Administrative Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
2. First Notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
3. Application Materials

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS INDUSTRIAL WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

Steel Dynamics Southwest, LLC (CN605646041) operates Steel Dynamics Southwest (RN110750965), a steel mill. The facility is located at 8534 Highway 89, in Sinton, San Patricio County, Texas 78387. Steel Dynamics Southwest is submitting an application for permit renewal with major amendments. Major amendments include updated production rates impacting internal Outfall 201 and 101 effluent limits, removal of duplicated parameters at internal outfalls, and updates to the definitions of process wastewater and utility wastewater.

Discharges from the facility are expected to contain pollutants subject to federal effluent limitation guidelines at 40 CFR 465, 40 CRF 420 and other permitted pollutants including: carbonaceous biochemical oxygen demand, 5-day (CBOD5), ammonia nitrogen, dissolved oxygen, total organic carbon, and temperature. Wastewaters generated from process operations, associated utilities, maintenance operations, and stormwater management are treated by sand filtration, flocculation, dissolved air flotation/oil separation, equalization, neutralization, clarification, and filtration. Stormwater, also authorized for discharge, does not receive treatment prior to discharge.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT AMENDMENT

PERMIT NO. WQ0005283000

APPLICATION. Steel Dynamics Southwest, LLC, 8534 Highway 89, Sinton, Texas 78387, which owns a steel manufacturer and coil coating facility, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005283000 (EPA I.D. No. TX0139629) to authorize a revision to the effluent limits for internal Outfalls 201 and 101 based on updated production rates. The facility is located at 8534 Highway 89, near the city of Sinton, in San Patricio County, Texas 78387. The discharge route is from the plant site via pipe to a constructed wetland (not a water of the state) to Outfall 001, thence to Ditch 3, thence to Ditch 4; or via pipe directly to Outfall 001, thence to Ditch 3, thence to Ditch 4; via Outfall 002 to Ditch 1, thence to Ditch 4; Outfalls 003 and 004 to Ditch 3, thence to Ditch 4; thence all outfalls to Chiltipin Creek; thence to Chiltipin Creek Tidal, thence to Aransas River Tidal. TCEQ received this application on November 21, 2025. The permit application will be available for viewing and copying at Sinton Public Library, circulation desk, 100 North Pirate Boulevard, Sinton, Texas prior to the date this notice is published in the newspaper. The application is available for viewing and copying at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.496388,28.056111&level=18

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing.** A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted either electronically at **https://www14.tceq.texas.gov/epic/eComment/**, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105,

P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Steel Dynamics Southwest, LLC at the address stated above or by calling Ms. Mariann Hernandez, Environmental Engineer, at 361-424-6352.

Issuance Date: December 16, 2025

Intended for

Texas Commission on Environmental Quality
Water Quality Division
Applications Review and Processing Team
MC-148

Document typeOn Behalf of

Steel Dynamics Southwest, LLC

Date

November 2025

Permit Renewal and Amendment WQ0005283000

RAMBOLL

Bright ideas.
Sustainable change.

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Executive Summary

1. Introduction

This Executive Summary and subsequent attachments constitute the permit renewal with major amendments for the Steel Dynamics Southwest, LLC Sinton Mill facility ("facility") located at 8534 Highway 89, in San Patricio County, Texas with TPDES Permit No. WQ0005283000. Sinton Mill is a flat roll steel making and finishing facility and operates under Standard Industrial Classification (SIC) Code 3312 (Steel Works, Blast Furnaces, and Rolling Mills). The facility processes include steel making by electric arc furnace, casting, rolling (hot and cold), acid pickling, and steel and galvanized coil coating. The process wastewater discharge from the facility is subject to 40 CFR 420 Subparts F, G, I, J, and L and 40 CFR 465 Subparts A and B.

This summary contains a brief description of the materials contained in this renewal application and provides supplemental information for specific questions of the Technical Report and worksheets. In addition to this Executive Summary, the sections of the application include:

- Administrative Report 1.0 with USGS Topographic Map
- Administrative Report 1.1 with Affected Landowners Map, Landowners List, and Outfall Photographs
- Supplemental Permit Information Form
- Public Involvement Plan Form
- Plain Language Summary Form
- CORE Data Form
- Technical Report 1.0 with the following worksheets
  - Worksheet 1.0 – EPA Effluent Categorical Guidelines
  - Worksheet 2.0 – Pollutant Analyses Requirements
  - Worksheet 4.0 – Receiving Waters
  - Worksheet 7.0 – Stormwater Runoff
- Figures and attachments including facility maps and water treatment additives

2. Requested Amendments

The following details the requested amendments for the renewed permit.

1. Updated Production Rates Impacting Internal Outfall 201 and 101 Effluent Limits and Recognition that Anti-Backsliding Regulations Do Not Apply

   Steel Dynamics requests the effluent limits for Internal Outfalls 201 and 101 are updated to reflect the new galvanized material coil coating production rates subject to 40 CFR 465.23, reflecting start-up of a second galvanized line.

   The production rates are listed in Worksheet 1.0 of the Technical Report and below for convenience. Steel Dynamics notes that this requested galvanized material rate includes both start-up of a second galvanized line (increased production) and a correction to the previously communicated production rates. 40 CFR 465.02(f) specifies that production quantities (area

processed in this case) means "the area actually exposed to process solutions. Usually this includes both sides of the metal strip." The previously communicated production rates, which serve as the current permit effluent limit basis, only accounted for a single side of the metal strip. Table 1 below presents the updated basis for the 43.824 million ft^2/day of area processed subject to 40 CFR 465 Subpart B.

Table 1: Updated Production Rates for 40 CFR 465 Subpart B

40 CFR 465 Subpart B Production Line	Area Processed (million ft^2/day)
Galvanized Line #1	11.856
Paint Line #1	10.368
Galvanized Line #2	11.232
Paint Line #2	10.368
Total	**43.824**

The remaining production data, and utility wastewaters receiving best professional judgement (BPJ) allocations, have not changed and are requested to be continued as the basis for Internal Outfall 201 and 101 effluent limits in the renewed permit as follows:

- 40 CFR 465 Subpart A (465.13): 10.368 million ft^2/day
- 40 CFR 420 Subpart F (420.64): 19,000,000 lbs/day
- 40 CFR 420 Subpart G (420.74(c)(1)): 19,000,000 lbs/day
- 40 CFR 420 Subpart I (420.94(b)(2)): 7,572,000 lbs/day
- 40 CFR 420 Subpart J (420.104(a)(5)): 5,361,000 lbs/day
- 40 CFR 420 Subpart L (420.124(a)): 5,114,000 lbs/day
- Utility wastewaters BPJ allocations: 0.2346 MGD
  - Non-contact waters (melt shop, compact strip production, and cold mill): 0.1108 MGD total
  - Reverse osmosis reject (cold mill): 0.1238 MGD

Steel Dynamics notes that given the material alterations at the facility (addition of a second galvanized line), the anti-backsliding regulations do not apply per the exception in 40 CFR 122.44(l)(2)(i)(A).

2. Remove Duplicated Parameters from Internal Outfall 201

Steel Dynamics requests the following parameters, which are limited at both Outfalls 101 and 201, be removed from Outfall 201 to reduce duplicate sampling: total suspended solids, oil and grease, total chromium, and total zinc.

In the current permit, the discharge from Outfall 201 is subject to federal effluent limitation guidelines at 40 CFR Part 465 (Subparts A and B) and the discharge from Outfall 101 is subject to federal effluent limitation guidelines at 40 CFR Parts 420 (Subparts F, G, I, J, and L) and 465 (Subparts A and B). Wastewaters monitored at Outfall 201 are once again monitored at Outfall 101. Steel Dynamics requests continuation of this permitting basis with an adjustment to select parameters, which are limited by both 40 CFR Parts 420 and 465 to reduce duplicate sampling. Specifically, total suspended solids, oil and grease, total chromium, and total zinc, which are currently limited at both Outfalls 201 and 101, are requested to be removed from Outfall 201. The wastewaters monitored at Outfall 201 undergo additional treatment for total suspended solids, oil and grease, total chromium, and total zinc prior to discharge and monitoring at Outfall

101. Therefore, application of these effluent limits at Outfall 101 is representative of the removal efficiencies of the entire treatment system. Additional details regarding the wastewater treatment system are provided in Section 6.

Steel Dynamics notes the following:

- All parameters currently monitored and limited at Outfall 101 are requested to be continued at Outfall 101.
- 40 CFR 465 does not require that effluent limitations are applied to internal outfalls.

This request is in alignment with the NPDES Permit Writers' Manual (2010) building block approach when there is a mixture of regulated and unregulated wastewater streams. In lieu of assigning best professional judgement technology based effluent limits for the parameters, which are not limited by both 40 CFR Parts 420 and 465, Steel Dynamics requests that Outfall 201 is maintained with those parameters that are not limited by 40 CFR 420 (total copper, total cyanide, and total iron). Table 2 below summarizes the requested outfall location for application of individual parameter limits.

Table 2: Parameters Requested to be Limited at Outfalls 101 and 201

Parameter	Limited in 40 CFR 465?	Limited in 40 CFR 420?	Current Permit Outfall Limits	Requested Outfall for Application of Limit
Total Suspended Solids	Yes	Yes	101 and 201	101 only
Oil & Grease	Yes	Yes	101 and 201	101 only
Chromium, total	Yes	Yes	101 and 201	101 only
Copper, total	Yes	No	201	201
Cyanide, total	Yes	No	201	201
Iron, total	Yes	No	201	201
Lead, total	No	Yes	101	101
Naphthalene	No	Yes	101	101
Nickel, total	No	Yes	101	101
Tetrachloroethylene	No	Yes	101	101
Zinc, total	Yes	Yes	101 and 201	101 only

3. Update Process Wastewater and Utility Wastewater Definitions in the Permit

Steel Dynamics requests the process wastewater definition is updated to include maintenance wastewaters as follows:

The term process wastewater means any water which, during manufacturing, processing, or maintenance activities, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. The discharge of process wastewater is authorized in this permit via Outfall 001.

Steel Dynamics requests the utility wastewater definition is updated to include boiler blowdown, utility system maintenance wastewaters like reverse osmosis clean-in-place water, and potable water from leaks and/or use of safety showers and eyewash stations.

4. Authorization to Re-use Treated Effluent in Lieu of Discharge

   Steel Dynamics is progressing a water re-use project, which would reduce the overall flow at Internal Outfall 101 / Outfall 001. Specifically, a reverse osmosis unit is being considered to capture and re-use the treated effluent to reduce overall make-up water needs. Additional details about this proposed system are included in Section 6.

   Steel Dynamics requests permit authorization to re-use the treated effluent as make-up water for onsite processes in lieu of discharging the effluent to Chilitpin Creek (Permit Condition 7).

3. Water Supply & Facility Water Balance

The facility water balance / wastewater diagram is included in Figure 06. Water is supplied primarily as untreated surface water from Lake Texana, sourced from the City of Corpus Christi's Mary Rhodes pipeline (PWS No. 1780003). Water from onsite wells is used during periods where water is not available from the pipeline (typically due to pipeline maintenance or upset). A water reuse system is being progressed as an alternate source of make-up water (discussed in more detail in Section 6). The raw water is pumped into an approximately 50-million-gallon storage pond; a coagulant may be added to the raw water pond for solids settling in the pond. Fire protection, make-up water, and other miscellaneous processes use approximately 5.5 million gallons of water per day.

Sanitary wastewaters generated at the facility are sent to the City of Sinton.

4. Outfall Description

Wastewaters are generated from process operations, associated utilities, maintenance operations, and stormwater management. Steel Dynamics discharges treated wastewater and collected stormwaters via ditches to Chiltipin Creek, thence to Chiltipin Creek Tidal, thence to the Aransas River Tidal, Segment ID 2003. The location of each outfall is found in Figure 03 Facility Map. A description of each outfall and the authorized wastewaters discharged is below.

4.1 Outfall 001

Outfall 001 is authorized to discharge treated process wastewaters and utility wastewaters from the constructed wetlands. Outfall 001 is located at the weir box exit of the constructed wetlands: 28.052195, -97.443038. The weir box discharges via a series of ditches to Chiltipin Creek. Under typical operating conditions, effluent from Internal Outfall 101 is discharged through the constructed wetlands to Outfall 001. If needed, the facility may discharge the previously monitored effluent from Internal Outfall 101 directly to Outfall 001, bypassing the constructed wetlands.

4.1.1 Internal Outfall 101

Internal Outfall 101 is authorized to discharge treated process wastewaters and utility wastewaters from the wastewater treatment system to either the constructed wetlands (routine operations) or directly to Outfall 001. Internal Outfall 101 is located at the discharge of the final sand filters: 28.058033, -97.452492. Treated process wastewaters include steel making wastewaters subject to 40 CFR 420 and the previously monitored effluent from Internal Outfall 201.

4.1.2 Internal Outfall 201

Internal Outfall 201 is authorized to discharge coil coating process wastewaters subject to 40 CFR 465 from the caustic wastewater pretreatment system to the Equalization Tank of the wastewater treatment system. Internal Outfall 201 is located at the discharge of the sand filters associated with the neutralization pretreatment system: 28.058031, -97.451669.

4.2 Outfalls 002, 003, and 004

Outfall 002 is authorized to discharge industrial stormwater and allowable non-stormwaters from Detention Pond 1 through a series of ditches to Chiltipin Creek. Outfall 002 is located southeast of the Administrative Building: 28.052707, -97.453851.

Outfall 003 is authorized to discharge industrial stormwater and allowable non-stormwaters from Detention Pond 2 through a series of ditches to Chiltipin Creek. Outfall 003 is located southwest of the metal scrap storage yard: 28.052415, -97.445490.

Outfall 004 is authorized to discharge industrial stormwater and allowable non-stormwaters from Detention Pond 3 through a series of ditches to Chiltipin Creek. Outfall 004 is located south of the slag processing area: 28.054341, -97.441343.

5. Wastewater Generation

Steel Dynamics production processes generate process wastewaters (direct contact) and utility wastewaters (non-contact). A description of each source of wastewater is included in the following sections.

5.1 Process Wastewaters (Direct Contact Systems)

Contact Water systems provide direct cooling, rinsing, and other functionality for the steel process. Contact water is defined as water that makes direct contact with the steel being processed. Contact water systems consist of compact strip production (CSP) (Caster) Contact, CSP (Rolling Mill) Contact, Laminar Cooling Contact, and Cold Mill Contact. Makeup water for contact water systems comes from the Raw Storage Pond and blowdown from other non-contact and contact systems. Water used in the Cold Mill Contact systems is first treated using reverse osmosis (RO). Each contact water system, excluding Cold Mill Contact, utilizes scale pits for the removal of mill scale and oils and blown down to the CSP (Rolling Mill) contact system.

Specifics regarding each contact process and generated wastewaters are further described in the following sections. In addition to the contact wastewaters generated from routine manufacturing operations, maintenance activities may also generate process wastewaters that are either managed at the Wastewater Treatment System for discharge or are collected for offsite disposal.

5.1.1 CSP (Caster) Contact Water System

The CSP (Caster) Contact Water System primarily provides water to sprays that cool rolls and steel as it emerges from the caster mold. The CSP (Caster) Contact Water System provides water to the following processes:

- Open Machine Cooling
- Flume Flushing
- Spray Cooling

CSP (Caster) Contact Water System is an open-loop system consisting of a cold well, sand filter, flume, scale sump, and cooling tower. After contact with the steel, the cooling water is collected and transported by a flume to a scale pit. The water then passes through a sand filter, cooling tower and is deposited into a cold well. Water from the cold well is sent as make-up water to the CSP (Rolling Mill) Contact Water System. Backwash from the sand filters is sent to the Sand Filter Backwash System.

5.1.2 CSP (Rolling Mill) Contact Water System

Once the steel strip leaves the caster and passes through the tunnel furnace, the CSP (Rolling Mill) Contact Water System provides a high-pressure water spray to remove scale from the strip. After the removal of scale, the steel goes through the hot rolling process. In the hot rolling process, the strip passes through multiple rolls to reduce it to the desired thickness. The rolls use water for cooling and lubrication. The CSP (Rolling Mill) Contact Water System provides water to the following processes:

- Minor Cooling
- Descale
- Work Roll Cooling

The CSP (Rolling Mill) Contact Water Cooling System is an open-loop system consisting of a flume, cold well, sand filters, scale sump, and cooling tower. From a cold well, water is sent to perform tasks in the descale or hot rolling process. The water for the descaling process is directed through a sand filter and into a descale storage tank. The descaling storage tank is designed such that a portion of the filtered water is routed back to the cold well, providing filtered water to the descaling process and a side stream filter for the whole CSP (Rolling Mill) Contact Water System. Upon use, water is collected and transported by a flume to a scale sump. After the scale sump, water is directed through a cooling tower and back into the cold well. Backwash from the sand filters is sent to the Sand Filter Backwash System. The blowdown from the cold well is directed to the Equalization Tank of the Wastewater Treatment System.

5.1.3 Laminar Contact Water System

The Laminar Contact Water System is used to cool the finished strip to specified temperatures exiting the hot rolling process before the strip is coiled. The Laminar Contact Water System provides water to the following processes:

- Cross Strip Spray
- Laminar Cooling

The Laminar Contact Water System is an open-loop system consisting of a cold well, side stream sand filters, flume, scale sump, and cooling tower. From the cold well, water is sent to the laminar cooling process. Water is then collected and transported by a flume to a hot well. After the hot well, water is sent to the cooling tower and back into the cold well. Water is blown down to the CSP (Rolling Mill) Contact Water System. Backwash from the sand filters is sent to the Sand Filter Backwash System.

5.1.4 Cold Mill Contact Water Systems

The Cold Mill Contact Water System is open-loop system with a Reverse Osmosis (RO) feed system and storage tanks. The RO system receives water from the Raw Water Pond, after sand filtration. RO permeate is directed to a storage tank and distributed to the Cold Mill users. The Cold Mill Contact Water System provides water to the following processes:

- Pickle Line and Tandem Cold Mill (PLTCM)
  The PLTCM receives hot rolled steel requiring further processing. The PLTCM uses hydrochloric (HCl) acid to remove scale oxides from the surface of the steel. This process takes place in pickling tanks, which are covered by lids and equipped with an exhaust duct to remove fumes by use of a fume scrubber. After the steel leaves the pickling tanks, it enters a rinse tank where water is used to rinse residual HCl acid from the steel strip. Water from the fume scrubber is blown down as needed and is sent to the acid tanks to reduce the concentration of acid. Waste acid from the pickling tanks is collected and transported offsite. Rinse water is blown down as needed and sent to the Equalization Tank of the Wastewater Treatment System. The Cold Mill Contact Water system provides makeup water for the rinse section and fume scrubber systems.

  After the pickling process, the steel strip may be re-coiled and sent to other steel processes or continue on the PLTCM to be cold rolled. Cold rolling is performed by passing the strip between work rolls to reduce its thickness. A water-based lubrication solution (emulsion) is sprayed on the rolls as the strip passes through each of the five roll stands. The emulsion water system is blown down as needed with wastewater directed to the Dissolved Air Flotation Unit of the Wastewater Treatment System (oil separation).

  The Cold Mill Contact Water System provides water to the following PLTCM processes:
  - Emulsion Systems
  - Strip Rinse Systems
  - Fume Exhaust

- Continuous Galvanizing Lines (CGLs)
  Before being galvanized, the steel is passed through a warm alkaline solution to remove contaminant films and oils. The steel is then scrubbed and rinsed by a water scrubber tank. The cleaning system is blown down as needed to the Caustic Wastewater Pretreatment System. Cold Mill Contact Water System provides makeup water for the cleaning system.

  The two CGLs also include inline skin pass mills that function similar to the cold rolling mill discussed above. The emulsion water system is blown down as needed with wastewater directed to the Wastewater Treatment System.

  The Cold Mill Contact Water System provides water to the following CGL processes:
  - Strip Rinse Systems
  - General-Purpose

- Off-Line Skin Pass Mill (oSPM)
  The oSPM is similar to the inline skin pass mill on the CGLs, except it is a stand-alone production unit used to fix defects in previously processed coils. The Cold Mill Contact Water System provides water to the following SPM processes:
  - Wet Skin Pass System

  - General-Purpose

- Continuous Color Coating Lines (CCCLs)
  Before coating, the strip is passed through a pre-clean system consisting of a warm alkaline solution to remove contaminant films and oils. Then the strip is scrubbed and rinsed in a water scrubber tank. Lastly the strip is rinsed to remove any residual alkaline solution. The cleaning system is blown down as needed and wastewater directed to the Caustic Wastewater System. Cold Mill Contact Water System provides makeup water for the cleaning system.

  Following the pre-cleaning, the strip surface is treated. As in the pre-cleaning system, the strip is washed in a warm alkaline solution to remove contaminant films and oils, followed by a scrub and rinse step. The strip then passes through a second warm alkaline solution and undergoes a second rinse step. After the second rinse, as requested by customer, the strip is exposed to a phosphate solution to provide a clean, grease-free surface to prepare the strip for coating. The strip is then rinsed to remove any residual phosphate solution. The surface treatment system is blown down as needed and wastewater directed to the Caustic Wastewater System. Cold Mill Contact Water System provides makeup water for the cleaning system.

