (Figure 1), enter the description that corresponds to each process. **(The flow schematic should include all treatment units as well as monitoring and discharge points).** [New facilities should provide estimates for each discharge.]

Process Description	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow	Discharge Type (batch, continuous, intermittent)

If batch discharge occurs or will occur, indicate: [new facilities may estimate.]

- a. Number of batch discharges: _____ per day
- b. Average discharge per batch: _____ (GPD)
- c. Time of batch discharges _____ at _____
(days of week) (hours of day)
- d. Flow rate: _____ gallons/minute
- e. Percent of total discharge: _____

Non-Process Discharges (e.g. non-contact cooling water)	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow
_____	_____	_____
_____	_____	_____

2. Complete this Section only if you are subject to Categorical Standards and plan to directly discharge the associated wastewater to a water of the State. If Categorical wastewater is discharged exclusively via an indirect discharge to a public or privately-owned treatment works, check "Yes" in the appropriate space below and proceed directly to part 2.c .

☐ Yes

For Categorical Users: Provide the wastewater discharge flows or production (whichever is applicable by the effluent guidelines) for each of your processes or proposed processes. Using the process flow schematic (Figure 1, pg 14), enter the description that corresponds to each process. [New facilities should provide estimates for each discharge.]

2a.

Regulated Process	Applicable Category	Applicable Subpart	Type of Discharge Flow (batch, continuous, intermittent)
Not Applicable	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

2b.

Process Description	Last 12 Months (gals/day), (lbs/day), etc. Highest Month Average*	Highest Flow Year of Last 5 (gals/day), (lbs/day), etc. Monthly Average*	Discharge Type (batch, continuous, intermittent)
Not Applicable	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

* Reported values should be expressed in units of the applicable Federal production-based standard. For example, flow (MGD), production (pounds per day), etc.

If batch discharge occurs or will occur, indicate: [new facilities may estimate.]

- a. Number of batch discharges: _____ per day
- b. Average discharge per batch: _____ (GPD)
- c. Time of batch discharges _____ at _____
(days of week) (hours of day)
- d. Flow rate: _____ gallons/minute
- e. Percent of total discharge: _____

2c.

Non categorical Process Description	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow	Discharge Type (batch, continuous, intermittent)
Not Applicable			intermittent

If batch discharge occurs or will occur, indicate: [new facilities may estimate.]

- a. Number of batch discharges: _____ per day
- b. Average discharge per batch: _____ (GPD)
- c. Time of batch discharges _____ at _____
(days of week) (hours of day)
- d. Flow rate: _____ gallons/minute
- e. Percent of total discharge: _____

2d.

Non-Process Discharges (e.g. non-contact cooling water)	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow
Non-contact cooling water	52,000 gal/day	52,000 gal/day

All Applicants must complete C.3 – C.6.

3. Do you share an outfall with another facility? ☐ Yes ☒ No (If no, continue to C.4)

For each shared outfall, provide the following:

Applicant's Outfall No.	Name of Other Permittee/Facility	NPDES Permit No.	Where is sample collected by Applicant?

4. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering ☐ Yes ☐ No ☒ N/A
 Sampling Equipment ☐ Yes ☐ No ☒ N/A

Planned: Flow Metering ☐ Yes ☐ No ☒ N/A
 Sampling Equipment ☐ Yes ☐ No ☒ N/A

If so, please attach a schematic diagram of the sewer system indicating the present or future location of this equipment and describe the equipment below:

5. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics?
☐ Yes ☒ No (If no, continue to C.6)

Briefly describe these changes and their anticipated effects on the wastewater volume and characteristics:

6. List the trade name and chemical composition of all biocides and corrosion inhibitors used:

Trade Name	Chemical Composition

For each biocide and/or corrosion inhibitor used, please include the following information:

- (1) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach,
- (2) quantities to be used,
- (3) frequencies of use,
- (4) proposed discharge concentrations, and
- (5) EPA registration number, if applicable

SECTION D – WATER SUPPLY

Water Sources (check as many as are applicable):

☒ Private Well

☐ Surface Water

☒ Municipal Water Utility (Specify City):

☐ Other (Specify):

IF MORE THAN ONE WELL OR SURFACE INTAKE, PROVIDE DATA FOR EACH ON AN ATTACHMENT

City: 0.090 MGD* Well: 0.200 MGD* Well Depth: 200 Ft. Latitude: 32 22.754 Longitude: 86 59.445

Surface Intake Volume: _____ MGD* Intake Elevation in Relation to Bottom: _____ Ft.

Intake Elevation: _____ Ft. Latitude: _____ Longitude: _____

Name of Surface Water Source: _____

* MGD – Million Gallons per Day

Cooling Water Intake Structure Information

Complete D.1 and D.2 if your water supply is provided by an outside source and not by an onsite water intake structure? (e.g., another industry, municipality, etc...)

1. Does the provider of your source water operate a surface water intake? Yes ☐ No ☐
(If yes, continue, if no, go to Section E.)

a) Name of Provider: _____

b) Location of Provider: _____

c) Latitude: _____ Longitude: _____

2. Is the provider a public water system (defined as a system which provides water to the public for human consumption or which provides only treated water, not raw water)? ☐ Yes ☐ No (If yes, go to Section E, if no, continue.)

Only to be completed if you have a cooling water intake structure or the provider of your water supply uses an intake structure and does not treat the raw water.

3. Is any water withdrawn from the source water used for cooling? ☐ Yes ☐ No

4. Using the average monthly measurements over any 12-month period, approximately what percentage of water withdrawn is used exclusively for cooling purposes? _____ %

5. Does the cooling water consist of treated effluent that would otherwise be discharged? ☐ Yes ☐ No
(If yes, go to Section E, if no, complete D.6 – D.17)

6. a. Is the cooling water used in a once-through cooling system? ☐ Yes ☐ No

- b. Is the cooling water used in a closed cycle cooling system? ☐ Yes ☐ No

7. When was the intake installed? _____
(Please provide dates for all major construction/installation of intake components including screens)
8. What is the maximum intake volume? _____
(maximum pumping capacity in gallons per day)
9. What is the average intake volume? _____
(average intake pump rate in gallons per day average in any 30-day period)
10. What is the actual intake flow (AIF) as defined in 40 CFR §125.92(a)? _____ MGD
11. How is the intake operated? (e.g., continuously, intermittently, batch) _____
12. What is the mesh size of the screen on your intake? _____
13. What is the intake screen flow-through area? _____
14. What is the through-screen design intake flow velocity? _____ ft/sec
15. What is the through-screen actual velocity (in ft/sec)? _____ ft/sec
16. What is the mechanism for cleaning the screen? (e.g., does it rotate for cleaning) _____
17. Do you have any additional fish detraction technology on your intake? ☐ Yes ☐ No
18. Have there been any studies to determine the impact of the intake on aquatic organisms? ☐ Yes ☐ No (If yes, please provide.)
19. Attach a site map showing the location of the water intake in relation to the facility, shoreline, water depth, etc.

SECTION E – WASTE STORAGE AND DISPOSAL INFORMATION

Provide a description of the location of all sites involved in the storage of solids or liquids that could be accidentally discharged to a water of the state, either directly or indirectly via such avenues as storm water drainage, municipal wastewater systems, etc., which are located at the facility for which the NPDES application is being made. Where possible, the location should be noted on a map and included with this application:

Description of Waste	Description of Storage Location
See Attached List	

Provide a description of the location of the ultimate disposal sites of solid or liquid waste by-products (such as sludges) from any wastewater treatment system located at the facility.

Description of Waste	Quantity (lbs/day)	Disposal Method*
Not Applicable		

*Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site. If any wastes are sent to an off-site centralized waste treatment facility, identify the waste and the facility.

SECTION F – COASTAL ZONE INFORMATION

Is the discharge(s) located within the 10-foot elevation contour and within the limits of Mobile or Baldwin County? ☐ Yes ☒ No
If yes, complete items F.1 – F.12:

- | | Yes | No |
|---|--------------------------|--------------------------|
| 1. Does the project require new construction? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Will the project be a source of new air emissions? | <input type="checkbox"/> | <input type="checkbox"/> |

- | | <u>Yes</u> | <u>No</u> |
|---|--------------------------|--------------------------|
| 3. Does the project involve dredging and/or filling of a wetland area or water way? | <input type="checkbox"/> | <input type="checkbox"/> |
| If Yes, has the Corps of Engineers (COE) permit been received? | <input type="checkbox"/> | <input type="checkbox"/> |
| COE Project No. | | |
| 4. Does the project involve wetlands and/or submersed grassbeds? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Are oyster reefs located near the project site? | <input type="checkbox"/> | <input type="checkbox"/> |
| If Yes, include a map showing project and discharge location with respect to oyster reefs | | |
| 6. Does the project involve the site development, construction and operation of an energy facility as defined in ADEM Admin. Code r. 335-8-1-.02(bb)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Does the project involve mitigation of shoreline or coastal area erosion? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Does the project involve construction on beaches or dune areas? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Will the project interfere with public access to coastal waters? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Does the project lie within the 100-year floodplain? | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Does the project involve the registration, sale, use, or application of pesticides? | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Does the project propose or require construction of a new well or to alter an existing groundwater well to pump more than 50 gallons per day (GPD)? | <input type="checkbox"/> | <input type="checkbox"/> |
| If yes, has the applicable permit for groundwater recovery or for groundwater well installation been obtained? | <input type="checkbox"/> | <input type="checkbox"/> |

SECTION G – ANTI-DEGRADATION EVALUATION

In accordance with 40 CFR §131.12 and the ADEM Admin. Code r. 335-6-10-.04 for anti-degradation, the following information must be provided, if applicable. It is the applicant's responsibility to demonstrate the social and economic importance of the proposed activity. If further information is required to make this demonstration, attach additional sheets to the application.

1. Is this a new or increased discharge that began after April 3, 1991? ☐ Yes ☒ No
 If yes, complete G.2 below. If no, go to Section H.
2. Has an Anti-Degradation Analysis been previously conducted and submitted to the Department for the new or increased discharge referenced in G.1? ☐ Yes ☐ No

If yes, do not complete this section. If no, and the discharge is to a Tier II waterbody as defined in ADEM Admin. Code r. 335-6-10-.12(4), complete G.2.A – G.2.F below and ADEM Forms 311 and 313 (attached). ADEM Form 313 must be provided for each alternative considered technically viable.

Information required for new or increased discharges to high quality waters:

A. What environmental or public health problem will the discharger be correcting?

B. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

C. How much reduction in employment will the discharger be avoiding?

D. How much additional state or local taxes will the discharger be paying?

E. What public service to the community will the discharger be providing?

F. What economic or social benefit will the discharger be providing to the community?

SECTION H – EPA Application Forms

All Applicants must submit EPA permit application forms. More than one application form may be required from a facility depending on the number and types of discharges or outfalls found. The EPA application forms are found on the Department's website at <http://www.adem.alabama.gov/programs/water/waterforms.cnt>. The EPA application forms must be submitted in duplicate as follows:

1. All applicants must submit Form 1.
2. Applicants for existing industrial facilities (including manufacturing facilities, commercial facilities, mining activities, and silvicultural activities) which discharge process wastewater must submit Form 2C.
3. Applicants for new industrial facilities which propose to discharge process wastewater must submit Form 2D.
4. Applicants for new and existing industrial facilities which discharge only non-process wastewater (i.e., non-contact cooling water and/or sanitary wastewater) must submit Form 2E.
5. Applicants for new and existing facilities whose discharge is composed entirely of storm water associated with industrial activity must submit Form 2F, unless exempted by § 122.26(c)(1)(ii). If the discharge is composed of storm water and non-storm water, the applicant must also submit Forms 2C, 2D, and/or 2E, as appropriate (in addition to Form 2F).

SECTION I – ENGINEERING REPORT/BMP PLAN REQUIREMENTS

See ADEM 335-6-6-.08(i) & (j)

SECTION J– RECEIVING WATERS

Outfall No.	Receiving Water(s)	303(d) Segment?		Included in TMDL?*	
001	Tarver Creek	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
002	Alabama River	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

*If a TMDL Compliance Schedule is requested, the following should be attached as supporting documentation:

- (1) Justification for the requested Compliance Schedule (e.g. time for design and installation of control equipment, etc.);
- (2) Monitoring results for the pollutant(s) of concern which have not previously been submitted to the Department (sample collection dates, analytical results (mass and concentration), methods utilized, MDL/ML, etc. should be submitted as available);
- (3) Requested interim limitations, if applicable;
- (4) Date of final compliance with the TMDL limitations; and,
- (5) Any other additional information available to support requested compliance schedule.

SECTION K – APPLICATION CERTIFICATION

The information contained in this form must be certified by a responsible official as defined in ADEM Administrative Code r. 335-6-6-.09 "signatories to permit applications and reports" (see below).

"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."