5.2 Utility Wastewaters (Non-Contact)

Utility systems (i.e., water treatment, compressed air, steam generation) support process operations and generate utility wastewaters. Most utility wastewaters are sent to the Equalization Tank at the Wastewater Treatment System; certain sand filter backwashes may be routed to the separate Sand Filter Backwash System. The following lists utility wastewaters generated onsite.

- Cooling tower blowdowns from non-contact cooling operations [described in more detail in following sections].
- Reverse osmosis reject and clean-in-place / maintenance wastewaters from the RO unit, which treats raw water for use at the Cold Mill.
- Sand filter backwashes from the following non-contact operations:
  - Raw water pretreatment ahead of the Cold Mill RO unit
  - Non-contact cooling water side-stream filtration at the Melt Shop, CSP (Caster and Rolling Mill), and the Cold Mill
- Boiler blowdown and steam condensate at the Cold Mill (condensate is typically used as Cold Mill contact make-up water)
- Air compressor condensate throughout the plant
  - Note: air compressor condensate is often routed to the contact cooling water systems as make-up water.
- Potable water including water from the use or testing of safety showers and eyewash stations and system drips and leaks.

Non-contact water systems provide indirect cooling for the steel process. Non-contact water is defined as cooling water that does not make direct contact with the steel being processed. Non-contact cooling water systems consist of Melt Shop Non-Contact, Compact Strip Production (CSP) (Caster) Non-Contact, CSP (Rolling Mill) Non-Contact, Cold Mill Non-Contact, and General Plant Non-Contact. Some of the water from the non-contact cooling systems are cascaded down (i.e., blown down) and used as make-up water for contact cooling systems. Thus, reducing the required volume of fresh makeup water.

The non-contact cooling systems are open-loop systems consisting of cooling towers, cold wells, side stream sand filters, and hot wells. In these systems, water is taken from a cold well to perform cooling tasks and then is directed to a hot well. From a hot well, water is directed to a cooling tower then back to a cold well. Makeup water addition, chemical addition, and side stream filtering operations are performed at the cold well.

5.2.1 Melt Shop Non-Contact Cooling System

The Melt Shop Non-Contact Cooling water is blown down to the CSP (Caster) Contact System, and backwash from side stream filtering directed to the Sand Filter Backwash Filter System. The Melt Shop Non-Contact Cooling System provides cooling to the
following processes:

- Electric Arc Furnace (EAF)
  - Furnace shell, roof, and ductwork
  - Electrode and delta spray cooling
  - Heat exchangers
  - HVAC
  - Other general cooling
- Ladle Metallurgy Furnace (LMF)
  - Water-cooled cables
  - Roof and ductwork
  - Electrode spray
  - HVAC
  - Other general cooling
- Vacuum Degasser (VD)
  - Mechanical pumps
  - HVAC
  - Other general cooling

5.2.2 CSP Non-Contact Cooling System

The CSP Non-Contact Cooling Water is blown down to the CSP (Caster) Contact System, and the Sand Filter Backwash Filter System receives backwash from the side
stream sand filters. The CSP Non-Contact Cooling System provides cooling to the following processes:

- Caster
  - Heat exchangers
  - HVAC
  - Closed machine cooling
- Tunnel Furnace
  - Furnace rolls
  - HVAC
  - Other general cooling
- Rolling Mill
  - Heat exchangers
  - HVAC
  - Other general cooling

5.2.3 Cold Mill Non-Contact Cooling System

Cold Mill Non-Contact Cooling Water is blown down to the CSP (Caster) Contact System, and the Wastewater Treatment System receives backwash from the side stream sand filters. The Cold Mill Non-Contact Cooling System provides cooling to the following processes:

- Pickle Line and Tandem Cold Mill (PLTCM)
  - Heat exchangers
  - Other general cooling
- Continuous Galvanizing Lines (CGL)
  - Furnace cooling water
  - Other general cooling
- Off-Line Skin Pass Mill (oSPM)
  - Furnace cooling water
  - Other general cooling
- Continuous Color Coating Lines (CCCL)
  - Rolls
  - Prime strip sensors
  - Quenching systems
  - Other general cooling

5.3 Allowable Non-Stormwaters

De minimis allowable non-stormwaters are authorized for discharge at Outfalls 002, 003, and 004. These may include firewater discharges (for system flushes and testing, and emergency use), potable water (from system leaks, required system flushing, or safety showers and eyewash stations), air conditioner condensate, and incidental cooling tower mist.

6. Wastewater Treatment System Description

Wastewater treatment is described as four treatment systems: the Oil Separation System, the Caustic Wastewater Pretreatment System, the Blowdown Treatment System, and the Sand Filter Backwash System. Details about each system, and how wastewater is collected and routed to each system, are described below and the overall flow path is included in Figure 06.

6.1 Oil Separation System

Oily wastewaters, including but not limited to those from the following Cold Mill processes containing rolling emulsions, are directed to the Oil Separation System:

- From the Tandem Cold Mill on the Pickle Line and Tandem Cold Mill (PLTCM)
- From the Skin Pass Mill on the Continuous Galvanizing Lines (CGLs)
- From the Off-Line Skin Pass Mill (oSPM)

The Oil Separation System is comprised of a Dissolved Air Flotation (DAF) where oil is separated from the water. The separated oil is directed to a used oil holding tank and shipped off-site for recovery. Treated water from the DAF is directed to the EQ Tank for additional treatment as described in the Blowdown/Backwash Treatment System.

6.2 Caustic Wastewater Pretreatment System

Wastewaters from the Cold Mill Contact Coating Line Discharge (subject to 40 CFR 465) are directed to the Caustic Wastewater Pretreatment System for pH adjustment and metals precipitation prior to joining other facility wastewaters in the Blowdown Treatment System.

The Caustic Wastewater Pretreatment System is comprised of a rapid mix tank, a flocculation tank, a Dissolved Air Flotation (DAF) unit, a lamella clarifier, and a sand filter. Acid and caustic are added in the rapid mix and flocculation tanks to adjust the pH of the wastewater for metals precipitation. A flocculant is added prior to the lamella clarifier to promote settling of precipitated metal compounds. The clarifier effluent is sent through a sand filter for additional solids removal. The sand filter effluent is monitored at Internal Outfall 201 and then joins other facility wastewaters for additional treatment in the Blowdown Treatment System.

Solids from the lamella clarifier are sent to the thickener clarifier. Sand filter backwash is sent to backwash system.

Steel Dynamics is progressing a project for additional operational flexibility and water sustainability at Internal Outfall 201. A reverse osmosis (RO) unit is being considered. The RO unit will be operated as needed to condition a portion of the sand filter effluent. The RO permeate will continue to Internal Outfall 201 for monitoring with discharge to the EQ tank. The RO reject will be sent to the Slag Quench System as make-up water. Maintenance wastewaters, like RO clean-in-place wastewaters, will be sent to the Slag quench system.

6.3 Blowdown System

The blowdown system receives process and utility wastewaters from the following operations:

- Melt Shop
- CSP (Caster)
- CSP (Rolling Mill)
- Laminar Cooling
- Cold Mill

The Blowdown Collection System has a holding tank where water can either be directed to the Equalization Tank (EQ Tank) for treatment and discharge via Internal Outfall 101 or sent to the Slag Quench System. Wastewaters sent to the Slag Quench System are sprayed over the top of hot slag then gravity fed to a Slag Quench Pond. This slag quench process does not discharge.

The Blowdown System wastewaters join the pretreated wastewaters from the Caustic Pretreatment System and the Oil Separation System in the EQ Tank. A coagulant is added to the EQ tank prior to pH adjustment in a primary and secondary neutralization tank (pH is raised with caustic to precipitate metals). A flocculant is added to the wastewater prior to clarifier to promote settling of the precipitated metal compounds and other solids. The clarifier effluent is sent through a sand filter for additional solids removal prior to discharge and monitoring at Internal Outfall 101.

Clarifier solids are sent to the sand filter backwash filter press for dewatering. The backwash from the sand filter is sent back to the EQ Tank for treatment.

Steel Dynamics is progressing a water reuse project with the discharge at Internal Outfall 101 via installation of an RO unit. The RO unit will receive effluent from the sand filter. The RO permeate will

be sent to the facility as make-up water. The RO reject will be managed such that reject water is not discharged (for example: sent to the Slag Quench System, disposed offsite, etc.). This system is anticipated to be used during certain drought conditions. The impact to the Internal Outfall 101 discharge would be reduced or zero flow and would not impact the effluent quality at Internal Outfall 101.

6.4 Sand Filter Backwash Filter System

Many of the cooling water systems include sand filters on both contact and non-contact cooling processes. The sand filters generate backwash wastewaters, which are handled in the Sand Filter Backwash Filter System. A common sump receives the backwashes from the individual process and filters. The sump then routes the backwash water to a thickener. The thickener system consists of a sludge thickener and a belt press. Dewatered solids are collected in a roll-off box and sent to an off-site landfill for disposal.

Filtrate from the filter press is sent back to the EQ tank for treatment.

7. Stormwater Management

Stormwater runoff from the facility is managed by three stormwater detention ponds each with discharge to one of the permitted stormwater outfalls (Outfalls 002, 003, and 004). The drainage areas for each outfall/detention pond are presented in Figure 07, along with key site features (i.e., stormwater controls, exposed material handling areas). Steel Dynamics maintains a Stormwater Pollution Prevent Plan (SWPPP) for these drainage areas and outfalls.

Stormwater runoff from two co-located facilities is included in this discharge: Levy Texas Mill Services, which operates the slag processing area and OmniSource, which operates the scrap processing area. Both operations are within the drainage area for Outfall 004. Other facilities on the Steel Dynamics property to the west (i.e., JM Steel, Freedman Industries) are outside of the permitted drainage areas and do not contribute stormwater runoff to Outfalls 002, 003, or 004.

The outfall drainage areas include the following activities:

- Outfall 002 Drainage Area: south portion of the rail marshaling yard, second paint and galvanizing lines, the west portion of the Cold Mill, south side of the Hot Mill and offices and administrative buildings on the south side of the Hot Mill.
- Outfall 003 Drainage Area: various rail tracks, east side of the Cold Mill, roll-off staging area, wastewater treatment plant, north side of the Hot Mill, Melt Shop, electric arc furnace dust baghouse, cooling towers, and electrical substation.
- Outfall 004 Drainage Area: north portion of the rail marshaling yard, recycled steel storage yard, Levy Mill Service pad site, and OmniSource pad site.

7.1 Exposed Materials and Process Activities

The following materials have the potential for stormwater exposure due to their storage location and/or transportation to and from the facility.

Table 3: Materials with Potential Stormwater Exposure

Scrap Steel	Hot-rolled coils
Iron	Plate
Carbon	Pickled coils
Dolomitic Lime	Cold-rolled coils
Aluminum	Galvanized coils
Zinc Ingots	Painted coils
	Raw and processed slag

The following materials have the potential for stormwater exposure during transfer of materials (i.e., loading/unloading activities):

- Hydrochloric acid and sulfuric acid
- Paints and coatings
- Solvents
- Emulsified Oils

The following areas and process activities have the potential for stormwater exposure:

- Rolled Steel Storage Pads: area for storing steel coils and plates prior to shipping offsite or being further processed.
- Galvanizing 1 & 2: zinc ingots are stored near the galvanizing lines prior to use. Steel rolls are stored near the galvanizing lines prior to shipping offsite or being further processed.
- Paint Line 1 & 2: paint and solvents are stored near the paint lines and throughout the Mill. Steel sheets are also stored near the paint lines.
- Pickle Line: steel sheets are stored near here prior to shipping offsite or being further processed.
- Rail Car / Bulk Storage Transfer Area: transfers are made from rail tank cars to bulk storage containers to the east of the Cold Mill. Materials transferred include hydrochloric and ferric chloride.
- Bulk Storage Pile: bulk metal storage is located near the melt shop. Materials include scrap metal, aluminum, carbon, and dolomitic lime.
- Recycled Steel Storage Yard: recycled steel is stored here.
- Levy Texas Mill Service Yard: slag from the electric arc furnace is stored here.
- OmniSource Yard: metal products used to charge the electric arc furnace are stored here.
- Fueling Areas: present throughout the mill to fuel vehicles and equipment. Fuel is delivered via tank truck to aboveground storage tanks. Fuel tanks are provided with secondary containment.
- Equipment Lube and Cooling Systems: present throughout the mill.

7.2 Best Management Practices and Controls

Stormwater management measures and best management practices (BMPs) include both operating procedures and structure controls that have been implemented to minimize the amount of pollutants in stormwater discharges. The following sections describe the BMPs and controls as-implemented.

7.2.1 Good Housekeeping Measures

Good housekeeping practices are intended to maintain areas in a clean and orderly manner to minimize contamination of stormwater discharges. The following good housekeeping measures are employed:

- Maintain a clear facility free of loose debris
- Report suspected leaks to the Environmental Engineer

- Immediately clean up any material that has leaked or spilled
- Keep sorbent products available for any areas that might be at risk of a spill
- Properly dispose of waste materials

7.2.2 Spill Prevention and Response

A Spill Prevention, Control, and Countermeasures (SPCC) Plan has been prepared for the facility and may be referred to in addition to the information below. Potential pollution sources, which could spill or leak, are visually inspected on a regular basis. Drums, tanks, and other containers are clearly labeled. Hazardous waste containers are clearly marked. Observed spills and leaks are contained by absorbent materials or other appropriate methods and subsequently cleaned up. Other preventative measures to prevent stormwater contamination include:

- Preventative maintenance including regular inspections, testing, and cleaning of facility equipment and operations.
- Periodic observations of tanks and container areas, secondary containment, vehicles and operational equipment.
- Proper waste management, including labeling all containers as required by OSHA, DOT, EPA, and/or TCEQ requirements.
- Proper and timely waste disposal.

Materials and equipment necessary for spill clean-up will be made available to facility personnel. The following equipment is maintained in spill kits located across the facility to respond to spills, discharges, or releases:

- Pads
- Pillows
- Socks
- Disposal bags
- Goggles
- Nitrile gloves

7.2.3 Employee Training

Facility personnel that work in areas with stormwater exposure are trained in spill prevention and response measures at least once per year. The training includes a review of the SWPPP as well as:

- Spill response measures and protocols
- Material management and handling practices
- Spill prevention methods, location of spill cleanup materials and equipment, spill cleanup techniques, and proper spill reporting procedures
- Good housekeeping measures
- Best Management Practices
- Goals of the SWPPP

7.2.4 Structural Controls

Structural controls have been implemented including:

- Rock dams and vegetation along stormwater ditches to reduce velocity of flow and sediment loading
- Valves on the discharge of the stormwater detention ponds
- Stormwater detention ponds
- Silt fences

Structural controls are inspected quarterly as part of the maintenance program.

8. Effluent Characterization

The contract laboratories used for sample analysis and any specific notes regarding the sample results are presented below. Regarding sampling and analyses, permit-required conditions were followed. Where no permit requirements were listed, analyses followed 40 CFR Part 136.

Outfall 001 sampling for the permit renewal was conducted on the following dates:

- Week 1: 6/11/2025
- Week 2: 6/19/2025
- Week 3: 6/26/2025
- Week 4: 6/30/2025

Parameters that are collected as part of routine compliance (i.e., CBOD-5, dissolved oxygen, ammonia, and temperature) are presented from four weeks of compliance sampling in April 2025. Steel Dynamics collected in-field parameters (dissolved oxygen, pH [collected 10/24/25 – 11/12/25], temperature, and total residual chlorine [collected 10/24/25 – 11/14/25]). Other analyses were performed by contract laboratories as indicated in the table below.

Table 4: List of Contract Laboratories

Laboratory	Analyses Performed
ALS Houston 10450 Stancliff Rd. Suite 210 Houston, TX 77099 281-530-5656	All other parameters
ALS Environmental 1317 S. 13th Avenue Kelso, WA 98626 360-577-7222	Nonylphenol, bisphenol A
ALS Environmental 3352 128th Avenue Holland, MI 49424 616-399-6070	Mercury
Pace Analytical National 12065 Lebanon Road Mount Juliet, TN 37122 615-758-5858	Hexavalent chromium

For all sample results, the following notes are as follows unless otherwise stated:

- Where sampling results are presented with a "<" symbol, the parameter was not detected above the method detection limit. The values are presented similar to the laboratory reports, which used the method detection limit where sample results were not-detected.
- Values with a (J) indicate a result below reporting limit but greater or equal to the maximum detection limit and the concentration is an approximate value.

- Values with a (n) indicate the parameter is not offered for accreditation.

Specific notes regarding certain parameters:

- Total cyanide results (by method 4500CN E) are presented for the "cyanide, available" parameter.
- The sample results for 3-Methylphenol and 4-Methylphenol are from a single laboratory analysis (for each sample) of 3,4-Methylphenol.
- The laboratory report had the following note in the narrative regarding the bisphenol A sample result from Week 1: *The upper control criterion was exceeded for Bisphenol A in Continuing Calibration Verification (CCV) KQ2511133-02. The field samples analyzed in this sequence did not contain the analyte in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.*
- Total dissolved solids (TDS) were measured in each of the four Outfall 001 effluent samples. The results of the first sample indicated elevated TDS and did not align with the other three samples. The major ions contributing to overall TDS did not corroborate the reported TDS concentration.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the industrial wastewater permit application.

APPLICANT NAME: Steel Dynamics Southwest, LLC

PERMIT NUMBER (If new, leave blank): WQ00 05283000

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Worksheet 8.0	☐	☒
Administrative Report 1.1	☒	☐	Worksheet 9.0	☐	☒
SPIF	☒	☐	Worksheet 10.0	☐	☒
Core Data Form	☒	☐	Worksheet 11.0	☐	☒
Summary of Application (PLS)	☒	☐	Worksheet 11.1	☐	☒
Public Involvement Plan Form	☒	☐	Worksheet 11.2	☐	☒
Technical Report 1.0	☒	☐	Worksheet 11.3	☐	☒
Worksheet 1.0	☒	☐	Original USGS Map	☒	☐
Worksheet 2.0	☒	☐	Affected Landowners Map	☒	☐
Worksheet 3.0	☐	☒	Landowner Disk or Labels	☒	☐
Worksheet 3.1	☐	☒	Flow Diagram	☒	☐
Worksheet 3.2	☐	☒	Site Drawing	☒	☐
Worksheet 3.3	☐	☒	Original Photographs	☒	☐
Worksheet 4.0	☒	☐	Design Calculations	☐	☒
Worksheet 4.1	☐	☒	Solids Management Plan	☐	☒
Worksheet 5.0	☐	☒	Water Balance	☒	☐
Worksheet 6.0	☐	☒			
Worksheet 7.0	☒	☐			

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

INDUSTRIAL WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

Below is a list of common deficiencies found during the administrative review of industrial wastewater permit applications. To ensure the timely processing of this application, please review the items below and indicate each item is complete and in accordance applicable rules at 30 TAC Chapters 21, 281, and 305 by checking the box next to the item. If an item is not required this application, indicate by checking N/A where appropriate. Please do not submit the application until all items below are addressed.

☒ Core Data Form (TCEQ Form No. 10400)
(Required for all applications types. Must be completed in its entirety and signed. Note: Form may be signed by applicant representative.)

☒ Correct and Current Industrial Wastewater Permit Application Forms
(TCEQ Form Nos. 10055 and 10411. Version dated 5/10/2019 or later.)

☐ Water Quality Permit Payment Submittal Form (Page 14)
(Original payment sent to TCEQ Revenue Section. See instructions for mailing address.)

☒ 7.5 Minute USGS Quadrangle Topographic Map Attached
(Full-size map if seeking "New" permit. 8 ½ x 11 acceptable for Renewals and Amendments.)

☒ N/A ☐ Current/Non-Expired, Executed Lease Agreement or Easement Attached

☐ N/A ☒ Landowners Map
(See instructions for landowner requirements.)

Things to Know:

- All the items shown on the map must be labeled.
- The applicant's complete property boundaries must be delineated which includes boundaries of contiguous property owned by the applicant.
- The applicant cannot be its own adjacent landowner. You must identify the landowners immediately adjacent to their property, regardless of how far they are from the actual facility.
- If the applicant's property is adjacent to a road, creek, or stream, the landowners on the opposite side must be identified. Although the properties are not adjacent to applicant's property boundary, they are considered potentially affected landowners. If the adjacent road is a divided highway as identified on the USGS topographic map, the applicant does not have to identify the landowners on the opposite side of the highway.

☐ N/A ☐ Landowners Labels and Cross Reference List
(See instructions for landowner requirements.)

☒ Electronic Application Submittal
(See application submittal requirements on page 23 of the instructions.)

☒ Original signature per 30 TAC § 305.44 – Blue Ink Preferred
(If signature page is not signed by an elected official or principle executive officer, a copy of signature authority/delegation letter must be attached.)