Signature of Responsible Official: Steve P. Smith

Date Signed: 1/31/2020

Name and Title: Steve Smith, Plant Manager

If the Responsible Official signing this application is not identified in Section A.7, provide the following information:

Mailing Address: _____

City: _____ State: _____ Zip: _____

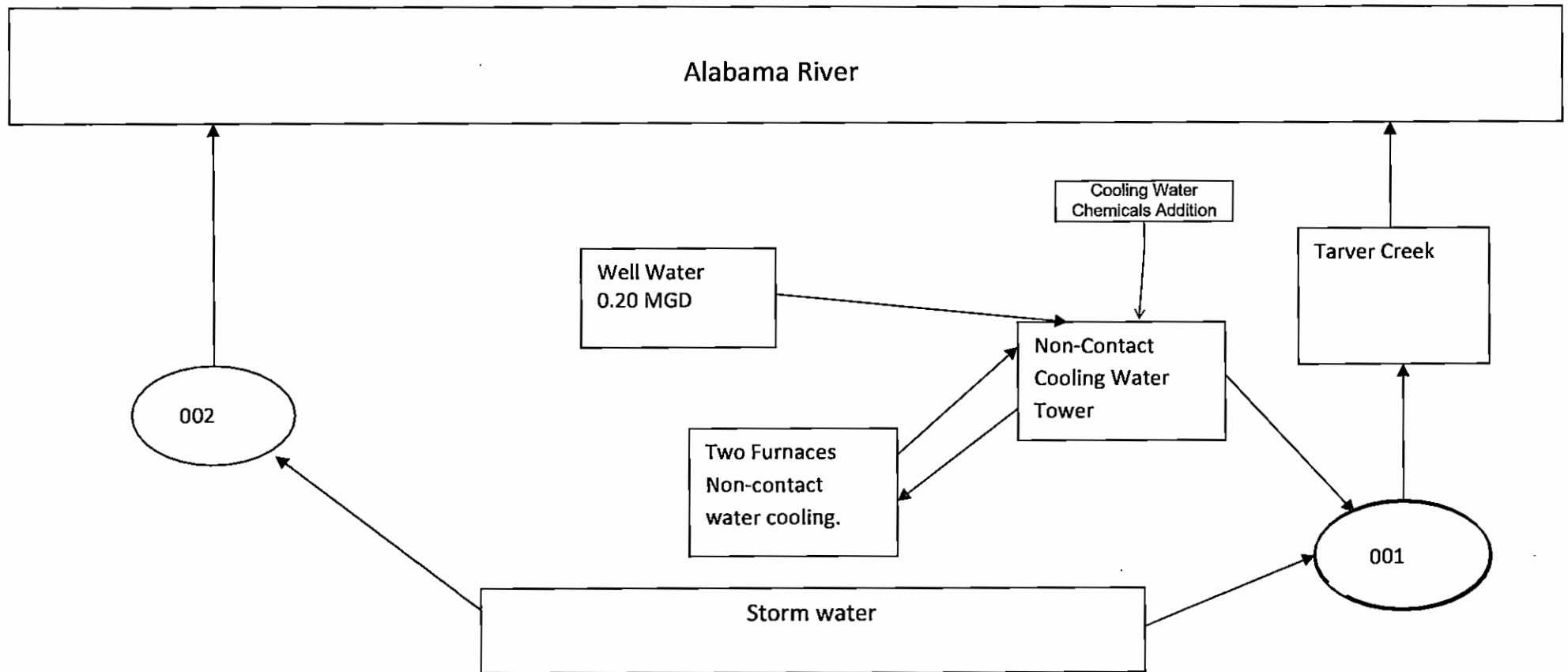
Phone Number: _____ Email Address: _____

335-6-6-.09 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.

(1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:

- (a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;
- (b) In the case of a partnership, by a general partner;
- (c) In the case of a sole proprietorship, by the proprietor; or
- (d) In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official.

Figure 3
Globe Metallurgical Inc. – Selma Plant
Water Flow Schematic
January 2020



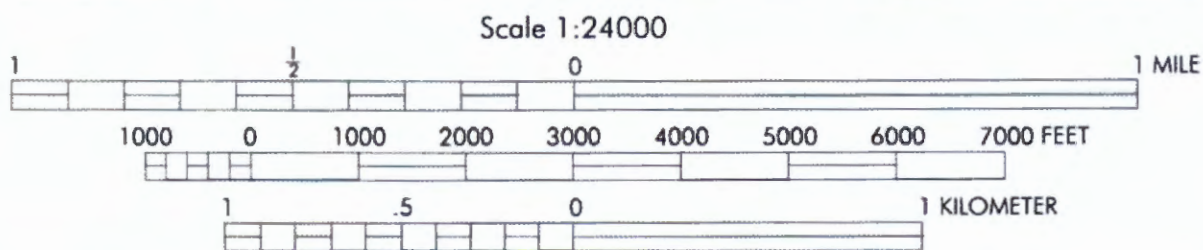
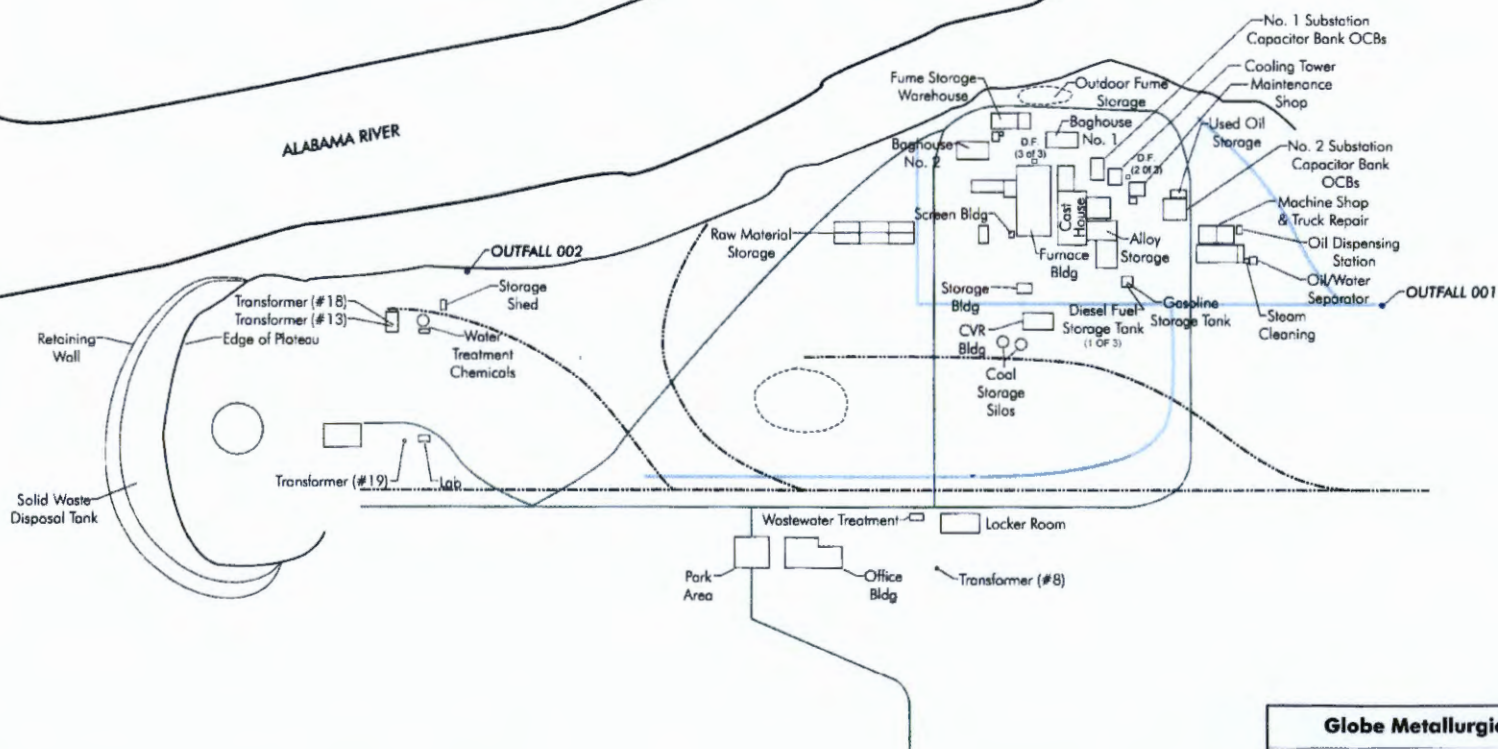


Figure 1
Site Location
Map



ALABAMA RIVER



KEY

- Drainage Ditch
- Roads
- Railroad

Globe Metallurgical

Figure 2 Site Plan

Revision: 1

Date: January 2020

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Form Approved 03/05/19 OMB No. 2040-0004
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Form
1
NPDES



**U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater**

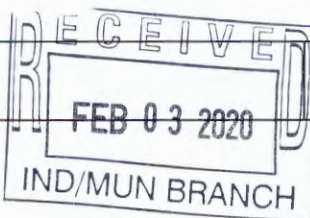
GENERAL INFORMATION

SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(f) and (f)(1))

Activities Requiring an NPDES Permit	1.1	Applicants Not Required to Submit Form 1	
	1.1.1	Is the facility a new or existing publicly owned treatment works ? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> 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 ? <input type="checkbox"/> Yes → Complete Form 1 and Form 2B. <input checked="" type="checkbox"/> No	1.2.2 Is the facility an existing manufacturing, commercial, mining, or silvicultural facility that is currently discharging process wastewater ? <input type="checkbox"/> Yes → Complete Form 1 and Form 2C. <input checked="" type="checkbox"/> No
	1.2.3	Is the facility a new manufacturing, commercial, mining, or silvicultural facility that has not yet commenced to discharge ? <input type="checkbox"/> Yes → Complete Form 1 and Form 2D. <input checked="" type="checkbox"/> No	1.2.4 Is the facility a new or existing manufacturing, commercial, mining, or silvicultural facility that discharges only nonprocess wastewater ? <input checked="" type="checkbox"/> Yes → Complete Form 1 and Form 2E. <input type="checkbox"/> 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 ? <input checked="" type="checkbox"/> Yes → Complete Form 1 and Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). <input type="checkbox"/> No	

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

Name, Mailing Address, and Location	2.1	Facility Name		
		Globe Metallurgical, Inc.		
	2.2	EPA Identification Number		
		ALD051235562		
	2.3	Facility Contact		
		Name (first and last) Jason Smith	Title Purchasing Manager	Phone number (334) 874-2017
		Email address jsmith@ferroglobe.com		
2.4	Facility Mailing Address			
	Street or P.O. box 2401 Old Montgomery Highway			
	City or town Selma	State AL	ZIP code 36703	



EPA Identification Number ALD051235562		NPDES Permit Number AL0025216		Facility Name Globe Metallurgical, Inc.		Form Approved 03/05/19 OMB No. 2040-0004	
Name, Mailing Address, and Location Continued	2.5	Facility Location					
		Street, route number, or other specific identifier 2401 Old Montgomery Highway					
		County name Dallas		County code (if known)			
		City or town Selma		State AL		ZIP code 36703	
SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))							
SIC and NAICS Codes	3.1	SIC Code(s)		Description (optional)			
		3313		Electrometallurgical Products			
	3.2	NAICS Code(s)		Description (optional)			
SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))							
Operator Information	4.1	Name of Operator Globe Metallurgical, Inc.					
	4.2	Is the name you listed in Item 4.1 also the owner? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
	4.3	Operator Status <input type="checkbox"/> Public—federal <input type="checkbox"/> Public—state <input type="checkbox"/> Other public (specify) _____ <input checked="" type="checkbox"/> Private <input type="checkbox"/> Other (specify) _____					
	4.4	Phone Number of Operator (740) 984-2361					
Operator Information Continued	4.5	Operator Address					
		Street or P.O. Box P.O. Box 157					
		City or town Beverly		State OH		ZIP code 45715	
		Email address of operator mgreene@ferroglobe.com					
SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))							
Indian Land	5.1	Is the facility located on Indian Land? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Form Approved 03/05/19 OMB No. 2040-0004
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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)		
		<input checked="" type="checkbox"/> NPDES (discharges to surface water) AL0025216	<input checked="" type="checkbox"/> RCRA (hazardous wastes) ALD051235562	<input type="checkbox"/> UIC (underground injection of fluids)
		<input type="checkbox"/> PSD (air emissions) 104-0001	<input type="checkbox"/> Nonattainment program (CAA)	<input type="checkbox"/> NESHAPs (CAA)
		<input type="checkbox"/> Ocean dumping (MPRSA)	<input type="checkbox"/> Dredge or fill (CWA Section 404)	<input type="checkbox"/> Other (specify)

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.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> CAFO—Not Applicable (See requirements in Form 2B.)
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SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(f)(8))

Nature of Business	8.1	Describe the nature of your business. Silicon Metal Production Ferrosilicon Production (Approved but no production)
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SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(f)(9))

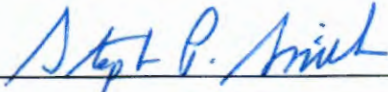
Cooling Water Intake Structures	9.1	Does your facility use cooling water? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 10.1.
	9.2	Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts 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.) On site well.