☒ Summary of Application (in Plain Language)

Core Data Form

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☐ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☒ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 605646041		**RN 110750965**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

Steel Dynamics Southwest, LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0803260531	32070026441	81-4743772	80-820-2725

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	8534 Hwy 89							
	City	Sinton	**State**	TX	**ZIP**	78387	**ZIP + 4**	2148

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	mariann.hernandez@steeldynamics.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(361) 424-6352		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Steel Dynamics Southwest

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	8534 Highway 89							
	City	Sinton	**State**	TX	**ZIP**	78387	**ZIP + 4**	
24. County	San Patricio							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	

26. Nearest City	**State**	**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
3312		331110	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Steel manufacturer

34. Mailing Address:	**8534 Highway 89**							
	City	**Sinton**	**State**	**TX**	**ZIP**	**78387**	**ZIP + 4**	
35. E-Mail Address:	**mariann.hernandez@steeldynamics.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(361) 424-6352		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☒ Emissions Inventory Air	☒ Industrial Hazardous Waste
			SDA019Q	TXR000085550
☐ Municipal Solid Waste	☒ New Source Review Air	☐ OSSF	☒ Petroleum Storage Tank	☐ PWS
	156458		92014	
☐ Sludge	☒ Storm Water	☒ Title V Air	☐ Tires	☐ Used Oil
	WQ0005283000	O4324		
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0005283000			

SECTION IV: Preparer Information

40. Name:	Mariann Hernandez	**41. Title:**	Environmental Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(361) 424-6352		( ) -	mariann.hernandez@steeldynamics.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Steel Dynamics Southwest, LLC	**Job Title:**	General Manager
Name *(In Print):*	Dennis Black	**Phone:**	(361) 424- **6200**
Signature:	RCL	**Date:**	11/17/25

Administrative Report 1.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

This report is required for all applications for TPDES permits and TLAPs, except applications for oil and gas extraction operations subject to 40 CFR Part 435. Contact the Applications Review and Processing Team at 512-239-4671 with any questions about completing this report.

Applications for oil and gas extraction operations subject to 40 CFR Part 435 must use Oil and Gas Exploration and Production Administrative Report (TCEQ Form-20893 and 20893-inst[1]).

Item 1. Application Information and Fees (Instructions, Page 26)

a. Complete each field with the requested information, if applicable.

Applicant Name: Steel Dynamics Southwest, LLC

Permit No.: WQ0005283000

EPA ID No.: TX0139629

Expiration Date: May 26, 2026

b. Check the box next to the appropriate authorization type.

☒ Industrial Wastewater (wastewater and stormwater)

☐ Industrial Stormwater (stormwater only)

☐ Reverse Osmosis Water Treatment (reverse osmosis water treatment wastewaters only)

c. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

d. Check the box next to the appropriate permit type.

☒ TPDES Permit ☐ TLAP ☐ TPDES with TLAP component

e. Check the box next to the appropriate application type.

☐ New

☐ Renewal with changes ☐ Renewal without changes

☒ Major amendment with renewal ☐ Major amendment without renewal

☐ Minor amendment without renewal

☐ Minor modification without renewal

f. If applying for an amendment or modification, describe the request: Click to enter text.

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region _____
Permit Number _____

[1] https://www.tceq.texas.gov/publications/search_forms.html

g. Application Fee

EPA Classification	New	Major Amend. (with or without renewal)	Renewal (with or without changes)	Minor Amend. / Minor Mod. (without renewal)
Minor facility not subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $350	☐ $350	☐ $315	☐ $150
Minor facility subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	☐ $1,250	☒ $1,250	☐ $1,215	☐ $150
Major facility	N/A [2]	☐ $2,050	☐ $2,015	☐ $450

h. Payment Information

Mailed

Check or money order No.: 13325

Check or money order amt.: $1,250.00

Named printed on check or money order: Texas Commission on Environmental Quality

Epay

Voucher number: Click to enter text.

Copy of voucher attachment: Click to enter text.

Item 2. Applicant Information (Instructions, Pages 26)

a. Customer Number, if applicant is an existing customer: CN605646041

Note: Locate the customer number using the TCEQ's Central Registry Customer Search[3].

b. Legal name of the entity (applicant) applying for this permit: Steel Dynamics Southwest, LLC

Note: The owner of the facility must apply for the permit. The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Mr. Full Name (Last/First Name): Black/Dennis

Title: General Manager Credential: N/A

d. Will the applicant have overall financial responsibility for the facility?

☒ Yes ☐ No

[2] All facilities are designated as minors until formally classified as a major by EPA.

[3] https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 3. Co-applicant Information (Instructions, Page 27)

☒ Check this box if there is no co-applicant.; otherwise, complete the below questions.

a. Legal name of the entity (co-applicant) applying for this permit: Click to enter text.

Note: The legal name must be spelled exactly as filed with the TX SOS, Texas Comptroller of Public Accounts, County, or in the legal documents forming the entity.

b. Customer Number (if applicant is an existing customer): CNClick to enter text.

Note: Locate the customer number using the TCEQ's Central Registry Customer Search.

c. Name and title of the person signing the application. (**Note:** The person must be an executive official that meets signatory requirements in 30 TAC § 305.44.)

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

d. Will the co-applicant have overall financial responsibility for the facility?

☐ Yes ☐ No

Note: The entity with overall financial responsibility for the facility must apply as a co-applicant, if not the facility owner.

Item 4. Core Data Form (Instructions, Pages 27)

a. Complete and attach one Core Data Form (TCEQ Form 10400) for each customer (applicant and co-applicant(s)). If the customer type selected on the Core Data Form is Individual, complete Attachment 1 of the Administrative Report. Attachment: CORE Data Form

Item 5. Application Contact Information (Instructions, Page 27)

Provide names of two individuals who can be contacted about this application. Indicate if the individual can be contacted about administrative or technical information, or both.

a. ☒ Administrative Contact ☒ Technical Contact

Prefix: Ms. Full Name (Last/First Name): Hernandez/Mariann

Title: Environmental Engineer Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 631-424-6352 Email: mariann.hernandez@steeldynamics.com

b. ☒ Administrative Contact ☐ Technical Contact

Prefix: Mr. Full Name (Last/First Name): Black/Dennis

Title: General Manager Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 631-424-6200 Email: dennis.black@steeldynamics.com

Attachment: N/A

Item 6. Permit Contact Information (Instructions, Page 28)

Provide two names of individuals that can be contacted throughout the permit term.

a. Prefix: Ms. Full Name (Last/First Name): Hernandez/Mariann

Title: Environmental Engineer Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 361-424-6352 Email: mariann.hernandez@steeldynamics.com

b. Prefix: Mr. Full Name (Last/First Name): Black/Dennis

Title: General Manager Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 361-424-6200 Email: dennis.black@steeldynamics.com

Attachment: N/A

Item 7. Billing Contact Information (Instructions, Page 28)

The permittee is responsible for paying the annual fee. The annual fee will be assessed for permits **in effect on September 1 of each year**. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (form TCEQ-20029).

Provide the complete mailing address where the annual fee invoice should be mailed and the name and phone number of the permittee's representative responsible for payment of the invoice.

Prefix: Mr. Full Name (Last/First Name): Black/Dennis

Title: General Manager Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 631-424-6200 Email: dennis.black@steeldynamics.com

Item 8. DMR/MER Contact Information (Instructions, Page 28)

Provide the name and mailing address of the person delegated to receive and submit DMRs or MERs. **Note:** DMR data must be submitted through the NetDMR system. An electronic reporting account can be established once the facility has obtained the permit number.

Prefix: Ms. Full Name (Last/First Name): Hernandez, Mariann

Title: Environmental Engineer Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 631-424-6352 Email: mariann.hernandez@steeldynamics.com

Item 9. Notice Information (Instructions, Pages 28)

a. Individual Publishing the Notices

Prefix: Ms. Full Name (Last/First Name): Hernandez, Mariann

Title: Environmental Engineer Credential: Click to enter text.

Organization Name: Steel Dynamics, Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 361-424-6352 Email: mariann.hernandez@steeldynamics.com

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package (only for NORI, NAPD will be sent via regular mail)

☒ E-mail: mariann.hernandez@steeldynamic.com

☐ Fax: Click to enter text.

☒ Regular Mail (USPS)

Mailing Address: 8534 Hwy 89

City/State/Zip Code: Sinton, TX 78387

c. Contact in the Notice

Prefix: Ms. Full Name (Last/First Name): Hernandez/Mariann

Title: Environmental Engineer Credential: N/A

Organization Name: Steel Dynamics Southwest, LLC

Phone No: 361-424-6352 Email: mariann.hernandez@steeldynamics.com

d. Public Viewing Location Information

Note: If the facility or outfall is located in more than one county, provide a public viewing place for each county.

Public building name: Sinton Public Library Location within the building: Circulation Desk

Physical Address of Building: 100 North Pirate Blvd

City: Sinton County: San Patricio

e. Bilingual Notice Requirements

This information is required for new, major amendment, minor amendment or minor modification, and renewal applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice(s) is required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

   ☐ Yes ☒ No

If no, publication of an alternative language notice is not required; skip to Item 8 (Regulated Entity and Permitted Site Information.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☐ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☐ Yes ☐ No

4. Would the school be required to provide a bilingual education program, but the school has waived out of this requirement under 19 TAC §89.1205(g)?

   ☐ Yes ☐ No ☐ N/A

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program? Click to enter text.

f. Summary of Application in Plain Language Template – Complete and attach the Summary of Application in Plain Language Template (TCEQ Form 20972), also known as the plain language summary or PLS. Attachment: Plain Language Summary

g. Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment. Attachment: PIP Form

Item 10. Regulated Entity and Permitted Site Information (Instructions Page 29)

a. TCEQ issued Regulated Entity Number (RN), if available: RN110750965

Note: If your business site is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search the TCEQ's Central Registry to determine the RN or to see if the larger site may already be registered as a Regulated Entity. If the site is found, provide the assigned RN.

b. Name of project or site (name known by the community where located): Steel Dynamics Southwest, Sinton Mill

c. Is the location address of the facility in the existing permit the same?

☒ Yes ☐ No ☐ N/A (new permit)

Note: If the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County, additional information concerning protection of the Edwards Aquifer may be required.

d. Owner of treatment facility:

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Steel Dynamics Southwest, LLC

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 361-424-6200 Email: dennis.black@steeldynamics.com

e. Ownership of facility: ☐ Public ☒ Private ☐ Both ☐ Federal

f. Owner of land where treatment facility is or will be: Steel Dynamics Southwest, LLC

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: 8534 Hwy 89 City/State/Zip: Sinton, TX 78387

Phone No: 361-424-6200 Email: not applicable

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years (In some cases, a lease may not suffice - see instructions). Attachment: Click to enter text.

g. Owner of effluent TLAP disposal site (if applicable): N/A

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

h. Owner of sewage sludge disposal site (if applicable):

Prefix: Click to enter text. Full Name (Last/First Name): Click to enter text.

or Organization Name: Click to enter text.

Mailing Address: Click to enter text. City/State/Zip: Click to enter text.

Phone No: Click to enter text. Email: Click to enter text.

Note: If not the same as the facility owner, attach a long-term lease agreement in effect for at least six years. Attachment: Click to enter text.

Item 11. TDPES Discharge/TLAP Disposal Information (Instructions, Page 31)

a. Is the facility located on or does the treated effluent cross Native American Land?

☐ Yes ☒ No

b. Attach an original full size USGS Topographic Map (or an 8.5"×11" reproduced portion for renewal or amendment applications) with all required information. Check the box next to each item below to confirm it has been included on the map.

☒ One-mile radius

☒ Applicant's property boundaries

☒ Labeled point(s) of discharge

☐ Effluent disposal site boundaries

☐ Sewage sludge disposal site

☒ Three-miles downstream information

☒ Treatment facility boundaries

☒ Highlighted discharge route(s)

☒ All wastewater ponds

☐ New and future construction

Attachment: Figure 01: Site Location Map

c. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No or New Permit N/A

If no, or a new application, provide an accurate location description: Click to enter text.

d. Are the point(s) of discharge in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new application, provide an accurate location description: Click to enter text.

e. Are the discharge route(s) in the existing permit correct?

☒ Yes ☐ No or New Permit

If no, or a new permit, provide an accurate description of the discharge route: Click to enter text.

f. City nearest the outfall(s): Sinton

g. County in which the outfalls(s) is/are located: San Patricio

h. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☒ Yes ☐ No

If yes, indicate by a check mark if: ☒ Authorization granted ☐ Authorization pending

For new and amendment applications, attach copies of letters that show proof of contact and provide the approval letter upon receipt. Attachment: Click to enter text.

For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: N/A

i. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes No or New Permit ☒ N/A

If no, or a new application, provide an accurate location description: N/A

j. City nearest the disposal site: N/A

k. County in which the disposal site is located: N/A

l. For TLAPs, describe how effluent is/will be routed from the treatment facility to the disposal site: N/A

m. For TLAPs, identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: N/A

Item 12. Miscellaneous Information (Instructions, Page 33)

a. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person: Click to enter text.

b. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account no.: Click to enter text.

Total amount due: Click to enter text.

c. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Enforcement order no.: Click to enter text.

Amount due: Click to enter text.

Item 13. Signature Page (Instructions, Page 33)

Permit No: WQ0005283000

Applicant Name: Steel Dynamics Southwest, LLC

Certification: I, Dennis Black, 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document and can provide documentation in proof of such authorization upon request.

Signatory name (typed or printed): Dennis Black

Signatory title: General Manager

Signature: _____ Date: 11/17/25
(Use blue ink)

Subscribed and Sworn to before me by the said Dennis Black - General Manager

on this 17th day of November, 2025.

My commission expires on the 23rd day of April, 2025.

Jo Anna De Leon
Notary Public

Jo Anna De Leon
My Commission Expires
4/23/2029
Notary ID132493559

[SEAL]

San Patricio
County, Texas

Note: *If co-applicants are necessary, each entity must submit an original, separate signature page.*

Administrative Report 1.1

INDUSTRIAL WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Item 1. Affected Landowner Information (Instructions, Page 35)

a. Attach a landowner map or drawing, with scale, as applicable. Check the box next to each item to confirm it has been provided.

☒ The applicant's property boundaries.

☒ The facility site boundaries within the applicant's property boundaries.

☐ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone.

☒ The property boundaries of all landowners surrounding the applicant's property. (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)

☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream.

☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge.

☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides.

☐ The boundaries of the effluent disposal site (e.g., irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property.

☐ The property boundaries of all landowners surrounding the applicant's property boundaries where the effluent disposal site is located.

☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners within one-quarter mile of the applicant's property boundaries where the sewage sludge land application site is located.

☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (e.g., sludge surface disposal site or sludge monofil) is located.

Attachment: Figure 02: Affected Landowner Map

b. ☒ that the landowners list has also been provided as mailing labels in electronic format (Avery 5160).

c. Check this box to confirm a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.Provide the source of the landowners' names and mailing addresses: San Patricio County Appraisal District GIS Rest Services, accessed October 2025

e. As required by Texas Water Code § 5.115, is any permanent school fund land affected by this application?

☐ Yes ☒ No

If yes, provide the location and foreseeable impacts and effects this application has on the land(s): Click to enter text.

Item 2. Original Photographs (Instructions, Page 37)

Provide original ground level photographs. Check the box next to each of the following items to indicate it is included.

☐ At least one original photograph of the new or expanded treatment unit location.

☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.

☐ At least one photograph of the existing/proposed effluent disposal site.

☒ A plot plan or map showing the location and direction of each photograph.

Attachment: Original Photos

Landowner List

MAP ID	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE
1	ALLEGIANT FUND I LP	3861 AMBASSADOR CAFFERY PKWY STE 600	LAFAYETTE	LA	70503
2	BRITTAIN CHESTER TRUST	PO BOX 606	SINTON	TX	78387
3	DAVIS BRUCE & LANA FAMILY TRUST	8004 HUCKLEBERRY HILLS RD	ROGERS	AR	72756
4	FORD-ALLEN FAMILY PROPERTIES LTD	4225 AVALON	CORPUS CHRISTI	TX	78412
5	HAMILTON-INGLESIDE LIMITED LP	921 N CHAPARRAL ST #103	CORPUS CHRISTI	TX	78401
6	OWEN LESLIE ANN	731 SAN PATRICIO AVE	TAFT	TX	78390
7	RGRG JR LTD	PO BOX 171	SINTON	TX	78387
8	S & K AGRICULTURAL INC	PO BOX 36	TAFT	TX	78390
9	SAN PATRICIO COUNTY ATHLETIC CENTER INC	PO BOX 606	SINTON	TX	78387
10	THOMAS HUGHES C	PO BOX 610	SINTON	TX	78387
11	THOMAS RICHARD P & RICHARD P THOMAS FAMILY TRUST	PO BOX 1140	SINTON	TX	78387
12	ULRICH FAMILY HOLDINGS LP	11749 FM 766	CUERO	TX	77954
13	ZAFIRIOU NIKOLAOS & ALEXANDRA E	PO BOX 19	SINTON	TX	78387
14	UNKNOWN	UNKNOWN	UNKNOWN		

Photo 1: Downstream of discharge at Chiltipin Creek facing Southeast. Discharge on the left of the photo, Chiltipin Creek on the right.

Photo 2: Upstream of discharge at Chiltipin Creek facing West.

Title:	Site Photographs – Steel Dynamics Southwest, LLC	**Date:**	June and November 2025
Site:	8534 Hwy 89 Sinton, TX		

Photo 3: Outfall 001 at Chiltipin Creek, looking South.

Title:	Site Photographs – Steel Dynamics Southwest, LLC	**Date:**	June and November 2025
Site:	8534 Hwy 89 Sinton, TX		

Title:	Site Photographs – Steel Dynamics Southwest, LLC	**Date:**	June and November 2025
Site:	8534 Hwy 89 Sinton, TX		

Supplemental Permit Information Form

INDUSTRIAL WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: SPIF

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: _____Renewal _____Major Amendment ____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: Steel Dynamics Southwest, LLC

   Permit No. WQ00 05283000 EPA ID No. TX TX0139629

   Address of the project (or a location description that includes street/highway, city/vicinity, and county):

   8534 Hwy 89, Sinton, San Patricio County, TX 78387

Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Prefix (Mr., Ms., Miss): Ms.

First and Last Name: Mariann Hernandez

Credential (P.E, P.G., Ph.D., etc.): N/A

Title: Environmental Engineer

Mailing Address: 8534 Hwy 89

City, State, Zip Code: Sinton, TX 78387

Phone No.: 631-424-6352 Ext.: Click here to enter text Fax No.: Click here to enter text

E-mail Address: mariann.hernandez@steeldynamics.com

2. List the county in which the facility is located: San Patricio
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

Property is privately owned.

4. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

Constructed Wetland to Outfall 001 to Ditch 3, thence to Ditch 4, thence to Chiltipin Creek; via Outfall 002 to Ditch 1, thence to Ditch 4, thence to Chiltipin Creek; and via Outfalls 003 and 004 to Ditch 3,thence to Ditch 4, thence to Chiltipin Creek; thence all outfalls to Chiltipin Creek Tidal, thence to Aransas River Tidal in Segment No. 2003 of the San Antonio-Nueces Coastal Basin

5. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report). Attachment: Figure 01 USGS Topo Map

Provide original photographs of any structures 50 years or older on the property.

Does your project involve any of the following? Check all that apply.

☐ Proposed access roads, utility lines, construction easements

☐ Visual effects that could damage or detract from a historic property's integrity

☐ Vibration effects during construction or as a result of project design

☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

1. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

No construction at this time.

2. Describe existing disturbances, vegetation, and land use:

No construction at this time.

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

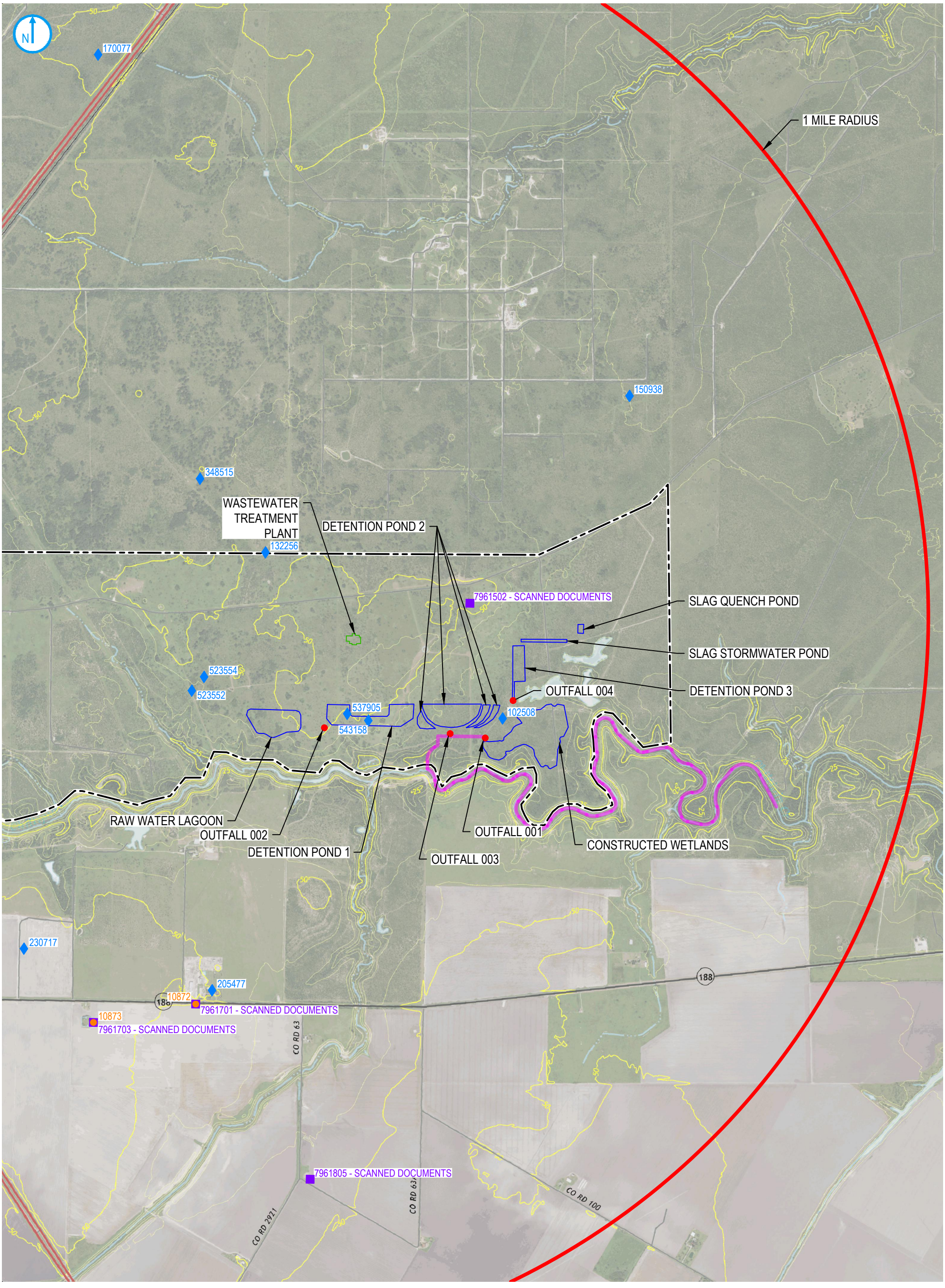
3. List construction dates of all buildings and structures on the property:

Construction of the Sinton Mill occurred during 2020-2021. Construction of co-located facilities (Satellite Operations Area) during 2021-2022. Structures on the site not associated with the Sinton Mill include a ranch house/hunting lodge constructed between 1961 and 1972 and a shop building constructed between 1972 and 1981.