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.)
		<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Fundamentally different factors (CWA Section 301(n)) </div> <div> <input type="checkbox"/> Water quality related effluent limitations (CWA Section 302(b)(2)) </div> </div> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Non-conventional pollutants (CWA Section 301(c) and (g)) </div> <div> <input type="checkbox"/> Thermal discharges (CWA Section 316(a)) </div> </div> <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Not applicable </div> </div>

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Form Approved 03/05/19 OMB No. 2040-0004
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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
	<input checked="" type="checkbox"/>	Section 1: Activities Requiring an NPDES Permit	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 2: Name, Mailing Address, and Location	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 3: SIC Codes	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 4: Operator Information	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 5: Indian Land	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 6: Existing Environmental Permits	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 7: Map	<input checked="" type="checkbox"/> w/ topographic map <input type="checkbox"/> w/ additional attachments
	<input checked="" type="checkbox"/>	Section 8: Nature of Business	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 9: Cooling Water Intake Structures	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 10: Variance Requests	<input type="checkbox"/> w/ attachments
	<input checked="" type="checkbox"/>	Section 11: Checklist and Certification Statement	<input type="checkbox"/> w/ attachments
	11.2	Certification Statement <i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
	Name (print or type first and last name) Steve Smith	Official title Plant Manager	
	Signature 	Date signed 1/31/2020	

Click to go back to the beginning of Form

EPA Identification Number ALD051235562	NPDES Permit Number AL0088816	Facility Name Globe Metallurgical, Inc.
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Form Approved 03/05/19
OMB No. 2040-0004

SECTION 7. OTHER INFORMATION (40 CFR 122.21(h)(7))

Other Information	7.1	Use the space below to expand upon any of the above items. Use this space to provide any information you believe the reviewer should consider in establishing permit limitations. Attach additional sheets as needed.
		None

SECTION 8. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement	8.1	In Column 1 below, mark the sections of Form 2E 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
		<input checked="" type="checkbox"/> Section 1: Outfall Location	<input type="checkbox"/> w/ attachments (e.g., responses for additional outfalls)
		<input checked="" type="checkbox"/> Section 2: Discharge Date	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 3: Waste Types	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 4: Effluent Characteristics	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 5: Flow	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 6: Treatment System	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 7: Other Information	<input type="checkbox"/> w/ attachments
		<input checked="" type="checkbox"/> Section 8: Checklist and Certification Statement	<input type="checkbox"/> w/ attachments
	8.2	Certification Statement <i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>	
		Name (print or type first and last name)	Official title
		Steve Smith	Plant Manager
		Signature	Date signed
		<i>Steve P. Smith</i>	1/31/2020

Click to go back to the beginning of Form

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.
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Form Approved 03/05/19
OMB No. 2040-0004

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.)
		<input type="checkbox"/> Yes <input type="checkbox"/> 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)	
		001	5.85	<i>specify units</i> Acres	14.6 <i>specify units</i> Acres
		002	2.02	<i>specify units</i> Acres	11.7 <i>specify units</i> Acres
				<i>specify units</i>	<i>specify units</i>
				<i>specify units</i>	<i>specify units</i>
				<i>specify units</i>	<i>specify units</i>
				<i>specify units</i>	<i>specify units</i>
	4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)			
		Exposed raw materials include gravel and coal.			
	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)	
	001	settling swales located in drainage ditch	1-U		
	002	vegetative cover	1-M		

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Form Approved 03/05/19 OMB No. 2040-0004
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SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C))

Non-Stormwater Discharges	5.1	<i>I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.</i>		
		Name (print or type first and last name) Steve Smith	Official title Plant Manager	
		Signature	Date signed	
	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

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
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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? <input type="checkbox"/> Yes → See instructions regarding submission of <i>estimated</i> data. <input checked="" type="checkbox"/> No → See instructions regarding submission of <i>actual</i> data.
	Tables A, B, C, and D	
	7.2	Have you completed Table A for each outfall? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

EPA Identification Number ALD051235562		NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Form Approved 03/05/19 OMB No. 2040-0004
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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	7.5	Do you know or have reason to believe any pollutants in Exhibit 2F-2 are present in the discharge? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions? <input type="checkbox"/> Yes → SKIP to Item 7.18. <input type="checkbox"/> No		
	7.8	Do you know or have reason to believe any pollutants in Exhibit 2F-3 are present in the discharge? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	7.10	Do you expect any of the pollutants in Exhibit 2F-3 to be discharged in concentrations of 10 ppb or greater? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	7.15	Do you know or have reason to believe any pollutants in Exhibit 2F-4 are present in the discharge? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No		
7.17	Have you provided information for the storm event(s) sampled in Table D? <input type="checkbox"/> Yes <input type="checkbox"/> No			

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Form Approved 03/05/19 OMB No. 2040-0004
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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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 9.			
	8.2	Identify the tests and their purposes below.			
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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	EMC		
	Laboratory address	2607 Commerce Blvd. Birmingham, AL 35210		
	Phone number	(205) 951-3400		
	Pollutant(s) analyzed	Wet Chemistry Metals		

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.
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Form Approved 03/05/19
OMB No. 2040-0004

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
<input checked="" type="checkbox"/> Section 1	<input type="checkbox"/> w/ attachments (e.g., responses for additional outfalls)
<input checked="" type="checkbox"/> Section 2	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 3	<input type="checkbox"/> w/ site drainage map
<input checked="" type="checkbox"/> Section 4	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 5	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 6	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 7	<input type="checkbox"/> Table A <input type="checkbox"/> w/ small business exemption request <input type="checkbox"/> Table B <input type="checkbox"/> w/ analytical results as an attachment <input type="checkbox"/> Table C <input type="checkbox"/> Table D
<input checked="" type="checkbox"/> Section 8	<input type="checkbox"/> w/attachments
<input checked="" type="checkbox"/> Section 9	<input type="checkbox"/> w/attachments (e.g., responses for additional contact laboratories or firms)
<input checked="" type="checkbox"/> Section 10	<input type="checkbox"/>

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) Steve Smith	Official title Plant Manager
Signature 	Date signed 1/31/2020

EPA Identification Number ALD051235562	NPDES Permit Number AL0025216	Facility Name Globe Metallurgical, Inc.	Outfall Number 001
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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	5.49		<5		10	
2.	Biochemical oxygen demand (BOD ₅)	<3.30	<2.20	<3.30	<2.20	1	
3.	Chemical oxygen demand (COD)	<20	<20	<20	<20	1	
4.	Total suspended solids (TSS)	544		184		11	
5.	Total phosphorus	0.10	0.11	0.10	0.11	1	
6.	Total Kjeldahl nitrogen (TKN)	0.58	<0.14	0.58	<0.14	1	
7.	Total nitrogen (as N)	3.4	2.65	3.4	2.65	1	
8.	pH (minimum)	6.85		6.85		11	
	pH (maximum)	7.50		7.50		11	

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
ALD051235562

NPDES Permit Number
AL0025216

Facility Name
Globe Metallurgical, Inc.