4. Provide a brief history of the property, and name of the architect/builder, if known.

Prior to construction of the Sinton Mill, the property was used as an agricultural site for ranching and hunting.

PROJECT: 1940114508 DATED: 11/18/2025 DESIGNER: LENGLE C:\Users\lengle\OneDrive - Ramboll\Cad Support\Steel Dynamics Inc\USGS TOPO_SDI_1940114508.dwg



Property Boundary (approximate)

OUTFALL

SUBMITTED DRILLER'S REPORT DATABASE

TEXAS WATER DEVELOPMENT BOARD GROUNDWATER DATABASE

BRACKISH RESOURCES AQUIFER CHARACTERIZATION SYSTEM DATABASE

DISCHARGE ROUTE

0 2000 Feet

SITE LOCATION MAP

USGS 7.5 MINUTE QUADRANGLE MAP, SINTON EAST, TX

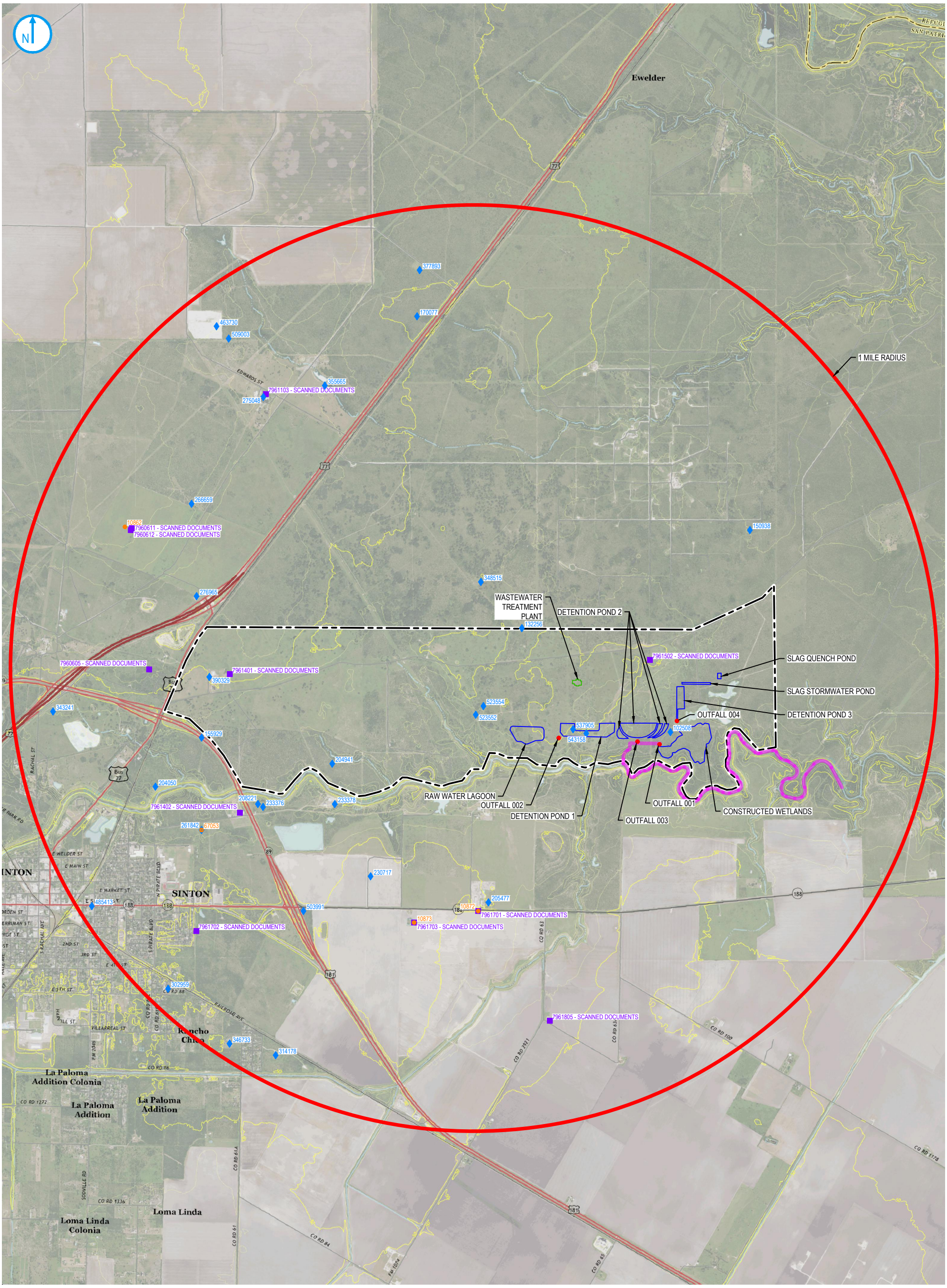
STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 1A

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1940114508 DATED: 11/18/2025 DESIGNER: LENGLE C:\Users\lengle\OneDrive - Ramboll\Cad Support\Steel Dynamics Inc\USGS TOPO_SDI_1940114508.dwg



Property Boundary (approximate)

OUTFALL

SUBMITTED DRILLER'S REPORT DATABASE

TEXAS WATER DEVELOPMENT BOARD GROUNDWATER DATABASE

BRACKISH RESOURCES AQUIFER CHARACTERIZATION SYSTEM DATABASE

DISCHARGE ROUTE

0 3200 Feet

SITE LOCATION MAP

USGS 7.5 MINUTE QUADRANGLE MAPS
SINTON EAST, TX
SINTON WEST, TX

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 1B

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

Public Involvement Plan

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☐ New Permit or Registration Application

☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☒ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

The location of this facility, Sinton is not within the above-listed geographical regions. Steel Dynamics Southwest, LLC (SDI) is submitting a permit renewal application with major amendments. As Sinton, TX is not located within the above-listed geographical regions, a Public Involvement Plan is not required. The permit application and any permit decisions will be subject to TCEQ public notice requirements per 30 TAC 39.551.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

(City)

(County)

(Census Tract)
Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☐ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☐ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☐ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

Plain Language Summary

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS INDUSTRIAL WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

Steel Dynamics Southwest, LLC (CN605646041) operates Steel Dynamics Southwest (RN110750965), a steel mill. The facility is located at 8534 Highway 89, in Sinton, San Patricio County, Texas 78387. Steel Dynamics Southwest is submitting an application for permit renewal with major amendments. Major amendments include updated production rates impacting internal Outfall 201 and 101 effluent limits, removal of duplicated parameters at internal outfalls, and updates to the definitions of process wastewater and utility wastewater.

Discharges from the facility are expected to contain pollutants subject to federal effluent limitation guidelines at 40 CFR 465, 40 CRF 420 and other permitted pollutants including: carbonaceous biochemical oxygen demand, 5-day (CBOD5), ammonia nitrogen, dissolved oxygen, total organic carbon, and temperature. Wastewaters generated from process operations, associated utilities, maintenance operations, and stormwater management are treated by sand filtration, flocculation, dissolved air flotation/oil separation, equalization, neutralization, clarification, and filtration. Stormwater, also authorized for discharge, does not receive treatment prior to discharge.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES INDUSTRIALES **/AGUAS PLUVIALES**

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

Steel Dynamics Southwest, LLC (CN605646041) opera Steel Dynamics Southwest RN110750965, una steel mill. La instalación está ubicada en 8534 Highway 89, en Sinton, Condado de San Patricio, Texas 78387. Steel Dynamics Southwest está presentando una solicitud de renovación de permiso con modificaciones importantes. Las modificaciones importantes incluyen tasas de producción actualizadas que afectan los límites de efluentes internos de los emisarios 201 y 101, la eliminación de parámetros duplicados en los emisarios internos y actualizaciones de las definiciones de aguas residuales de proceso y aguas residuales de servicios públicos .

Se espera que las descargas de la instalación contengan contaminantes sujetos a pautas federales de limitación de efluentes en 40 CFR 465, 40 CRF 420 y otros contaminantes permitidos que incluyen: demanda bioquímica de oxígeno carbonoso, 5 días (CBOD5), nitrógeno amoniacal, oxígeno disuelto, carbono orgánico total y temperatura. Aguas residuales generadas a partir de operaciones de proceso, servicios públicos asociados, operaciones de mantenimiento y gestión de aguas pluviales. están tratado por iltración de arena, floculación, flotación por aire disuelto/separación de aceite, ecualización, neutralización, clarificación y filtración. Las aguas pluviales, también autorizadas para su vertido, no reciben tratamiento previo al vertido.

Technical Report 1.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

The following information **is required** for all applications for a TLAP or an individual TPDES discharge permit.

For **additional information** or clarification on the requested information, please refer to the Instructions for Completing the Industrial Wastewater Permit Application[1] available on the TCEQ website. Please contact the Industrial Permits Team at 512-239-4671 with any questions about this form.

If more than one outfall is included in the application, provide applicable information for each individual outfall. **If an item does not apply to the facility, enter N/A** to indicate that the item has been considered. Include separate reports or additional sheets as **clearly cross-referenced attachments** and provide the attachment number in the space provided for the item the attachment addresses.

NOTE: This application is for an industrial wastewater permit only. Additional authorizations from the TCEQ Waste Permits Division or the TCEQ Air Permits Division may be needed.

Item 1. Facility/Site Information (Instructions, Page 39)

a. Describe the general nature of the business and type(s) of industrial and commercial activities. Include all applicable SIC codes (up to 4).

The Steel Dynamics Sinton facility is a flat roll steel making and finishing facility. (SIC code 3312: Steel Works, Blast Furnaces, and Rolling Mills).

b. Describe all wastewater-generating processes at the facility.

See Executive Summary Section 5.

[1] https://www.tceq.texas.gov/permitting/wastewater/industrial/TPDES_industrial_wastewater_steps.html

c. Provide a list of raw materials, major intermediates, and final products handled at the facility.

Materials List

Raw Materials	Intermediate Products	Final Products
Scrap Steel	Hot-rolled coils	Hot-rolled coils
Iron	Plate	Plate
Carbon	Pickled coils	Pickled coils
Dolomitic Lime	Cold-rolled coils	Cold-rolled coils
Aluminum	Galvanized coils	Galvanized coils
Hydrochloric Acid		Painted coils
Zinc Ingots		
Coatings		
Solvents		
Emulsified Oil		

Attachment: Click to enter text.

d. Attach a facility map (drawn to scale) with the following information:

- Production areas, maintenance areas, materials-handling areas, waste-disposal areas, and water intake structures.
- The location of each unit of the WWTP including the location of wastewater collection sumps, impoundments, outfalls, and sampling points, if significantly different from outfall locations.

Attachment: Figure 03: Facility Map, Figure 04: WWTP Unit Locations, Figure 05: Waste Management Units

e. Is this a new permit application for an existing facility?

☐ Yes ☒ No

If **yes**, provide background discussion: Click to enter text.

f. Is/will the treatment facility/disposal site be located above the 100-year frequency flood level.

☒ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain: FEMA FIRM Map No. 48409C0275E (eff. 11/4/2016) – A portion of the Constructed Wetland is within the 100-year floodplain and the external berm is at 43 feet. FEMA has not calculated the base flood elevation for this area.

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are used/proposed to prevent flooding (including tail water and rainfall run-on controls) of the treatment facility and disposal area: Click to enter text.

Attachment: Click to enter text.

g. For **new** or **major amendment** permit applications, will any construction operations result in a discharge of fill material into a water in the state?

☐ Yes ☒ No ☐ N/A (renewal only)

h. If **yes** to Item 1.g, has the applicant applied for a USACE CWA Chapter 404 Dredge and Fill permit?

☐ Yes ☐ No

If **yes**, provide the permit number: Click to enter text.

If **no**, provide an approximate date of application submittal to the USACE: Click to enter text.

Item 2. Treatment System (Instructions, Page 40)

a. List any physical, chemical, or biological treatment process(es) used/proposed to treat wastewater at this facility. Include a description of each treatment process, starting with initial treatment and finishing with the outfall/point of disposal.

See Executive Summary Section 6.

b. Attach a flow schematic **with a water balance** showing all sources of water and wastewater flow into the facility, wastewater flow into and from each treatment unit, and wastewater flow to each outfall/point of disposal.

Attachment: Figure 06: Water Balance Block Diagram

Item 3. Impoundments (Instructions, Page 40)

Does the facility use or plan to use any wastewater impoundments (e.g., lagoons or ponds?)

☒ Yes ☐ No

If **no**, proceed to Item 4. If **yes**, complete **Item 3.a** for **existing** impoundments and **Items 3.a - 3.e** for **new or proposed** impoundments. **NOTE:** See instructions, Pages 40-42, for additional information on the attachments required by Items 3.a – 3.e.

a. Complete the table with the following information for each existing, new, or proposed impoundment. Attach additional copies of the Impoundment Information table, if needed.

Use Designation: Indicate the use designation for each impoundment as Treatment (**T**), Disposal (**D**), Containment (**C**), or Evaporation (**E**).

Associated Outfall Number: Provide an outfall number if a discharge occurs or will occur.

Liner Type: Indicate the liner type as Compacted clay liner (**C**), In-situ clay liner (**I**), Synthetic/plastic/rubber liner (**S**), or Alternate liner (**A**). **NOTE:** See instructions for further detail on liner specifications. If an alternate liner (A) is selected, include an attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Leak Detection System: If any leak detection systems are in place/planned, enter **Y** for yes. Otherwise, enter **N** for no.

Groundwater Monitoring Wells and Data: If groundwater monitoring wells are in place/planned, enter **Y** for yes. Otherwise, enter **N** for no. Attach any existing groundwater monitoring data.

Dimensions: Provide the dimensions, freeboard, surface area, storage capacity of the impoundments, and the maximum depth (not including freeboard). For impoundments with irregular shapes, submit surface area instead of length and width.

Compliance with 40 CFR Part 257, Subpart D: If the impoundment is required to be in compliance with 40 CFR Part 257, Subpart D, enter **Y** for yes. Otherwise, enter **N** for no.

Date of Construction: Enter the date construction of the impoundment commenced (mm/dd/yy).

Impoundment Information

Parameter	**Pond # 1**	**Pond # 2**	**Pond # 3**	**Pond # 4**
Use Designation: (T) (D) (C) or (E)	C	C	C	C
Associated Outfall Number	002 (Detention 1)	003 (Detention 2)	004 (Detention 3)	004 (Slag Processing Stormwater Detention Pond)
Liner Type (C) (I) (S) or (A)	I	I	I	I
Alt. Liner Attachment Reference	n/a	n/a	n/a	n/a
Leak Detection System, Y/N	N	N	N	N
Groundwater Monitoring Wells, Y/N	N	N	N	N
Groundwater Monitoring Data Attachment	N	N	N	N
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Y	Y	Y	Y

Parameter	Pond # 1	Pond # 2	Pond # 3	Pond # 4
Length (ft)	1,280	1,300	2,900	4,300
Width (ft)	530	550	230	100
Max Depth From Water Surface (ft), Not Including Freeboard	10	7	8	5
Freeboard (ft)	1	1	2	2
Surface Area (acres)	13.4	12.0	15.0	9.6
Storage Capacity (gallons)	856,603,915	76,785,597	813,515,098	1,560,000
40 CFR Part 257, Subpart D, Y/N	N	N	N	N
Date of Construction	3/2020	3/2020	3/2020	3/2020

Parameter	Pond # 5	Pond # 6	Pond #	Pond #
Use Designation: (T) (D) (C) or (E)	C	C		
Associated Outfall Number	None	001 (Constructed Wetland)		
Liner Type (C) (I) (S) or (A)	C	I		
Alt. Liner Attachment Reference	n/a	n/a		
Leak Detection System, Y/N	N	N		
Groundwater Monitoring Wells, Y/N	N	N		
Groundwater Monitoring Data Attachment	N	N		
Pond Bottom Located Above The Seasonal High-Water Table, Y/N	Y	Y		
Length (ft)	216	Irregular		
Width (ft)	146	Irregular		
Max Depth From Water Surface (ft), Not Including Freeboard	5	1.5		
Freeboard (ft)	4.5	2.74		
Surface Area (acres)	0.72	26.7		
Storage Capacity (gallons)	589,098	13,051,188		
40 CFR Part 257, Subpart D, Y/N	N	N		
Date of Construction	8/2021	1/2022		

Attachment: Click to enter text.

The following information (**Items 3.b – 3.e**) is required only for **new or proposed** impoundments.

b. For new or proposed impoundments, attach any available information on the following items. If attached, check **yes** in the appropriate box. Otherwise, check **no** or **not yet designed**.

1. Liner data

   ☐ Yes ☐ No ☐ Not yet designed

2. Leak detection system or groundwater monitoring data

   ☐ Yes ☐ No ☐ Not yet designed

3. Groundwater impacts

   ☐ Yes ☐ No ☐ Not yet designed

   NOTE: Item b.3 is required if the bottom of the pond is not above the seasonal high-water table in the shallowest water-bearing zone.

Attachment: Click to enter text.

For TLAP applications: Items 3.c – 3.e are **not required**, continue to Item 4.

c. Attach a USGS map or a color copy of original quality and scale which accurately locates and identifies all known water supply wells and monitor wells within ½-mile of the impoundments.

Attachment: Click to enter text.

d. Attach copies of State Water Well Reports (e.g., driller's logs, completion data, etc.), and data on depths to groundwater for all known water supply wells including a description of how the depths to groundwater were obtained.

Attachment: Click to enter text.

e. Attach information pertaining to the groundwater, soils, geology, pond liner, etc. used to assess the potential for migration of wastes from the impoundments or the potential for contamination of groundwater or surface water.

Attachment: Click to enter text.

Item 4. Outfall/Disposal Method Information (Instructions, Page 42)

Complete the following tables to describe the location and wastewater discharge or disposal operations for each outfall for discharge, and for each point of disposal for TLAP operations.

If there are more outfalls/points of disposal at the facility than the spaces provided, copies of pages 6 and/0r numbered accordingly (i.e., page 6a, 6b, etc.) may be used to provide information on the additional outfalls.

For TLAP applications: Indicate the disposal method and each individual irrigation area **I**, evaporation pond **E**, or subsurface drainage system **S** by providing the appropriate letter designation for the disposal method followed by a numerical designation for each disposal area in the space provided for **Outfall** number (e.g. **E1** for evaporation pond 1, **I2** for irrigation area No. 2, etc.).

Outfall Longitude and Latitude

Outfall No.	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
001	28.052195	-97.443038
101	28.058033	-97.452492
201	28.058031	-97.451669
002	28.052707	-97.453851
003	28.052415	-97.445490
004	28.054341	-97.441343

Outfall Location Description

Outfall No.	Location Description
001	Discharge of Constructed Wetlands to Ditch 3
101	Near wastewater treatment plant at discharge of sand filters
201	At discharge of sand filters after lamella clarifier
002	Discharge of Detention Pond 1, southeast of the Administrative Building
003	Discharge of Detention Pond 2, southwest of the Metal Scrap Storage Yard
004	Discharge of Detention Pond 3, south of the Slag Processing Area and east of the Metal Scrap Storage Yard

Description of Sampling Point(s) (if different from Outfall location)

Outfall No.	Description of sampling point
	Samples are collected at the Permit described outfall locations.

Outfall Flow Information – Permitted and Proposed

Outfall No.	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)	Anticipated Discharge Date (mm/dd/yy)
001	Report	Report	Report	Report	
101	1.2	3.0	Report	Report	
201	Report	Report	Intermittent	Intermittent	
002	Report	Report	Intermittent	Intermittent	
003	Report	Report	Intermittent	Intermittent	
004	Report	Report	Intermittent	Intermittent	

Outfall Discharge – Method and Measurement

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
001	N	Y	Weir
101	Y	N	Totalizer

Outfall No.	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used
201	Y	N	Totalizer
002	N	Y	Estimate
003	N	Y	Estimate
004	N	Y	Estimate

Outfall Discharge – Flow Characteristics

Outfall No.	Intermittent Discharge? Y/N	Continuous Discharge? Y/N	Seasonal Discharge? Y/N	Discharge Duration (hrs/day)	Discharge Duration (days/mo)	Discharge Duration (mo/yr)
001	N	Y	N	24	30	12
101	N	Y	N	24	30	12
201	Y	N	N	Intermittent	Intermittent	Intermittent
002	Y	N	N	Intermittent	Intermittent	Intermittent
003	Y	N	N	Intermittent	Intermittent	Intermittent
004	Y	N	N	Intermittent	Intermittent	Intermittent

Outfall Wastestream Contributions

Outfall No. 001/101

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Sand Filter Backwashes from non-contact cooling and water treatment (Melt Shop, CSP Caster and Rolling Mill, Cold Mill)	0.0461	4%
Cooling tower blowdown, non-contact, from Cold Mill	0.0648	5%
CSP Caster Process Wastewater	0.3312	28%
CSP Rolling Mill Process Wastewater	0.2808	24%
Laminar Cooling Process Wastewater	0.0734	6%
Cold Mill Process Wastewater	0.0994	8%
Reverse Osmosis Reject (utility wastewater)	0.1238	10%
Misc. Utility Wastewaters (boiler blowdown, steam condensate, air compressor condensate, potable water)	-	-
Previously monitored effluent from Outfall 201	0.1728	14%

Outfall No. 201

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Cold Mill Coating Line Process Wastewater	0.173	100

Outfall No. 002

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Stormwater runoff from 263 acres of plant site as described in Section 7 of Executive Summary	Intermittent and flow variable	100
Authorized non-stormwater discharges	De minimis	-

Outfall No. 003

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Stormwater runoff from 236 acres of plant site as described in Section 7 of Executive Summary	Intermittent and flow variable	100
Authorized non-stormwater discharges	De minimis	-

Outfall No. 004

Contributing Wastestream	Volume (MGD)	Percent (%) of Total Flow
Stormwater runoff from 319 acres of plant site as described in Section 7 of Executive Summary	Intermittent and flow variable	100
Authorized non-stormwater discharges	De minimis	-

Attachment: N/A

Item 5. Blowdown and Once-Through Cooling Water Discharges (Instructions, Page 43)

a. Indicate if the facility currently or proposes to:

☒ Yes ☐ No Use cooling towers that discharge blowdown or other wastestreams

☒ Yes ☐ No Use boilers that discharge blowdown or other wastestreams

☐ Yes ☒ No Discharge once-through cooling water

NOTE: If the facility uses or plans to use cooling towers or once-through cooling water, Item 12 **is required**.

b. If **yes** to any of the above, attach an SDS with the following information for each chemical additive.

- Manufacturers Product Identification Number
- Product use (e.g., biocide, fungicide, corrosion inhibitor, etc.)
- Chemical composition including CASRN for each ingredient
- Classify product as non-persistent, persistent, or bioaccumulative
- Product or active ingredient half-life
- Frequency of product use (e.g., 2 hours/day once every two weeks)
- Product toxicity data specific to fish and aquatic invertebrate organisms
- Concentration of whole product or active ingredient, as appropriate, in wastestream.

In addition to each SDS, attach a summary of the above information for each specific wastestream and the associated chemical additives. Specify which outfalls are affected.

Attachment: Attachment 2

c. Cooling Towers and Boilers

If the facility currently or proposes to use cooling towers or boilers that discharge blowdown or other wastestreams to the outfall(s), complete the following table.

Cooling Towers and Boilers

Type of Unit	Number of Units	Daily Avg Blowdown (gallons/day)	Daily Max Blowdown (gallons/day)
Cooling Towers	6	619,200	1,949,280
Boilers	2	2,880	9,066

Item 6. Stormwater Management (Instructions, Page 44)

Will any existing/proposed outfalls discharge stormwater associated with industrial activities, as defined at *40 CFR § 122.26(b)(14)*, commingled with any other wastestream?

☒ Yes ☐ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in a manner which may result in exposure of the activities or materials to stormwater: Raw

materials, which are primarily metal scrap, are stored on the eastern side of the plant site. Slag produced from the steel making process is managed and processed for beneficial reuse in the Slag Processing Area on the eastern side of the plant site. Both of these areas are exposed to rainfall. Intermediate and final products, other raw materials are generally not exposed to rainfall.

Item 7. Domestic Sewage, Sewage Sludge, and Septage Management and Disposal (Instructions, Page 44)

Domestic Sewage - Waste and wastewater from humans or household operations that is discharged to a wastewater collection system or otherwise enters a treatment works.

a. Check the box next to the appropriate method of domestic sewage and domestic sewage sludge treatment or disposal. Complete Worksheet 5.0 or Item 7.b if directed to do so.

☒ Domestic sewage is routed (i.e., connected to or transported to) to a WWTP permitted to receive domestic sewage for treatment, disposal, or both. Complete Item 7.b.

☐ Domestic sewage disposed of by an on-site septic tank and drainfield system. Complete Item 7.b.

☐ Domestic and industrial treatment sludge ARE commingled prior to use or disposal.

☐ Industrial wastewater and domestic sewage are treated separately, and the respective sludge IS NOT commingled prior to sludge use or disposal. Complete Worksheet 5.0.

☐ Facility is a POTW. Complete Worksheet 5.0.

☐ Domestic sewage is not generated on-site.

☐ Other (e.g., portable toilets), specify and Complete Item 7.b: Click to enter text.

b. Provide the name and TCEQ, NPDES, or TPDES Permit No. of the waste-disposal facility which receives the domestic sewage/septage. If hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit/Registration No.
Sinton Main Wastewater Treatment Facility	WQ0010055001

Item 8. Improvements or Compliance/Enforcement Requirements (Instructions, Page 45)

a. Is the permittee currently required to meet any implementation schedule for compliance or enforcement?

☐ Yes ☒ No

b. Has the permittee completed or planned for any improvements or construction projects?

☒ Yes ☐ No

c. If **yes** to either 8.a **or** 8.b, provide a brief summary of the requirements and a status update: The permittee completed the Constructed Wetland in 2022 and the second paint and galvanizing line was completed in 2023.

Item 9. Toxicity Testing (Instructions, Page 45)

Have any biological tests for acute or chronic toxicity been made on any of the discharges or on a receiving water in relation to the discharge within the last three years?

☒ Yes ☐ No

If **yes**, identify the tests and describe their purposes: The permittee conducted acute and chronic tests with initial 001 (prior to constructed wetlands) and final 001 effluent within the last three years to determine effluent toxicity on fathead minnow and *Ceriodaphnia dubia*.

Additionally, attach a copy of all tests performed which **have not** been submitted to the TCEQ or EPA. **Attachment:** Click to enter text.

Item 10. Off-Site/Third Party Wastes (Instructions, Page 45)

a. Does or will the facility receive wastes from off-site sources for treatment at the facility, disposal on-site via land application, or discharge via a permitted outfall?

☐ Yes ☒ No

If **yes**, provide responses to Items 10.b through 10.d below.

If **no**, proceed to Item 11.

b. Attach the following information to the application:

- List of wastes received (including volumes, characterization, and capability with on-site wastes).
- Identify the sources of wastes received (including the legal name and addresses of the generators).
- Description of the relationship of waste source(s) with the facility's activities.

Attachment: Click to enter text.

c. Is or will wastewater from another TCEQ, NPDES, or TPDES permitted facility commingled with this facility's wastewater after final treatment and prior to discharge via the final outfall/point of disposal?

☐ Yes ☐ No

If **yes**, provide the name, address, and TCEQ, NPDES, or TPDES permit number of the contributing facility and a copy of any agreements or contracts relating to this activity.

Attachment: Click to enter text.

d. Is this facility a POTW that accepts/will accept process wastewater from any SIU and has/is required to have an approved pretreatment program under the NPDES/TPDES program?

☐ Yes ☐ No

If **yes**, **Worksheet 6.0** of this application **is required**.

Item 11. Radioactive Materials (Instructions, Page 46)

a. Are/will radioactive materials be mined, used, stored, or processed at this facility?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L.

Radioactive Materials Mined, Used, Stored, or Processed

Radioactive Material Name	Concentration (pCi/L)
N/A	N/A

b. Does the applicant or anyone at the facility have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property?

☐ Yes ☒ No

If **yes**, use the following table to provide the results of one analysis of the effluent for all radioactive materials that may be present. Provide results in pCi/L. Do not include information provided in response to Item 11.a.

Radioactive Materials Present in the Discharge

Radioactive Material Name	Concentration (pCi/L)
N/A	N/A

Item 12. Cooling Water (Instructions, Page 46)

a. Does the facility use or propose to use water for cooling purposes?

☒ Yes

☐ No

☐ Decommissioned: Click to enter text.

☐ To Be Decommissioned: Click to enter text.

If **yes**, complete Items 12.b thru 12.f. If **no**, stop here.

If **decommissioned**, provide the date operation ceased and stop here.

If to **be decommissioned**, provide the date operation is anticipated to cease and stop here.

b. Cooling water is/will be obtained from a groundwater source (e.g., on-site well).

☒ Yes ☐ No

If **yes**, stop here. If **no**, continue.

c. Cooling Water Supplier

1. Provide the name of the owner(s) and operator(s) for the CWIS that supplies or will supply water for cooling purposes to the facility.

Cooling Water Intake Structure(s) Owner(s) and Operator(s)

CWIS ID	n/a			
Owner	n/a			
Operator	n/a			

2. Cooling water is/will be obtained from a Public Water Supplier (PWS)

☐ No ☒ Yes; PWS No.: 1780003

If **no**, continue. If **yes**, provide the PWS Registration No. and stop here.

3. Cooling water is/will be obtained from a reclaimed water source?

☐ No ☐ Yes; Auth No.: Click to enter text.

If **no**, continue. If **yes**, provide the Reuse Authorization No. and stop here.

4. Cooling water is/will be obtained from an Independent Supplier

☐ No ☐ Yes; AIF: Click to enter text.

If **no**, proceed to Item 12.d. If **yes**, provide the actual intake flow of the Independent Supplier's CWIS that is/will be used to provide water for cooling purposes and proceed.

d. 316(b) General Criteria

1. The CWIS(s) used to provide water for cooling purposes to the facility has or will have a cumulative design intake flow of 2 MGD or greater.

☐ Yes ☐ No

2. At least 25% of the total water withdrawn by the CWIS(s) is/will be used at the facility exclusively for cooling purposes on an annual average basis.

☐ Yes ☐ No

3. The CWIS(s) withdraw(s)/propose(s) to withdraw water for cooling purposes from surface waters that meet the definition of Waters of the United States in *40 CFR § 122.2*.

☐ Yes ☐ No. Explanation: Click to enter text.

If **no**, provide an explanation of how the waterbody does not meet the definition of Waters of the United States in *40 CFR § 122.2*.

If **yes** to all three questions in Item 12.d, the facility **meets** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA. Proceed to **Item 12.f**.

If **no** to any of the questions in Item 12.d, the facility **does not meet** the minimum criteria to be subject to the full requirements of Section 316(b) of the CWA; however, a determination is required based upon BPJ. Proceed to **Item 12.e**.

e. The facility does not meet the minimum requirements to be subject to the fill requirements of Section 316(b) **and uses**/proposes **to use cooling towers**.

☐ Yes ☐ No

If **yes**, stop here. If **no**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ.

f. Oil and Gas Exploration and Production

1. The facility is subject to requirements at 40 CFR Part 435, Subparts A or D.

☐ Yes ☐ No

If **yes**, continue. If **no**, skip to Item 12.g.

2. The facility is an existing facility as defined at 40 CFR § 125.92(k) or a new unit at an existing facility as defined at 40 CFR § 125.92(u).

☐ Yes ☐ No

If **yes**, complete Worksheet 11.0, Items 1.a, 1.b.1-3 and 6, 2.b.1, and 3.a to allow for a determination based upon BPJ. If **no**, skip to Item 12.g.3.

g. Compliance Phase and Track Selection

1. Phase I – New facility subject to 40 CFR Part 125, Subpart I

☐ Yes ☒ No

If **yes**, check the box next to the compliance track selection, attach the requested information, and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – AIF greater than 2 MGD, but less than 10 MGD

- Attach information required by *40 CFR §§ 125.86(b)(2)-(4)*.

☐ Track I – AIF greater than 10 MGD

- Attach information required by *40 CFR § 125.86(b)*.

☐ Track II

- Attach information required by *40 CFR § 125.86(c)*.

Attachment: Click to enter text.

2. Phase II – Existing facility subject to 40 CFR Part 125, Subpart J

☐ Yes ☐ No

If **yes**, complete Worksheets 11.0 through 11.3, as applicable.

3. Phase III – New facility subject to 40 CFR Part 125, Subpart N

☐ Yes ☐ No

If **yes**, check the box next to the compliance track selection and provide the requested information.

☐ Track I – Fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Items 2 and 3, and Worksheet 11.2.

☐ Track I – Not a fixed facility

- Attach information required by 40 CFR § 125.136(b) and complete Worksheet 11.0, Item 2 (except CWIS latitude/longitude under Item 2.a).

☐ Track II – Fixed facility

- Attach information required by 40 CFR § 125.136(c) and complete Worksheet 11.0, Items 2 and 3.

Attachment: Click to enter text.

Item 13. Permit Change Requests (Instructions, Page 48)

This item is only applicable to existing permitted facilities.

a. Is the facility requesting a **major amendment** of an existing permit?

☒ Yes ☐ No

If **yes**, list each request individually and provide the following information: 1) detailed information regarding the scope of each request and 2) a justification for each request. Attach any supplemental information or additional data to support each request.

See Executive Summary Section 2.

b. Is the facility requesting any **minor amendments** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

Click to enter text.

c. Is the facility requesting any **minor modifications** to the permit?

☐ Yes ☒ No

If **yes**, list and describe each change individually.

Click to enter text.

Item 14. Laboratory Accreditation (Instructions, Page 49)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
  - periodically inspected by the TCEQ; or
  - located in another state and is accredited or inspected by that state; or
  - performing work for another company with a unit located in the same site; or
  - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements.

The following certification statement shall be signed and submitted with every application. See the *Signature Page* section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

Printed Name: Dennis Black

Title: General Manager

Signature: _____

Date: 11/17/25

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

This worksheet **is required** for all applications for TPDES permits for discharges of wastewaters subject to EPA categorical effluent limitation guidelines (ELGs).

Item 1. Categorical Industries (Instructions, Page 53)

Is this facility subject to any 40 CFR categorical ELGs outlined on page 53 of the instructions?

☒ Yes ☐ No

If **no**, this worksheet is not required. If **yes**, provide the appropriate information below.

40 CFR Effluent Guideline

Industry	40 CFR Part
Iron and Steel Manufacturing	420
Coil Coating Point Source	465

Item 2. Production/Process Data (Instructions, Page 54)

NOTE: For all TPDES permit applications requesting individual permit coverage for discharges of oil and gas exploration and production wastewater (discharges into or adjacent to water in the state, falling under the Oil and Gas Extraction Effluent Guidelines – 40 CFR Part 435), see Worksheet 12.0, Item 2 instead.

a. Production Data

Provide appropriate data for effluent guidelines with production-based effluent limitations.

Production Data

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
420 Subpart F – Continuous Casting		19,000,000	lbs/day
420 Subpart G – Hot Forming		19,000,000	lbs/day
420 Subpart I – Acid Pickling		7,572,000	lbs/day

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
420 Subpart J – Cold Forming		5,361,000	lbs/day
420 Subpart L – Hot Coating		5,114,000	lbs/day
465 Subpart A – Coil Coating, Steel Basis Mineral		10,368,000	ft2/day
465 Subpart B – Coil Coating, Galvanized Basis Materials		43,824,000	ft2/day

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (40 CFR Part 414)

Provide each applicable subpart and the percent of total production. Provide data for metal-bearing and cyanide-bearing wastestreams, as required by *40 CFR Part 414, Appendices A and B*.

Percentage of Total Production

Subcategory	Percent of Total Production	Appendix A and B - Metals	Appendix A - Cyanide
N/A	N/A	N/A	N/A

c. Refineries (40 CFR Part 419)

Provide the applicable subcategory and a brief justification.

N/A

Item 3. Process/Non-Process Wastewater Flows (Instructions, Page 54)

Provide a breakdown of wastewater flow(s) generated by the facility, including both process and non-process wastewater flow(s). Specify which wastewater flows are to be authorized for discharge under this permit and the disposal practices for wastewater flows, excluding domestic, which are not to be authorized for discharge under this permit.

The following flows are to be authorized for discharge under this permit (See water balance for flows):

- Cold Mill RO Reject and other utility wastewaters (See Executive summary for BPJ waters)
- Non-Contact Wastewater: Melt Shop, CSP Caster, Cold Mill
- Contact Wastewater: CSP Caster, CSP Rolling Mill, Laminar Cooling, Cold Mill

Item 4. New Source Determination (Instructions, Page 54)

Provide a list of all wastewater-generating processes subject to EPA categorical ELGs, identify the appropriate guideline Part and Subpart, and provide the date the process/construction commenced.

Wastewater Generating Processes Subject to Effluent Guidelines

Process	EPA Guideline Part	EPA Guideline Subpart	Date Process/ Construction Commenced
Continuous Casting	420	F	09/09/2019
Hot Forming	420	G	09/09/2019
Acid Pickling	420	I	09/09/2019
Cold Forming	420	J	09/09/2019
Hot coating	420	L	09/09/2019
Coil Coating, Steel Basis Material	465	A	09/09/2019
Coil Coating, Galvanized Basis Materials	465	B	09/09/2019

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: POLLUTANT ANALYSIS

Worksheet 2.0 **is required** for all applications submitted for a TPDES permit. Worksheet 2.0 is not required for applications for a permit to dispose of all wastewater by land disposal or for discharges solely of stormwater associated with industrial activities.

Item 1. General Testing Requirements (Instructions, Page 55)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 04/10/2025 – 11/12/2025

b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Read the general testing requirements in the instructions for important information about sampling, test methods, and MALs. If a contact laboratory was used, attach a list which includes the name, contact information, and pollutants analyzed for each laboratory/firm. **Attachment:** Click to enter text.

Item 2. Specific Testing Requirements (Instructions, Page 56)

Attach correspondence from TCEQ approving submittal of less than the required number of samples, if applicable. **Attachment:** Click to enter text.

TABLE 1 and TABLE 2 (Instructions, Page 58)

Completion of Tables 1 and 2 is required for all external outfalls for all TPDES permit applications.

Table 1 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☒ Grab**
(DO, Oil & grease, Temp, pH, TRC by grab sample)

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
BOD (5-day)	4.34	7.35	5.58	6.81
CBOD (5-day)	12.9	9.14	10.3	6.43
Chemical oxygen demand	67.0	88.0	72.0	71
Total organic carbon	18.3	15.6	35.1	22.3
Dissolved oxygen	10	11.79	6.5	7.14
Ammonia nitrogen	0.591	1.49	2.88	2.37
Total suspended solids	9.20	7.14	12.3	12.4
Nitrate nitrogen	<0.0300	0.0604 (J)	0.0501 (J)	0.0506 (J)
Total organic nitrogen	3.0	3.7	2.4	2.9
Total phosphorus	Will be provided as an addendum			

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)
Oil and grease	1.96 (J)	2.93	<0.610	<0.610
Total residual chlorine	0.03	0.06	0.10	0.02
Total dissolved solids	12,400	2,470	7,740	2,270
Sulfate	1,410	1,060	1,010	874
Chloride	789	574	718	668
Fluoride	7.64	6.39	6.34	6.83
Total alkalinity (mg/L as CaCO3)	79.9	106	91.6	84.8
Temperature (˚F)	76.07	76.29	80.41	78.11
pH (standard units)	7.42	7.81	6.85	7.8

Table 2 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☒ Grab**
(Chromium, hexavalent, Cyanide, total, Mercury, total by grab sample)

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	MAL (µg/L)
Aluminum, total	187	244	132	105	2.5
Antimony, total	11.4	6.92	9.77	10.1	5
Arsenic, total	6.67	5.28	6.21	7.31	0.5
Barium, total	30.7	43.8	50	70.2	3
Beryllium, total	<0.0910	<0.0910	<0.0910	<0.0910	0.5
Cadmium, total	<0.0770	<0.0770	<0.0770	<0.0770	1
Chromium, total	0.716 (J)	<0.251	<0.251	0.389 (J)	3
Chromium, hexavalent	<0.1	<0.1	<0.1	<0.1	3
Chromium, trivalent	<10.00 (n)	<10.00 (n)	<10.00 (n)	<10.00 (n)	N/A
Copper, total	0.389 (J)	0.424 (J)	0.283 (J)	0.334 (J)	2
Cyanide, available	<2.00	<2.00	<2.00	<2.00	2/10
Lead, total	0.196 (J)	0.201 (J)	0.170 (J)	0.151 (J)	0.5
Mercury, total	0.00095	0.000865	0.001155	0.001065	0.005/0.0005
Nickel, total	14.8	12.7	15.2	13.3	2
Selenium, total	<0.860	1.11 (J)	1.02 (J)	1.12 (J)	5
Silver, total	<0.0440	<0.0440	<0.0440	<0.0440	0.5
Thallium, total	<0.250	<0.250	<0.250	<0.250	0.5
Zinc, total	4.06	1.53 (J)	2.32 (J)	2.30 (J)	5.0

TABLE 3 (Instructions, Page 58)

Completion of Table 3 **is required** for all **external outfalls** which discharge process wastewater.