Outfall Number
001

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		
Zinc	1.11		0.350		11	
Copper	0.185		0.086		11	

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 ALD051235562	NPDES Permit Number AL0052516	Facility name Globe Metallurgical, Inc.	Outfall Number 001
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Form Approved 03/05/19
OMB No. 2040-0004

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)
12/18/2019	3	1.5	72	2.5 gpm	0.238 MGD

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

Flow calculated from surface area and rainfall of the event.

Maximum from container fill time.

EPA Identification Number ALD051235562	NPDES Permit Number AL0052516	Facility Name Globe Metallurgical, Inc.	Outfall Number 002
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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		<5		11	
2.	Biochemical oxygen demand (BOD ₅)	3.20	3.00	3.20	3.00	1	
3.	Chemical oxygen demand (COD)	21	<20	21	<20	1	
4.	Total suspended solids (TSS)	419		191		11	
5.	Total phosphorus						
6.	Total Kjeldahl nitrogen (TKN)						
7.	Total nitrogen (as N)						
8.	pH (minimum)	6.90		6.90		11	
	pH (maximum)	8.01		8.01		11	

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 ALD051235562	NPDES Permit Number AL0052516	Facility name Globe Metallurgical, Inc.	Outfall Number 002
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Form Approved 03/05/19
OMB No. 2040-0004

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)
01/17/2020	3	2.1	168	1 gpm	0.113

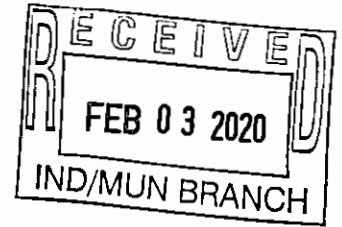
Provide a description of the method of flow measurement or estimate.

Flow calculated from surface area and rainfall of the event.

Maximum from container fill time.

Globe Metallurgical, Inc.

Selma, AL



Cooling Water System Chemicals

<u>Product Identifier</u>	<u>Typical Usage</u>
---------------------------	----------------------

Max S.	3 gal/day
16 T.	2 gal/day
Process 1	32 oz / day
Bio One	5 gal/week
Bio 18	2 gal/day

Safety Data Sheet acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

1 Identification

- **Product identifier** Acid detergent / neutralizer
- **Trade name:** **MAX S**
- **Article number:** LMR90A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ZEE COMPANY, INC.
4146 South Creek Road
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



Health hazard

Carc. 1A H350 May cause cancer.



Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

sulfuric acid

- **Hazard statements**

Causes severe skin burns and eye damage.

May cause cancer.

- **Precautionary statements**

Do not breathe dusts or mists.

Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 1)

Wash thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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/doctor.
Specific treatment (see on this label).
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.
If swallowed: Rinse mouth. Do NOT induce vomiting.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 0
Reactivity = 2

· **HMIS-ratings (scale 0 - 4)**



Health = 3
Fire = 0
Reactivity = 2

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

7664-93-9	sulfuric acid	>95%
-----------	---------------	------

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:**

Remove to fresh air. If symptoms persist consult a doctor.
In case of unconsciousness, immediately seek medical attention.
In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.
Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 2)

· **After eye contact:**

Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Immediately contact a doctor or Poison Control Center.

Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow to enter surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

7664-93-9	sulfuric acid	0.20 mg/m3
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· **PAC-2:**

7664-93-9	sulfuric acid	8.7 mg/m3
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· **PAC-3:**

7664-93-9	sulfuric acid	160 mg/m3
-----------	---------------	-----------

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep this and all chemicals out of the reach of children.
Store in a cool, dry, well ventilated area.
Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7664-93-9 sulfuric acid

PEL	Long-term value: 1 mg/m ³
REL	Long-term value: 1 mg/m ³
TLV	Long-term value: 0.2* mg/m ³ *as thoracic fraction

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Not necessary if room is well-ventilated.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 4)

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Acid resistant protective clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Color:

Colorless

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value at 20 °C (68 °F):**

< 1

· **Change in condition**

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

Undetermined.

· **Flash point:**

Not applicable.

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

· **Decomposition temperature:**

Not determined.

· **Auto igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product does not present an explosion hazard.

· **Explosion limits:**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Vapor pressure:**

Not determined.

· **Density at 20 °C (68 °F):**

1.84 g/cm³ (15.355 lbs/gal)

· **Relative density**

Not determined.

· **Vapor density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with**

· **Water:**

Not miscible or difficult to mix.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 5)

- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - VOC content:** 0.0 g/l / 0.00 lb/gl
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** When diluting, always add acid to water, never vice versa.
- **Conditions to avoid** Do not mix with alkalis, oxidizers, bleach or ferrous metals.
- **Incompatible materials:**
 - Alkali (Caustic)
 - Sodium hypochlorite solutions
- **Hazardous decomposition products:** Sulfur oxides (SOx)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
 - on the skin:** Strong caustic effect on skin and mucous membranes.
 - on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

7664-93-9 | sulfuric acid

1

· NTP (National Toxicology Program)

7664-93-9 | sulfuric acid

K

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 6)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Dispose of in accordance with federal, state, and local regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|------------------------|
| · UN-Number | UN1830 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Sulfuric acid |
| · DOT, IMDG | SULPHURIC ACID |
| · IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Class | 8 Corrosive substances |

(Contd. on page 8)

US

Safety Data Sheet


acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 7)

· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	E
· Stowage Code	SW15 For metal drums, stowage category B.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1830 SULFURIC ACID, 8, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

All ingredients are listed.

· Section 313 (Specific toxic chemical listings):

All ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 8)

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

7664-93-9 sulfuric acid

A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

sulfuric acid

· **Hazard statements**

Causes severe skin burns and eye damage.

May cause cancer.

· **Precautionary statements**

Keep out of reach of children.

Do not breathe dusts or mists.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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/doctor.

Specific treatment (see on this label).

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Store locked up.