Partial completion of Table 3 **is required** for all **external outfalls** which discharge non-process wastewater and stormwater associated with industrial activities commingled with other wastestreams (see instructions for additional guidance).

Table 3 for Outfall No.: 001 **Samples are (check one): ☐ Composite ☒ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
Acrylonitrile	Will be provided as an addendum				50
Anthracene	<0.30	<0.30	<0.30	<0.30	10
Benzene	<0.28	<0.28	<0.28	<0.28	10
Benzidine	<5.0	<5.0	<5.0	<5.0	50
Benzo(a)anthracene	<0.30	<0.30	<0.30	<0.30	5
Benzo(a)pyrene	<0.40	<0.40	<0.40	<0.40	5
Bis(2-chloroethyl)ether	<0.70	<0.70	<0.70	<0.70	10
Bis(2-ethylhexyl)phthalate	<0.80	<0.80	<0.80	<0.80	10
Bromodichloromethane [Dichlorobromomethane]	<0.31	<0.31	<0.31	<0.31	10
Bromoform	<0.62	<0.62	<0.39	<0.39	10
Carbon tetrachloride	<0.34	<0.34	<0.34	<0.34	2
Chlorobenzene	<0.36	<0.36	<0.36	<0.36	10
Chlorodibromomethane [Dibromochloromethane]	<0.39	<0.39	<0.39	<0.39	10
Chloroform	<0.32	<0.32	<0.32	<0.32	10
Chrysene	<0.80	<0.80	<0.80	<0.80	5
m-Cresol [3-Methylphenol]	<0.40	<0.40	<0.40	<0.40	10
o-Cresol [2-Methylphenol]	<0.40	<0.40	<0.40	<0.40	10
p-Cresol [4-Methylphenol]	<0.40	<0.40	<0.40	<0.40	10
1,2-Dibromoethane	<0.30	<0.30	<0.30	<0.30	10
m-Dichlorobenzene [1,3-Dichlorobenzene]	<0.50	<0.50	<0.50	<0.50	10
o-Dichlorobenzene [1,2-Dichlorobenzene]	<0.40	<0.40	<0.40	<0.40	10
p-Dichlorobenzene [1,4-Dichlorobenzene]	<0.40	<0.40	<0.40	<0.40	10
3,3'-Dichlorobenzidine	<0.50	<0.50	<0.50	<0.50	5

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,2-Dichloroethane	<0.41	<0.41	<0.41	<0.41	10
1,1-Dichloroethene [1,1-Dichloroethylene]	<0.42	<0.42	<0.22	<0.22	10
Dichloromethane [Methylene chloride]	<5.8	<5.8	<2.0	<2.0	20
1,2-Dichloropropane	Will be provided as an addendum.				10
1,3-Dichloropropene [1,3-Dichloropropylene]	<0.34	Will be provided as an addendum.			10
2,4-Dimethylphenol	<0.40	<0.40	<0.40	<0.40	10
Di-n-Butyl phthalate	<0.80	<0.80	<0.80	<0.80	10
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	Will be provided as an addendum.				---
Ethylbenzene	<0.33	<0.33	<0.33	<0.33	10
Ethylene Glycol	Will be provided as an addendum.				---
Fluoride	7,640	6,390	6,340	6,830	500
Hexachlorobenzene	<0.30	<0.30	<0.30	<0.30	5
Hexachlorobutadiene	<0.50	<0.50	<0.50	<0.50	10
Hexachlorocyclopentadiene	<0.40	<0.40	<0.40	<0.40	10
Hexachloroethane	<0.80	<0.80	<0.80	<0.80	20
4,4'-Isopropylidenediphenol (bisphenol A)	<0.40	<0.41	<0.41	<0.41	1
Methyl ethyl ketone	<1.5	<1.5	<1.5	<1.5	50
Methyl tert-butyl ether (MTBE)	Will be provided as an addendum.				---
Nitrobenzene	<0.40	<0.40	<0.40	<0.40	10
N-Nitrosodiethylamine	<0.60	<0.60	<0.60	<0.60	20
N-Nitroso-di-n-butylamine	<0.50	<0.50	<0.50	<0.50	20
Nonylphenol	<2.0	<2.1	<2.1	<2.0	333
Pentachlorobenzene	<0.40	<0.40	<0.40	<0.40	20
Pentachlorophenol	<0.80	<0.80	<0.80	<0.80	5
Phenanthrene	<0.40	<0.40	<0.40	<0.40	10
Polychlorinated biphenyls (PCBs) (**)	<0.02	<0.02	<0.02	<0.02	0.2
Pyridine	<0.30	<0.30	<0.30	<0.30	20
1,2,4,5-Tetrachlorobenzene	<0.60	<0.60	<0.60	<0.60	20

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
1,1,2,2-Tetrachloroethane	<0.39	<0.39	<0.39	<0.39	10
Tetrachloroethene [Tetrachloroethylene]	<0.92	<0.92	<0.30	<0.30	10
Toluene	<0.33	<0.33	<0.33	<0.33	10
1,1,1-Trichloroethane	<0.22	<0.22	<0.24	<0.24	10
1,1,2-Trichloroethane	<0.39	<0.39	<0.39	<0.39	10
Trichloroethene [Trichloroethylene]	<0.35	<0.35	<0.35	<0.35	10
2,4,5-Trichlorophenol	<0.40	<0.40	<0.40	<0.40	50
TTHM (Total trihalomethanes)	<1.6	Will be provided as an addendum.			10
Vinyl chloride	<0.57	<0.57	<0.23	<0.23	10

(*) Indicate units if different from µg/L.

(**) Total of detects for PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016. If all non-detects, enter the highest non-detect preceded by a "<".

TABLE 4 (Instructions, Pages 58-59)

Partial completion of Table 4 **is required** for each **external outfall** based on the conditions below.

a. **Tributyltin**

Is this facility an industrial/commercial facility which currently or proposes to directly dispose of wastewater from the types of operations listed below or a domestic facility which currently or proposes to receive wastewater from the types of industrial/commercial operations listed below?

☐ Yes ☒ No

If **yes**, check the box next to each of the following criteria which apply and provide the appropriate testing results in Table 4 below (check all that apply).

☐ Manufacturers and formulators of tributyltin or related compounds.

☐ Painting of ships, boats and marine structures.

☐ Ship and boat building and repairing.

☐ Ship and boat cleaning, salvage, wrecking and scaling.

☐ Operation and maintenance of marine cargo handling facilities and marinas.

☐ Facilities engaged in wood preserving.

☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. **Enterococci (discharge to saltwater)**

This facility discharges/proposes to discharge directly into saltwater receiving waters **and** Enterococci bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

c. E. coli (discharge to freshwater)

This facility discharges/proposes to discharge directly into freshwater receiving waters **and** *E. coli* bacteria are expected to be present in the discharge based on facility processes.

☐ Yes ☒ No

Domestic wastewater is/will be discharged.

☐ Yes ☒ No

If **yes to either** question, provide the appropriate testing results in Table 4 below.

Table 4 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	**Sample 1**	**Sample 2**	**Sample 3**	**Sample 4**	**MAL**
Tributyltin (µg/L)					0.010
Enterococci (cfu or MPN/100 mL)					N/A
E. coli (cfu or MPN/100 mL)					N/A

TABLE 5 (Instructions, Page 59)

Completion of Table 5 **is required** for all **external outfalls** which discharge process wastewater from a facility which manufactures or formulates pesticides or herbicides or other wastewaters which may contain pesticides or herbicides.

If this facility does not/will not manufacture or formulate pesticides or herbicides and does not/will not discharge other wastewaters that may contain pesticides or herbicides, check N/A.

☒ N/A

Table 5 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	**Sample 1 (µg/L)***	**Sample 2 (µg/L)***	**Sample 3 (µg/L)***	**Sample 4 (µg/L)***	**MAL (µg/L)***
Aldrin					0.01
Carbaryl					5
Chlordane					0.2
Chlorpyrifos					0.05
4,4'-DDD					0.1
4,4'-DDE					0.1

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)*
4,4'-DDT					0.02
2,4-D					0.7
Danitol [Fenpropathrin]					—
Demeton					0.20
Diazinon					0.5/0.1
Dicofol [Kelthane]					1
Dieldrin					0.02
Diuron					0.090
Endosulfan I (*alpha*)					0.01
Endosulfan II (*beta*)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Guthion [Azinphos methyl]					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
Hexachlorocyclohexane (*alpha*)					0.05
Hexachlorocyclohexane (*beta*)					0.05
Hexachlorocyclohexane (*gamma*) [Lindane]					0.05
Hexachlorophene					10
Malathion					0.1
Methoxychlor					2.0
Mirex					0.02
Parathion (ethyl)					0.1
Toxaphene					0.3
2,4,5-TP [Silvex]					0.3

* Indicate units if different from µg/L.

TABLE 6 (Instructions, Page 59)

Completion of Table 6 **is required** for all **external outfalls**.

Table 6 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutants	Believed Present	Believed Absent	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	MAL (µg/L)*
Bromide	☒	☐	32.2	20.8	40.3	35.5	400
Color (PCU)	☐	☒					—
Nitrate-Nitrite (as N)	☒	☐	<0.0300	0.0604 (J)	0.0501 (J)	0.0506 (J)	—
Sulfide (as S)	☐	☒					—
Sulfite (as SO3)	☐	☒					—
Surfactants	☐	☒					—
Boron, total	☒	☐	2.84	2.59	3.04	2.39	20
Cobalt, total	☒	☐	0.000332 (J)	0.000333 (J)	0.000320 (J)	0.000292 (J)	0.3
Iron, total	☒	☐	0.153 (J)	0.206	0.160 (J)	0.157 (J)	7
Magnesium, total	☒	☐	21.7	15.6	20.6	23.8	20
Manganese, total	☒	☐	0.193	0.173	0.475	0.471	0.5
Molybdenum, total	☒	☐	0.0316	0.0208	0.0247	0.0280	1
Tin, total	☒	☐	0.000142 (J)	0.0000660 (J)	0.000470 (J)	0.000103 (J)	5
Titanium, total	☒	☐	0.00393 (J)	0.00473 (J)	0.00194 (J)	0.00203 (J)	30

TABLE 7 (Instructions, Page 60)

Check the box next to any of the industrial categories applicable to this facility. If no categories are applicable, check N/A. If GC/MS testing is required, check the box provided to confirm the testing results for the appropriate parameters are provided with the application.

☐ N/A

Table 7 for Applicable Industrial Categories

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/ Neutrals Table 10	Pesticides Table 11
☐ Adhesives and Sealants		☐ Yes	☐ Yes	☐ Yes	No
☐ Aluminum Forming	467	☐ Yes	☐ Yes	☐ Yes	No
☐ Auto and Other Laundries		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Battery Manufacturing	461	☐ Yes	No	☐ Yes	No
☐ Coal Mining	434	No	No	No	No
☒ Coil Coating	465	☒ Yes	☒ Yes	☒ Yes	No
☐ Copper Forming	468	☐ Yes	☐ Yes	☐ Yes	No

Industrial Category	40 CFR Part	Volatiles Table 8	Acids Table 9	Bases/ Neutrals Table 10	Pesticides Table 11
☐ Electric and Electronic Components	469	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Electroplating	413	☐ Yes	☐ Yes	☐ Yes	No
☐ Explosives Manufacturing	457	No	☐ Yes	☐ Yes	No
☐ Foundries		☐ Yes	☐ Yes	☐ Yes	No
☐ Gum and Wood Chemicals - Subparts A,B,C,E	454	☐ Yes	☐ Yes	No	No
☐ Gum and Wood Chemicals - Subparts D,F	454	☐ Yes	☐ Yes	☐ Yes	No
☐ Inorganic Chemicals Manufacturing	415	☐ Yes	☐ Yes	☐ Yes	No
☒ Iron and Steel Manufacturing	420	☒ Yes	☒ Yes	☒ Yes	No
☐ Leather Tanning and Finishing	425	☐ Yes	☐ Yes	☐ Yes	No
☐ Mechanical Products Manufacturing		☐ Yes	☐ Yes	☐ Yes	No
☐ Nonferrous Metals Manufacturing	421,471	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Oil and Gas Extraction - Subparts A, D, E, F, G, H	435	☐ Yes	☐ Yes	☐ Yes	No
☐ Ore Mining - Subpart B	440	No	☐ Yes	No	No
☐ Organic Chemicals Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Paint and Ink Formulation	446,447	☐ Yes	☐ Yes	☐ Yes	No
☐ Pesticides	455	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Petroleum Refining	419	☐ Yes	No	No	No
☐ Pharmaceutical Preparations	439	☐ Yes	☐ Yes	☐ Yes	No
☐ Photographic Equipment and Supplies	459	☐ Yes	☐ Yes	☐ Yes	No
☐ Plastic and Synthetic Materials Manufacturing	414	☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Plastic Processing	463	☐ Yes	No	No	No
☐ Porcelain Enameling	466	No	No	No	No
☐ Printing and Publishing		☐ Yes	☐ Yes	☐ Yes	☐ Yes
☐ Pulp and Paperboard Mills - Subpart C	430	☐ *	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subparts F, K	430	☐ *	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts A, B, D, G, H	430	☐ Yes	☐ Yes	☐ *	☐ *
☐ Pulp and Paperboard Mills - Subparts I, J, L	430	☐ Yes	☐ Yes	☐ *	☐ Yes
☐ Pulp and Paperboard Mills - Subpart E	430	☐ Yes	☐ Yes	☐ Yes	☐ *
☐ Rubber Processing	428	☐ Yes	☐ Yes	☐ Yes	No
☐ Soap and Detergent Manufacturing	417	☐ Yes	☐ Yes	☐ Yes	No
☐ Steam Electric Power Plants	423	☐ Yes	☐ Yes	No	No
☐ Textile Mills (Not Subpart C)	410	☐ Yes	☐ Yes	☐ Yes	No
☐ Timber Products Processing	429	☐ Yes	☐ Yes	☐ Yes	☐ Yes

* Test if believed present.

TABLES 8, 9, 10, and 11 (Instructions, Page 60)

Completion of Tables 8, 9, 10, and 11 **is required** as specified in Table 7 for all **external outfalls** that contain process wastewater.

Completion of Tables 8, 9, 10, and 11 **may be required** for types of industry not specified in Table 7 for specific parameters that are believed to be present in the wastewater.

Table 8 for Outfall No.: 001 **Samples are (check one): ☐ Composite ☒ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acrolein	<7.3	<7.3	<7.3	<7.3	50
Acrylonitrile	Will be provided as an addendum.				50
Benzene	<0.28	<0.28	<0.28	<0.28	10
Bromoform	<0.62	<0.62	<0.39	<0.39	10
Carbon tetrachloride	<0.34	<0.34	<0.34	<0.34	2
Chlorobenzene	<0.36	<0.36	<0.36	<0.36	10
Chlorodibromomethane	<0.39	<0.39	<0.39	<0.39	10
Chloroethane	<0.45	<0.45	<0.45	<0.45	50
2-Chloroethylvinyl ether	<0.62	<0.62	<0.62	<0.62	10
Chloroform	<0.32	<0.32	<0.32	<0.32	10
Dichlorobromomethane [Bromodichloromethane]	<0.31	<0.31	<0.31	<0.31	10
1,1-Dichloroethane	<0.31	<0.31	<0.31	<0.31	10
1,2-Dichloroethane	<0.41	<0.41	<0.41	<0.41	10
1,1-Dichloroethylene [1,1-Dichloroethene]	<0.42	<0.42	<0.22	<0.22	10
1,2-Dichloropropane	Will be provided as an addendum.				10
1,3-Dichloropropylene [1,3-Dichloropropene]	<0.34	Will be provided as an addendum.			10
Ethylbenzene	<0.33	<0.33	<0.33	<0.33	10
Methyl bromide [Bromomethane]	<0.39	<0.39	<0.39	<0.39	50
Methyl chloride [Chloromethane]	<0.78	<0.78	<0.37	<0.37	50
Methylene chloride [Dichloromethane]	<5.8	<5.8	<2.0	<2.0	20
1,1,2,2-Tetrachloroethane	<0.39	<0.39	<0.39	<0.39	10
Tetrachloroethylene [Tetrachloroethene]	<0.92	<0.92	<0.30	<0.30	10
Toluene	<0.33	<0.33	<0.33	<0.33	10
1,2-Trans-dichloroethylene [1,2-Trans-dichloroethene]	<0.33	<0.33	<0.27	<0.27	10
1,1,1-Trichloroethane	<0.22	<0.22	<0.24	<0.24	10
1,1,2-Trichloroethane	<0.39	<0.39	<0.39	<0.39	10
Trichloroethylene [Trichloroethene]	<0.35	<0.35	<0.35	<0.35	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Vinyl chloride	<0.57	<0.57	<0.23	<0.23	10

* Indicate units if different from µg/L.

Table 9 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
2-Chlorophenol	<1.0	<1.0	<1.0	<1.0	10
2,4-Dichlorophenol	<0.30	<0.30	<0.30	<0.30	10
2,4-Dimethylphenol	<0.40	<0.40	<0.40	<0.40	10
4,6-Dinitro-o-cresol	<0.90	<0.90	<0.90	<0.90	50
2,4-Dinitrophenol	<0.50	<0.50	<0.50	<0.50	50
2-Nitrophenol	<0.50	<0.50	<0.50	<0.50	20
4-Nitrophenol	<0.60	<0.60	<0.60	<0.60	50
p-Chloro-m-cresol	<0.40	<0.40	<0.40	<0.40	10
Pentachlorophenol	<0.80	<0.80	<0.80	<0.80	5
Phenol	<0.40	<0.40	<0.40	<0.40	10
2,4,6-Trichlorophenol	<0.40	<0.40	<0.40	<0.40	10

* Indicate units if different from µg/L.

Table 10 for Outfall No.: 001 **Samples are (check one): ☒ Composite ☐ Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Acenaphthene	<0.30	<0.30	<0.30	<0.30	10
Acenaphthylene	<0.30	<0.30	<0.30	<0.30	10
Anthracene	<0.30	<0.30	<0.30	<0.30	10
Benzidine	<5.0	<5.0	<5.0	<5.0	50
Benzo(a)anthracene	<0.30	<0.30	<0.30	<0.30	5
Benzo(a)pyrene	<0.40	<0.40	<0.40	<0.40	5
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	<0.40	<0.40	<0.40	<0.40	10
Benzo(ghi)perylene	<0.30	<0.30	<0.30	<0.30	20
Benzo(k)fluoranthene	<0.70	<0.70	<0.70	<0.70	5
Bis(2-chloroethoxy)methane	<0.40	<0.40	<0.40	<0.40	10
Bis(2-chloroethyl)ether	<0.70	<0.70	<0.70	<0.70	10
Bis(2-chloroisopropyl)ether	<0.80	<0.80	<0.80	<0.80	10

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Bis(2-ethylhexyl)phthalate	<0.80	<0.80	<0.80	<0.80	10
4-Bromophenyl phenyl ether	<0.30	<0.30	<0.30	<0.30	10
Butylbenzyl phthalate	<0.60	<0.60	<0.60	<0.60	10
2-Chloronaphthalene	<0.60	<0.60	<0.60	<0.60	10
4-Chlorophenyl phenyl ether	<0.50	<0.50	<0.50	<0.50	10
Chrysene	<0.80	<0.80	<0.80	<0.80	5
Dibenzo(a,h)anthracene	<0.60	<0.60	<0.60	<0.60	5
1,2-Dichlorobenzene [o-Dichlorobenzene]	<0.40	<0.40	<0.40	<0.40	10
1,3-Dichlorobenzene [m-Dichlorobenzene]	<0.50	<0.50	<0.50	<0.50	10
1,4-Dichlorobenzene [p-Dichlorobenzene]	<0.40	<0.40	<0.40	<0.40	10
3,3'-Dichlorobenzidine	<0.50	<0.50	<0.50	<0.50	5
Diethyl phthalate	<0.70	<0.70	<0.70	<0.70	10
Dimethyl phthalate	<0.50	<0.50	<0.50	<0.50	10
Di-n-butyl phthalate	<0.80	<0.80	<0.80	<0.80	10
2,4-Dinitrotoluene	<0.30	<0.30	<0.30	<0.30	10
2,6-Dinitrotoluene	<0.30	<0.30	<0.30	<0.30	10
Di-n-octyl phthalate	<2.0	<2.0	<2.0	<2.0	10
1,2-Diphenylhydrazine (as Azobenzene)	<0.50	<0.50	<0.50	<0.50	20
Fluoranthene	<0.40	<0.40	<0.40	<0.40	10
Fluorene	<0.50	<0.50	<0.50	<0.50	10
Hexachlorobenzene	<0.30	<0.30	<0.30	<0.30	5
Hexachlorobutadiene	<0.50	<0.50	<0.50	<0.50	10
Hexachlorocyclopentadiene	<0.40	<0.40	<0.40	<0.40	10
Hexachloroethane	<0.80	<0.80	<0.80	<0.80	20
Indeno(1,2,3-cd)pyrene	<0.60	<0.60	<0.60	<0.60	5
Isophorone	<0.50	<0.50	<0.50	<0.50	10
Naphthalene	<0.40	<0.40	<0.40	<0.40	10
Nitrobenzene	<0.40	<0.40	<0.40	<0.40	10
N-Nitrosodimethylamine	<0.60	<0.60	<0.60	<0.60	50
N-Nitrosodi-n-propylamine	<0.50	<0.50	<0.50	<0.50	20

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
N-Nitrosodiphenylamine	<0.40	<0.40	<0.40	<0.40	20
Phenanthrene	<0.40	<0.40	<0.40	<0.40	10
Pyrene	<0.30	<0.30	<0.30	<0.30	10
1,2,4-Trichlorobenzene	<0.40	<0.40	<0.40	<0.40	10

* Indicate units if different from µg/L.

Table 11 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
Aldrin					0.01
alpha-BHC [alpha-Hexachlorocyclohexane]					0.05
beta-BHC [beta-Hexachlorocyclohexane]					0.05
gamma-BHC [gamma-Hexachlorocyclohexane]					0.05
delta-BHC [delta-Hexachlorocyclohexane]					0.05
Chlordane					0.2
4,4'-DDT					0.02
4,4'-DDE					0.1
4,4'-DDD					0.1
Dieldrin					0.02
Endosulfan I (alpha)					0.01
Endosulfan II (beta)					0.02
Endosulfan sulfate					0.1
Endrin					0.02
Endrin aldehyde					0.1
Heptachlor					0.01
Heptachlor epoxide					0.01
PCB 1242					0.2
PCB 1254					0.2
PCB 1221					0.2
PCB 1232					0.2
PCB 1248					0.2

Pollutant	Sample 1 (µg/L)*	Sample 2 (µg/L)*	Sample 3 (µg/L)*	Sample 4 (µg/L)*	MAL (µg/L)
PCB 1260					0.2
PCB 1016					0.2
Toxaphene					0.3

* Indicate units if different from µg/L.

Attachment: Click to enter text.

TABLE 12 (DIOXINS/FURAN COMPOUNDS)

Complete of Table 12 **is required** for **external outfalls**, as directed below. (Instructions, Pages 59-60)

Indicate which compound(s) are manufactured or used at the facility and provide a brief description of the conditions of its/their presence at the facility (check all that apply).

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5

☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1

☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4

☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CASRN 299-84-3

☐ 2,4,5-trichlorophenol (TCP) CASRN 95-95-4

☐ hexachlorophene (HCP) CASRN 70-30-4

☒ None of the above

Description: Click to enter text.

Does the applicant or anyone at the facility know or have any reason to believe that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or any congeners of TCDD may be present in the effluent proposed for discharge?

☐ Yes ☒ No

Description: Click to enter text.

If **yes** to either Items a **or** b, complete Table 12 as instructed.

Table 12 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
2,3,7,8-TCDD	1					10
1,2,3,7,8-PeCDD	1.0					50
2,3,7,8-HxCDDs	0.1					50

Compound	Toxicity Equivalent Factors	Wastewater Concentration (ppq)	Wastewater Toxicity Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Toxicity Equivalents (ppt)	MAL (ppq)
1,2,3,4,6,7,8-HpCDD	0.01					50
2,3,7,8-TCDF	0.1					10
1,2,3,7,8-PeCDF	0.03					50
2,3,4,7,8-PeCDF	0.3					50
2,3,7,8-HxCDFs	0.1					50
2,3,4,7,8-HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					500
PCB 81	0.0003					500
PCB 126	0.1					500
PCB 169	0.03					500
Total						

TABLE 13 (HAZARDOUS SUBSTANCES)

Complete Table 13 **is required** for all **external outfalls** as directed below. (Instructions, Pages 60-61)

Are there any pollutants listed in the instructions (pages 55-62) believed present in the discharge?

☐ Yes ☒ No

Are there pollutants listed in Item 1.c. of Technical Report 1.0 which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☐ Yes ☒ No

If **yes** to either Items a **or** b, complete Table 13 as instructed.

Table 13 for Outfall No.: Click to enter text. **Samples are (check one):** ☐ **Composite** ☐ **Grab**

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method

Pollutant	CASRN	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Analytical Method

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: RECEIVING WATERS

This worksheet **is required** for all TPDES permit applications.

Item 1. Domestic Drinking Water Supply (Instructions, Page 80)

a. There is a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge.

☐ Yes ☒ No

If **no**, stop here and proceed to Item 2. If **yes**, provide the following information:

1. The legal name of the owner of the drinking water supply intake: Click to enter text.
2. The distance and direction from the outfall to the drinking water supply intake: Click to enter text.

b. Locate and identify the intake on the USGS 7.5-minute topographic map provided for Administrative Report 1.0.

☐ Check this box to confirm the above requested information is provided.

Item 2. Discharge Into Tidally Influenced Waters (Instructions, Page 80)

If the discharge is to tidally influenced waters, complete this section. Otherwise, proceed to Item 3.

a. Width of the receiving water at the outfall: Click to enter text. feet

b. Are there oyster reefs in the vicinity of the discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the oyster reefs: Click to enter text.

c. Are there sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If **yes**, provide the distance and direction from the outfall(s) to the grasses: Click to enter text.

Item 3. Classified Segment (Instructions, Page 80)

The discharge is/will be directly into (or within 300 feet of) a classified segment.

☐ Yes ☒ No

If **yes**, stop here and do not complete Items 4 and 5 of this worksheet or Worksheet 4.1.

If **no**, complete Items 4 and 5 and Worksheet 4.1 may be required.

Item 4. Description of Immediate Receiving Waters (Instructions, Page 80)

a. Name of the immediate receiving waters: Chiltipin Creek

b. Check the appropriate description of the immediate receiving waters:

☐ Lake or Pond

- Surface area (acres): Click to enter text.
- Average depth of the entire water body (feet): Click to enter text.
- Average depth of water body within a 500-foot radius of the discharge point (feet): Click to enter text.

☐ Man-Made Channel or Ditch

☒ Stream or Creek

☐ Freshwater Swamp or Marsh

☐ Tidal Stream, Bayou, or Marsh

☐ Open Bay

☒ Other, specify:

If **Man-Made Channel or Ditch** or **Stream or Creek** were selected above, provide responses to Items 4.c – 4.g below:

c. For **existing discharges**, check the description below that best characterizes the area **upstream** of the discharge.

For **new discharges**, check the description below that best characterizes the area **downstream** of the discharge.

☐ Intermittent (dry for at least one week during most years)

☐ Intermittent with Perennial Pools (enduring pools containing habitat to maintain aquatic life uses)

☒ Perennial (normally flowing)

Check the source(s) of the information used to characterize the area upstream (existing discharge) or downstream (new discharge):

☐ USGS flow records

☒ personal observation

☐ historical observation by adjacent landowner(s)

☐ other, specify: Click to enter text.

d. List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point: None

e. The receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.).

☒ Yes ☐ No

If **yes**, describe how: Approximately 2 miles downstream of the discharge point, the drainage modifications to Chiltipin Creek revert to a natural meandering stream.

f. General observations of the water body during normal dry weather conditions: Click to enter text.

Date and time of observation: Click to enter text.

g. The water body was influenced by stormwater runoff during observations.

☐ Yes ☒ No

If **yes**, describe how: Click to enter text.

Item 5. General Characteristics of Water Body (Instructions, Page 81)

a. Is the receiving water upstream of the existing discharge or proposed discharge site influenced by any of the following (check all that apply):

☒ oil field activities
☒ agricultural runoff
☒ upstream discharges
☒ urban runoff
☐ septic tanks
☐ other, specify: Click to enter text.

b. Uses of water body observed or evidence of such uses (check all that apply):

☒ livestock watering
☐ non-contact recreation
☐ domestic water supply
☐ contact recreation
☐ fishing
☐ industrial water supply
☐ irrigation withdrawal
☐ navigation
☐ picnic/park activities
☐ other, specify: Click to enter text.

c. Description which best describes the aesthetics of the receiving water and the surrounding area (check only one):

☐ **Wilderness:** outstanding natural beauty; usually wooded or un-pastured area: water clarity exceptional

☒ **Natural Area:** trees or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored

☐ **Common Setting:** not offensive, developed but uncluttered; water may be colored or turbid

☐ **Offensive:** stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

INDUSTRIAL WASTEWATER PERMIT APPLICATION WORKSHEET 7.0: STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES

This worksheet **is required** for all TPDES permit applications requesting individual permit coverage for discharges consisting of **either**: 1) solely of stormwater discharges associated with industrial activities, as defined in *40 CFR § 122.26(b)(14)(i-xi)*, **or** 2) stormwater discharges associated with industrial activities and any of the listed allowable non-stormwater discharges, as defined in the MSGP (TXR05000), Part II, Section A, Item 6.

Discharges of stormwater as defined in *40 CFR § 122.26 (b)(13)* are not required to obtain authorization under a TPDES permit (see exceptions at *40 CFR §§ 122.26(a)(1)* and *(9)*). Authorization for discharge may be required from a local municipal separate storm sewer system.

Item 1. Applicability (Instructions, Page 89)

Do discharges from any of the existing/proposed outfalls consist either 1) solely of stormwater discharges associated with industrial activities **or** 2) stormwater discharges associated with industrial activities and any of the allowable non-stormwater discharges?

☒ Yes ☐ No

If **no**, stop here. If **yes**, proceed as directed.

Item 2. Stormwater Coverage (Instructions, Page 89)

List each existing/proposed stormwater outfall at the facility and indicate which type of authorization covers or is proposed to cover discharges.

Authorization Coverage

Outfall	Authorization under MSGP	Authorized Under Individual Permit
002	☐	☒
003	☐	☒
004	☐	☒
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

If **all** existing/proposed outfalls which discharge stormwater associated with industrial activities (and any of the allowable non-stormwater discharges) are **authorized under the MSGP**, **stop** here.

If **seeking authorization** for any outfalls which discharge stormwater associated with industrial activities (and any of the allowable non-stormwater discharges) **under an individual permit**, **proceed**.

NOTE: The following information is required for each existing/proposed stormwater outfall for which the facility is seeking individual permit authorization under this application

Item 3. Site Map (Instructions, Page 90)

Attach a site map or maps (drawn to scale) of the entire facility with the following information.

- the location of each stormwater outfall to be covered by the permit
- an outline of the drainage area that is within the facility's boundary and that contributes stormwater to each outfall to be covered by the permit
- connections or discharge points to municipal separate storm sewer systems
- locations of all structures (e.g. buildings, garages, storage tanks)
- structural control devices that are designed to reduce pollution in discharges of stormwater associated with industrial activities
- process wastewater treatment units (including ponds)
- bag house and other air treatment units exposed to stormwater (stormwater runoff, snow melt runoff, and surface runoff and drainage)
- landfills; scrapyards; surface water bodies (including wetlands)
- vehicle and equipment maintenance areas
- physical features of the site that may influence discharges of stormwater associated with industrial activities or contribute a dry weather flow
- locations where spills or leaks of reportable quality (as defined in *30 TAC § 327.4*) have occurred during the three years before this application was submitted to obtain coverage under an individual permit
- processing areas, storage areas, material loading/unloading areas, and other locations where significant materials are exposed to stormwater (stormwater runoff, snow melt runoff, and surface runoff and drainage)

☒ Check the box to confirm all above information was provided on the facility site map(s).

Attachment: Figure 7: Stormwater Map

Item 4. Facility/Site Information (Instructions, Page 90)

a. Provide the area of impervious surface and the total area drained by each stormwater outfall requested for authorization by this permit application.

Impervious Surfaces

Outfall	Area of Impervious Surface (include units)	Total Area Drained (include units)
002	~50 Acres	263 Acres
003	~35 Acres	236 Acres
004	~45 Acres	319 Acres

Outfall	Area of Impervious Surface (include units)	Total Area Drained (include units)

b. Provide the following local area rainfall information and the source of the information.

Wettest month: September

Average rainfall for wettest month (total inches): 5.40

25-year, 24-hour rainfall (inches): 10.3

Source: NOAA Online Weather Data for monthly precipitation (Corpus Christi area, 2000 through 2025); NOAA Atlas 14, Volume 11, Version 2 for 25-year, 24-hour rainfall.

c. Attach an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation. **Attachment:** See Executive Summary Section 7.

d. Attach narrative descriptions of the industrial processes and activities involving the materials in the above-listed inventory that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff (see instructions for guidance). **Attachment:** See Executive Summary Section 7.

e. Describe any BMPs and controls the facility uses/proposes to prevent or effectively reduce pollution in stormwater discharges from the facility: See Executive Summary Section 7.

Item 5. Pollutant Analysis (Instructions, Page 91)

a. Provide the date range of all sampling events conducted to obtain the analytical data submitted with this application (e.g., 05/01/2018-05/30/2018): 09/03/2025

b. ☒ Check the box to confirm all samples were collected no more than 12 months prior to the date of application submittal.

c. Complete Table 17 on page 92 of the Instructions.

Table 14 for Outfall No.: 002

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
pH (standard units)	(max) 8.0	—	(min)	—	1	—
Total suspended solids	7				1	—
Chemical oxygen demand	38.0				1	—
Total organic carbon	33				1	—
Oil and grease	1				1	—
Arsenic, total	0.0142				1	0.0005

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
Barium, total	0.348				1	0.003
Cadmium, total	<0.000620				1	0.001
Chromium, total	<0.00171				1	0.003
Chromium, trivalent	<0.01 (n)				1	—
Chromium, hexavalent	0.000186 (J)				1	0.003
Copper, total	0.000706 (J)				1	0.002
Lead, total	<0.0006				1	0.0005
Mercury, total	0.00000146				1	0.000005
Nickel, total	0.00204 (J)				1	0.002
Selenium, total	<0.00105				1	0.005
Silver, total	<0.00031				1	0.0005
Zinc, total	0.00653 (J)				1	0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

d. Complete Table 18 as directed on pages 92-94 of the Instructions.

Table 15 for Outfall No.: 002

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled
Aluminum, total	0.0534				1
Bromide	6.19				1
Boron, total	0.365				1
Iron, total	0.0697 (J)				1
Magnesium, total	17.500				1
Manganese, total	0.585				1
Molybdenum, total	0.0128				1

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Table 16 for Outfall No.: 003

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
pH (standard units)	(max) 7.55	—	(min)	—	1	—
Total suspended solids	13				1	—
Chemical oxygen demand	35.0				1	—
Total organic carbon	1				1	—
Oil and grease	23				1	—
Arsenic, total	0.00242				1	0.0005
Barium, total	0.150				1	0.003
Cadmium, total	<0.000620				1	0.001
Chromium, total	<0.00171				1	0.003
Chromium, trivalent	<0.01 (n)				1	—
Chromium, hexavalent	0.000384 (J)				1	0.003
Copper, total	0.00276				1	0.002
Lead, total	<0.0006				1	0.0005
Mercury, total	0.00000236				1	0.000005
Nickel, total	0.00128 (J)				1	0.002
Selenium, total	<0.00105				1	0.005
Silver, total	<0.000310				1	0.0005
Zinc, total	0.047				1	0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

e. Complete Table 18 as directed on pages 92-94 of the Instructions.

Table 17 for Outfall No.: 003

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled
Aluminum, total	0.344				1
Bromide	4.31				1
Boron, total	0.159				1
Iron, total	0.258				1
Magnesium, total	8.3				1
Manganese, total	0.076				1
Molybdenum, total	0.0134				1

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Table 18 for Outfall No.: 004 – NO DISCHARGE SINCE JUNE 2024

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
pH (standard units)	(max)	—	(min)	—		—
Total suspended solids						—
Chemical oxygen demand						—
Total organic carbon						—
Oil and grease						—
Arsenic, total						0.0005
Barium, total						0.003
Cadmium, total						0.001
Chromium, total						0.003
Chromium, trivalent						—
Chromium, hexavalent						0.003
Copper, total						0.002
Lead, total						0.0005
Mercury, total						0.000005
Nickel, total						0.002
Selenium, total						0.005

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled	MAL (mg/L)
Silver, total						0.0005
Zinc, total						0.005

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

f. Complete Table 18 as directed on pages 92-94 of the Instructions.

Table 19 for Outfall No.: 004- NO DISCHARGE SINCE JUNE 2024

Pollutant	Grab Sample* Maximum (mg/L)	Composite Sample** Maximum (mg/L)	Grab Sample* Average (mg/L)	Composite Sample** Average (mg/L)	Number of Storm Events Sampled
Aluminum, total					
Bromide					
Boron, total					
Iron, total					
Magnesium, total					
Manganese, total					
Molybdenum, total					

* Taken during first 30 minutes of storm event

** Flow-weighted composite sample

Attachment: Click to enter text.

Item 6. Storm Event Data (Instructions, Page 93)

Provide the following data for the storm event(s) which resulted in the maximum values for the analytical data submitted:

Date of storm event: August 21, 2025 (previous rain event to September 3, 2025 discharge)

Duration of storm event (minutes): not reported

Total rainfall during storm event (inches): 0.72

Number of hours the between beginning of the storm measured and the end of the previous measurable storm event (hours): > 72 hours

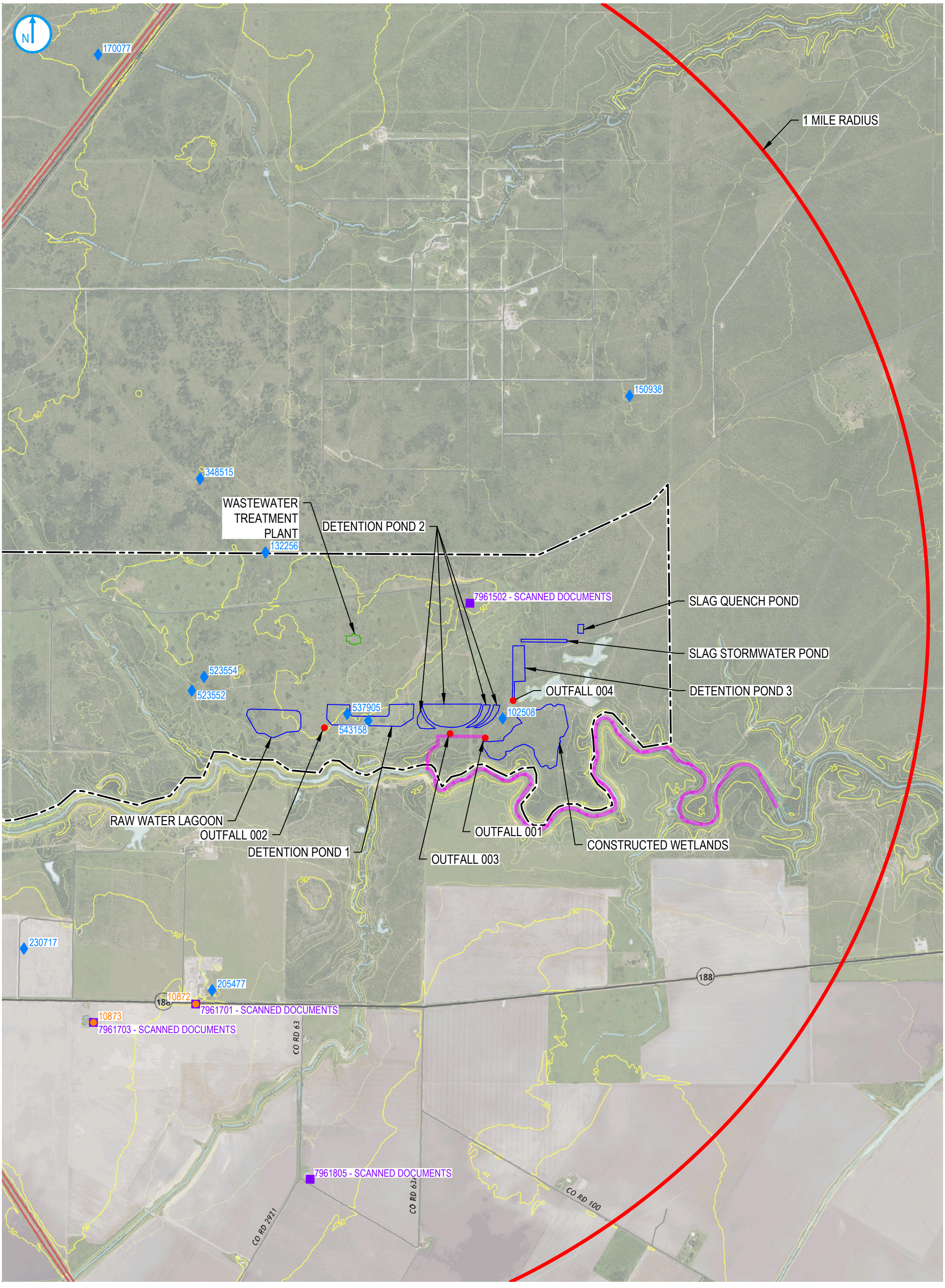
Maximum flow rate during rain event (gallons/minute): Stormwater is collected in onsite ponds. The discharge from the ponds is controlled with valves. The flow rate from the ponds is set at 3.5 gpm.