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

US

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2016

Reviewed on 12/29/2016

Trade name: MAX S

(Contd. of page 9)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Contact:** Jim Faller/Keith Seyfried

· **Date of preparation / last revision** 12/29/2016 / 2

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Carc. 1A: Carcinogenicity – Category 1A

· *** Data compared to the previous version altered.**

US

Safety Data Sheet acc. to OSHA HCS


Printing date 03/30/2015

Reviewed on 03/30/2015

1 Identification

- **Product identifier** Industrial water treatment compound
- **Trade name:** **TOWER 16T**
- **Article number:** WTO160A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ZEE COMPANY, INC.
4146 South Creek Road
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:**
The product does not have to be labeled due to the calculation procedure of international guidelines.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**


Health = 1
Fire = 0
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

USA

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

Trade name: TOWER 16T

(Contd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

7631-95-0	Sodium molybdate
-----------	------------------

≤ 2.5%

4 First-aid measures

· **Description of first aid measures**

· **General information:** No special measures required.

· **After inhalation:** Remove to fresh air. If symptoms persist consult a doctor.

· **After skin contact:**

Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.

· **After eye contact:**

Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.

· **After swallowing:**

Immediately contact a doctor or Poison Control Center.

Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.

· **Environmental precautions:** Dilute with plenty of water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

USA

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

Trade name: TOWER 16T

(Contd. of page 2)

7 Handling and storage

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep this and all chemicals out of the reach of children.
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7631-95-0 Sodium molybdate

PEL Long-term value: 5 mg/m³
as Mo

TLV Long-term value: 0.5 mg/m³
as Mo; respirable fraction

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.
- **Body protection:** Protective work clothing

USA

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

Trade name: TOWER 16T

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	Gold colored
Odor:	Characteristic
Odor threshold:	Not determined.

· pH-value at 20 °C (68 °F): 5.5

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 1.22 g/cm³ (10.181 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Possibility of hazardous reactions: No dangerous reactions known.

· Conditions to avoid: No further relevant information available.

· Incompatible materials: No further relevant information available.

(Contd. on page 5)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

Trade name: TOWER 16T

(Contd. of page 4)

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· Primary irritant effect:

· on the skin: No irritant effect.

· on the eye: No irritating effect.

· Sensitization: No sensitizing effects known.

· Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability: No further relevant information available.

· Bioaccumulative potential: No further relevant information available.

· Mobility in soil: No further relevant information available.

· Additional ecological information:

· General notes: Generally not hazardous for water

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects: No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation: Dispose of in accordance with federal, state, and local regulations.

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

— USA —

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

Trade name: TOWER 16T

(Contd. of page 5)

14 Transport information

· UN-Number	
· DOT, IMDG, IATA	-
· UN proper shipping name	
· DOT, IMDG, IATA	-
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA	
· Class	-
· Packing group	
· DOT, IMDG, IATA	-
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	-

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

Trade name: TOWER 16T

(Contd. of page 6)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Contact:** Jim Faller/Keith Seyfried

· **Date of preparation / last revision** 03/30/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

USA

Safety Data Sheet acc. to OSHA HCS


Printing date 03/20/2015

Reviewed on 03/20/2015

1 Identification

- **Product identifier** Industrial water treatment compound
- **Trade name:** PROCESS 1
- **Article number:** WPR1A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ZEE COMPANY, INC.
4146 South Creek Road
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:**
The product does not have to be labeled due to the calculation procedure of international guidelines.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**


Health = 0
Fire = 0
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

USA

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/20/2015

Reviewed on 03/20/2015

Trade name: PROCESS 1

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Remove to fresh air. If symptoms persist consult a doctor.
- **After skin contact:**
Generally the product does not irritate the skin.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for a minimum of 15 minutes with running water. If symptoms persist, consult a doctor.
- **After swallowing:**
If symptoms persist consult doctor.
Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 3)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/20/2015

Reviewed on 03/20/2015

Trade name: PROCESS 1

(Contd. of page 2)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep this and all chemicals out of the reach of children.
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.
- **pH-value at 20 °C (68 °F):** 8

(Contd. on page 4)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/20/2015

Reviewed on 03/20/2015

Trade name: PROCESS 1

(Contd. of page 3)

· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.36 g/cm ³ (11.349 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

(Contd. on page 5)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/20/2015

Reviewed on 03/20/2015

Trade name: PROCESS 1

(Contd. of page 4)

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability:** No further relevant information available.

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Not known to be hazardous to water.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:** Dispose of in accordance with federal, state, and local regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT, IMDG, IATA** -

· **UN proper shipping name**

· **DOT, IMDG, IATA** -

· **Transport hazard class(es)**

· **DOT, ADR, IMDG, IATA**

· **Class** -

· **Packing group**

· **DOT, IMDG, IATA** -

(Contd. on page 6)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/20/2015

Reviewed on 03/20/2015

Trade name: PROCESS 1

(Contd. of page 5)

- | | |
|---|-----------------|
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

(Contd. on page 7)

USA

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/20/2015

Reviewed on 03/20/2015

Trade name: PROCESS 1

(Contd. of page 6)

- **Contact:** Jim Faller/Keith Seyfried
- **Date of preparation / last revision** 03/20/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

USA

1. Identification

Product identifier **BIOCIDE ONE**

Other means of identification

Product code **BIOCIDE ONE**

Recommended use **Microbiocide**

Recommended restrictions **For Industrial Use Only**

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name **ZEE Company, Inc.**

Address **4146 South Creek Road
Chattanooga, TN 37406
United States**

Telephone **423-698-1401**

E-mail **Not available.**

Emergency phone number **1-800-424-9300**

2. Hazard(s) identification

Physical hazards **Not classified.**

Health hazards

Skin corrosion/irritation **Category 1B**

Serious eye damage/eye irritation **Category 1**

Sensitization, skin **Category 1**

Environmental hazards **Not classified.**

OSHA defined hazards **Not classified.**

Label elements



Signal word **Danger**

Hazard statement **Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage.**

Precautionary statement

Prevention **Do not breathe mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.**

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

Storage **Store locked up.**

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

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

Supplemental information **None.**

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Magnesium nitrate		10377-60-3	1.4 - 2.0
5-Chloro-2-methyl-4-isothiazolin-3-one		26172-55-4	1.1 - 1.35
Magnesium chloride		7786-30-3	1.0 - 1.2
2-Methyl-4-isothiazolin-3-one		2682-20-4	0.35 - 0.45
Other components below reportable levels			95.0 - 96.0

4. First-aid measures

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

5. Fire-fighting measures

Suitable extinguishing media	Not applicable, non-combustible. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not applicable.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

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

7. Handling and storage

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

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless to Yellow.
Odor	Pungent.
Odor threshold	Not available.
pH	2.0 - 4.0
Melting point/freezing point	26.6 °F (-3 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	0.62 (Air = 1) estimated
Relative density	Not available.

Solubility(ies)	
Solubility (water)	Complete.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.58 lbs/gal
Specific gravity	1.02

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

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

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

Acute toxicity	May cause an allergic skin reaction.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.

Material name: BIOCIDE ONE

BIOCIDE ONE Version #: 01 Issue date: 05-31-2015

SDS US

4 / 7

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

Ceriodaphnia, 1.5% mixed isothiazolones, 48 hr LC50 0.2 ppm

Daphnia, 14.17% mixed isothiazolones, 48 hr LC50 0.18 ppm

In a chronic toxicity study conducted using fathead minnows, methylisothiazolone (14.17% a.i.) gave a Maximum Allowable Toxicant concentration (MATC) of 0.035 ppm. The MATC (the geometric mean of the NOEL and LOEL), based on significantly reduced weight at 0.06 ppm methylisothiazolone was >0.02 and <0.06 ppm. The guideline requirement for freshwater fish chronic toxicity is fulfilled.

13. Disposal considerations

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

14. Transport information

DOT

UN number	UN3265
UN proper shipping name	CORROSIVE LIQUIDS, ACIDIC, ORGANIC, N.O.S. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT



15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and its components are either listed on the U.S. Toxic Substance Control Act (TSCA) Inventory or they are exempt from listing.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

2-Methyl-4-isothiazolin-3-one (CAS 2682-20-4)	1.0 % One-Time Export Notification only.
5-Chloro-2-methyl-4-isothiazolin-3-one (CAS 26172-55-4)	1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4): Not Listed

SARA 304 Emergency release notification: Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Magnesium nitrate	10377-60-3	1.4 - 2.0

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

Magnesium nitrate (CAS 10377-60-3)

US. New Jersey Worker and Community Right-to-Know Act

Magnesium nitrate (CAS 10377-60-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Magnesium nitrate (CAS 10377-60-3)

US. Rhode Island RTK

Magnesium nitrate (CAS 10377-60-3)

US. California Proposition 65

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

International Inventories

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

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

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

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

Issue date 05-31-2015

Version # 01

Material name: BIOCIDE ONE

BIOCIDE ONE Version #: 01 Issue date: 05-31-2015

SDS US

6 / 7

HMIS® ratings

Health: 3
Flammability: 0
Physical hazard: 0
Personal protection: H

Disclaimer

Seller cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Undisclosed Ingredient Statement
Physical & Chemical Properties: Multiple Properties
Regulatory Information: United States
GHS: Classification

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

1 Identification

- **Product identifier** Hypochlorite Solution
- **Trade name:** **BIOCIDE 18 (EPA Reg. 6785-4-12446)**
- **Article number:** WBO18A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ZEE COMPANY, INC.
4146 South Creek Road
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

- **Signal word** Danger

- **Hazard-determining components of labeling:**

sodium hypochlorite, solution

- **Hazard statements**

Causes severe skin burns and eye damage.

- **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Keep away from acids.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

(Contd. on page 2)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 1)

IF ON SKIN (or hair): Remove/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/doctor.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Protect from sunlight. Store in a well-ventilated place.

Store away from acids.

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

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

3 Composition/information on ingredients

• **Chemical characterization: Substances**

• **CAS No. Description**

7681-52-9 sodium hypochlorite, solution

• **Identification number(s)**

• **EC number:** 231-668-3

• **Index number:** 017-011-00-1

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

7681-52-9 sodium hypochlorite, solution

10-15%

4 First-aid measures

• **Description of first aid measures**

• **General information:** Immediately remove any clothing soiled by the product.

• **After inhalation:**

Remove to fresh air. If symptoms persist consult a doctor.

In case of unconsciousness, immediately seek medical attention.

• **After skin contact:**

Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.

(Contd. on page 3)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 2)

Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.

· **After swallowing:**

Immediately contact a doctor or Poison Control Center.

Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow to enter surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**

Keep away from heat and direct sunlight.

Store in cool, dry place in tightly closed receptacles.

· **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 4)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep this and all chemicals out of the reach of children.
Store in a cool, dry, well ventilated area.
Do not store in direct sunlight.
- **Information about storage in one common storage facility:**
Store away from oxidizers and acidic materials.
Do not store together with acids.
- **Further information about storage conditions:**
Recommended maximum storage temperature is 85 F.
Shelf life: 6 months at ideal storage conditions
Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7681-52-9 sodium hypochlorite, solution

WEEL Short-term value: 2 mg/m³

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	Yellow
Odor:	Like chlorine
Odor threshold:	Not determined.

· pH-value at 20 °C (68 °F): >12

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 1.21 g/cm³ (10.097 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	0.0 %
Water:	87.5 %

(Contd. on page 6)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 5)

Other information

No further relevant information available.

10 Stability and reactivity

Reactivity

Chemical stability

Stability decreases with concentration, heat, light exposure, decrease in pH and contamination with heavy metals such as nickel, cobalt, copper, and iron.

Thermal decomposition / conditions to be avoided: Stable at ambient temperature.

Possibility of hazardous reactions: Contact with acids releases toxic gases.

Conditions to avoid: Do not mix with acids.

Incompatible materials:

Reducing Agents

Acids, ammonia, reducing agents, combustible materials (such as wood, cloth), organic materials, soft metals, iron, and oxidizable materials.

Hazardous decomposition products: Chlorine

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

7681-52-9 sodium hypochlorite, solution

Oral LD50 5800 mg/kg (mouse)

Primary irritant effect:

on the skin: Caustic effect on skin and mucous membranes.

on the eye: Strong caustic effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

Aquatic toxicity: *Oncorhynchus tshawytscha*, LC50, 96 Hour, 0.038 - 0.065 mg/L

Persistence and degradability: No further relevant information available.

(Contd. on page 7)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 6)


- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|------------------------|
| · UN-Number | UN1791 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Hypochlorite solutions |
| · DOT, IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Class | 8 Corrosive substances |

(Contd. on page 8)

USA

Safety Data Sheet


acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 7)

· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Hypochlorites
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN1791, Hypochlorite solutions, 8, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 8)

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**

sodium hypochlorite, solution

· **Hazard statements**

Causes severe skin burns and eye damage.

· **Precautionary statements**

If on skin: Wash with plenty of soap and water.

Keep out of reach of children.

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Keep away from acids.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/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/doctor.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Protect from sunlight. Store in a well-ventilated place.

Store away from acids.

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

USA

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/24/2015

Reviewed on 06/24/2015

Trade name: BIOCIDE 18 (EPA Reg. 6785-4-12446)

(Contd. of page 9)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Contact:** Jim Faller/Keith Seyfried

· **Date of preparation / last revision** 06/24/2015 / 10

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

· *** Data compared to the previous version altered.**

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