Total stormwater flow from rain event (gallons): Outfall 002 discharged for approximately 48 hours (9/3 to 9/5) resulting in 10,031 gallons discharged. Outfall 003 discharged for approximately 47 hours (9/3 to 9/5) resulting in 9,922 gallons discharged.

Provide a description of the method of flow measurement or estimate: Flow is estimated by Hazen-Williams equation and time-stamps of valve positions.

Figures

PROJECT: 1940114508 DATED: 11/18/2025 DESIGNER: LENGLE C:\Users\lengle\OneDrive - Ramboll\Cad Support\Steel Dynamics Inc\USGS TOPO_SDI_1940114508.dwg



Property Boundary (approximate)

OUTFALL

SUBMITTED DRILLER'S REPORT DATABASE

TEXAS WATER DEVELOPMENT BOARD GROUNDWATER DATABASE

BRACKISH RESOURCES AQUIFER CHARACTERIZATION SYSTEM DATABASE

DISCHARGE ROUTE

0 2000 Feet

SITE LOCATION MAP

USGS 7.5 MINUTE QUADRANGLE MAP, SINTON EAST, TX

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 1A

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

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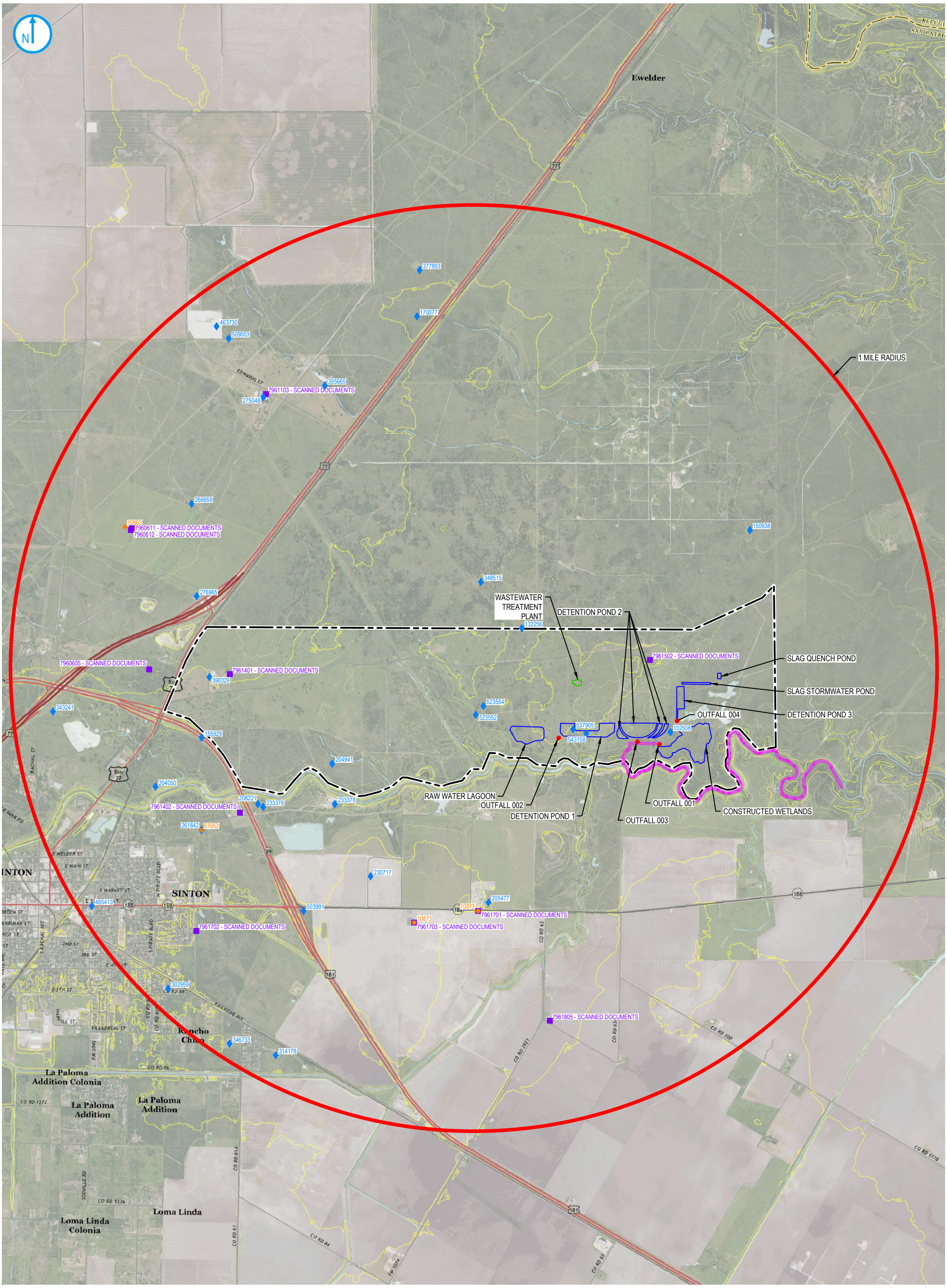


Property Boundary (approximate)

OUTFALL

SUBMITTED DRILLER'S REPORT DATABASE

TEXAS WATER DEVELOPMENT BOARD GROUNDWATER DATABASE

BRACKISH RESOURCES AQUIFER CHARACTERIZATION SYSTEM DATABASE

DISCHARGE ROUTE

0 3200 Feet

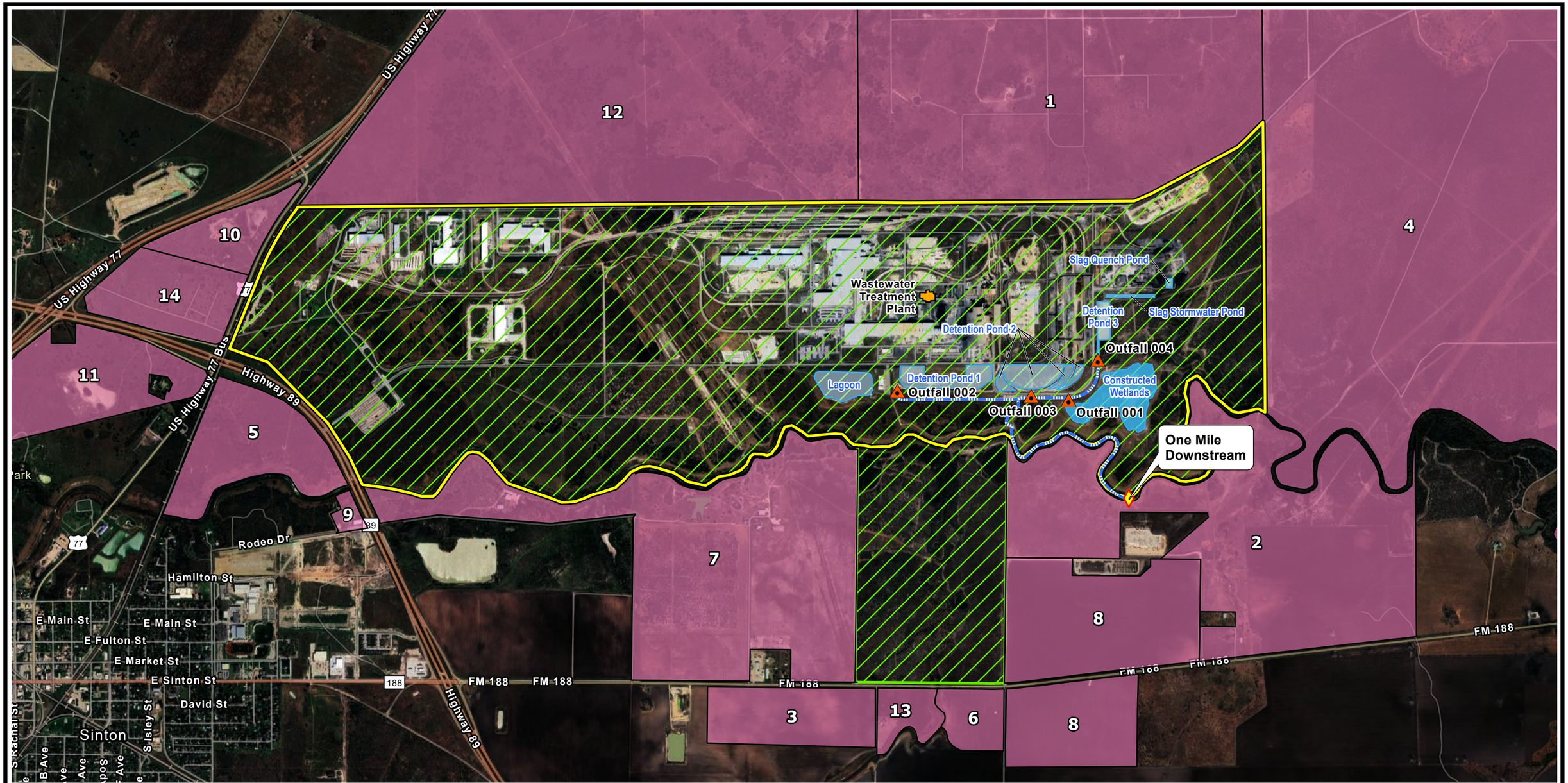
SITE LOCATION MAP

USGS 7.5 MINUTE QUADRANGLE MAPS
SINTON EAST, TX
SINTON WEST, TX

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 1B

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



Legend

- Steel Dynamics Southwest, LLC Property Boundary
- Facility Boundary
- 1 Affected Landowners
- Wastewater Treatment Plant
- Constructed Wetlands
- Ponds
- Outfall Location
- Discharge Route
- Downstream Marker

Parcel source:
San Patricio County Appraisal District GIS Rest Services, accessed October 2025.

0 1,000 2,000 FEET

1" = 2,000 FEET
1:24,000

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TX
WQ0005283000

FIGURE 02
AFFECTED LANDOWNER MAP

DRAWN BY:	S WILSON	SCALE:	PROJ. NO. PN1940114508
CHECKED BY:	M MENSING	AS NOTED	Affected Landowner
APPROVED BY:	M MENSING	DATE PRINTED:	
DATE:	October 2025	*10/7/2025*	

RAMBOLL

10333 Richmond Avenue
Suite 910
Houston, TX 77042

C:_ADVACCDocs\sitemap\cs\Projects\Project Files\Steel Dynamics Southwest LLC\TPDES 2025\GIS.aprx

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PROJECT: 1940114508 DATED: 10/6/2025 DESIGNER: LENGLE

PROPERTY BOUNDARY (APPROXIMATE)

OUTFALL

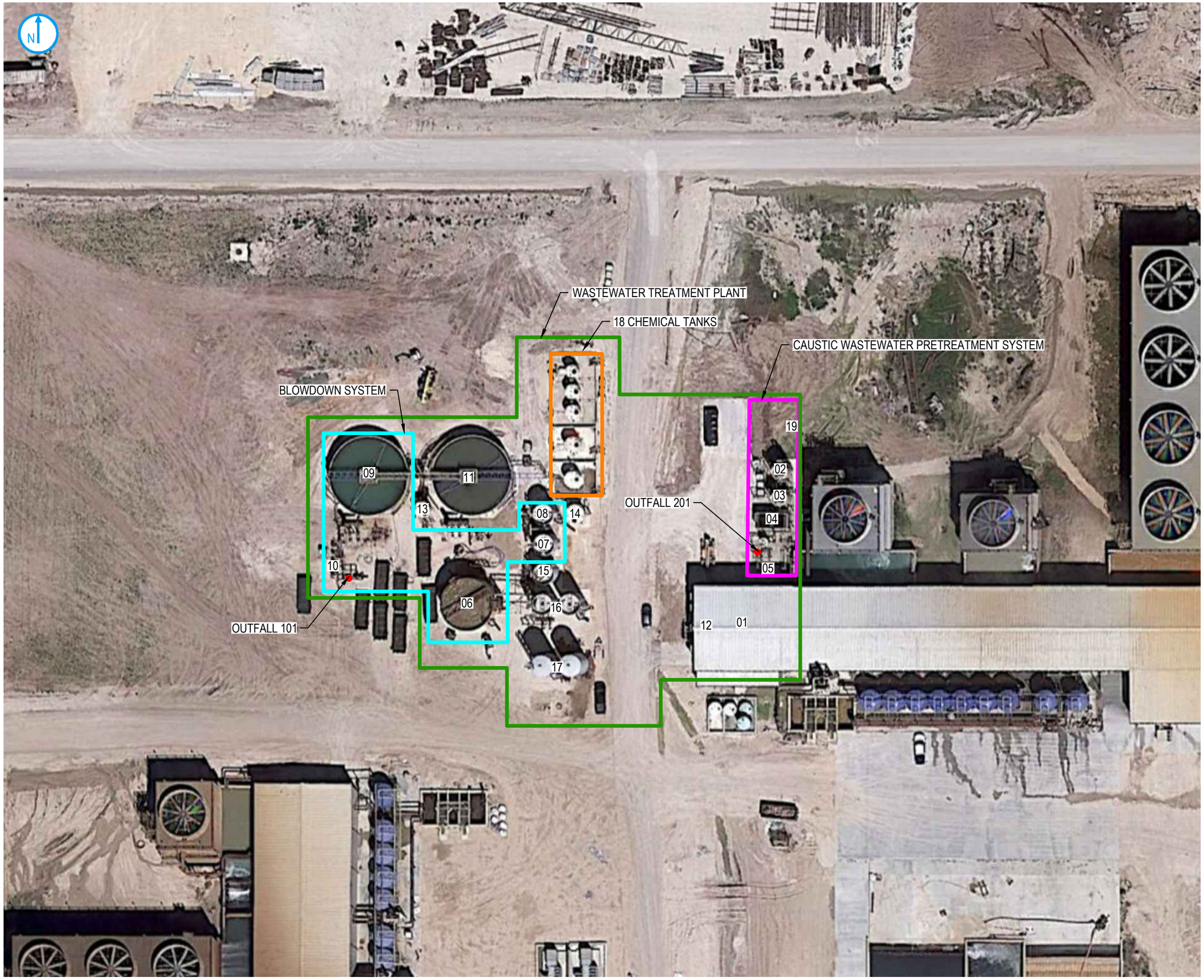
0 800 Feet

FACILITY MAP

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 03

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



01	DAF FOR OILY WASTEWATERS (DA-1708)
02	RAPID MIX TANK (TK-1461)
03	FLOCCULATION TANK (TK-1462)
04	LAMELLA CLARIFIER (CL-1464)
05	SAND FILTERS (F-1467 A/B/C)
06	EQUALIZATION TANK (TK-1403)
07	PRIMARY NEUTRALIZATION TANK (TK-1408)
08	SECONDARY NEUTRALIZATION TANK (TK-1408)
09	CLARIFIER (CL-1413)
10	SAND FILTER PRESS (F-1416 A/B/C/D/E)
11	BACKWASH CLARIFIER (CL-1605)
12	SLUDGE FILTER PRESS (F-1418)
13	SKIMMINGS TANKS (TK-1606)
14	WASTE OIL TANK (TK-1712)
15	SLUDGE CONDITIONER TANK (TK-1415)
16	BACKWASH FILTER TANKS (TK-1604 A/B)
17	OILY BLOWDOWN TANKS (TK-1704 A/B)
18	CHEMICAL TANKS (TK-1601, TK-1411, TK-1412, TK-1405, TK-1406)
19	CAUSTIC WASTEWATERS

0 60 Feet

WASTEWATER TREATMENT PLANT UNIT LOCATIONS

STEEL DYNAMIC SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 04

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

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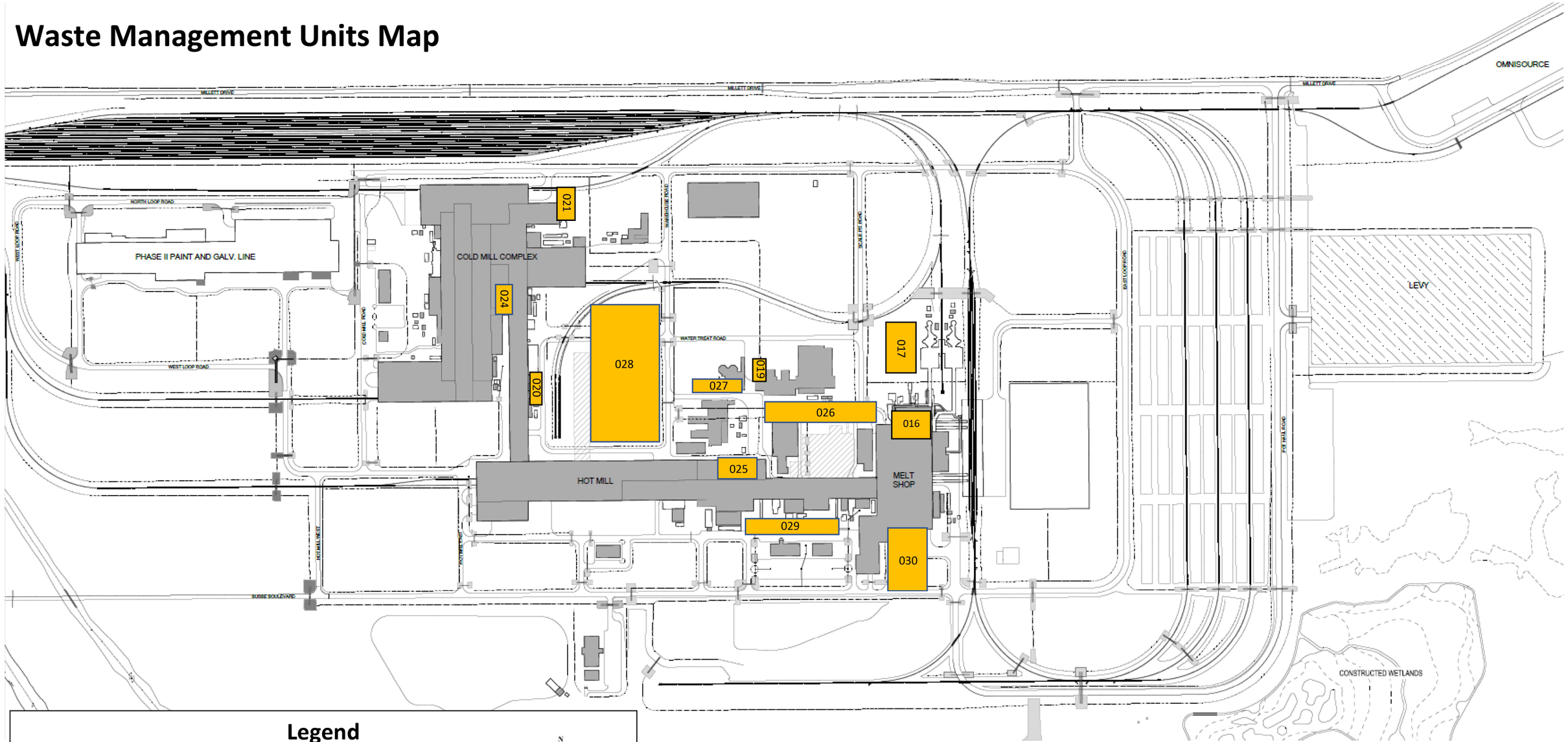
PROJECT: 1940114508 DATED: 11/11/2025 DESIGNER: LENGLE

Waste Management Units Map



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PROJECT: 1940114508 DATED: 10/6/2025 DESIGNER: LENGLE

WASTE MANAGEMENT UNITS

FIGURE 05

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

C:\Users\lengle\OneDrive - Ramboll\Cad Support\Steel Dynamics Inc\Water Balance_SDI_1940114508.dwg

PROJECT: 1940114508 DATED: 11/17/2025 DESIGNER: LENGLE

WATER SUPPLY

MARY RHODES PIPELINE (5.1 MGD)

ON-SITE DEEP WELLS (BACKUP)

EVAP RATE (33 GPM)

RAW WATER STORAGE POND 14.85 ACRE (50 MG CAP)

SERVICE WATER LOOP

AUTHORIZED REUSE (INTERMITTENT)

MELT SHOP NON-CONTACT

ELECTRICAL CLOSED LOOP

BLOWDOWN <0.1 GPM

CHEM: F, H, I

DI UNIT

SMP NON-CONTACT 1.5 MG CAP.

HOT WELL

EVAP RATE (790 GPM)

COOLING TOWER

RECIRCULATION (145,000 GPM)

COLD WELL

CHEM: A, B, J

SAND FILTER

BACKWASH (8 GPM)

BLOWDOWN (256 GPM)

MAKEUP (1,054 GPM)

CSP (CASTER) NON-CONTACT

MAKEUP (<1 GPM)

RO STORAGE

CASTER MOLD CLOSED LOOP

BLOWDOWN <0.1 GPM

CHEM: F, H, I

CSP NON-CONTACT (360,000 GAL CAP.)

EVAP RATE (241 GPM)

COOLING TOWER

RECIRCULATION (11,000 GPM)

COLD WELL

CHEM: A, B, C, D, J

MAKEUP (322 GPM)

SAND FILTER

BACKWASH (8 GPM)

CSP (CASTER) CONTACT

CSP (CASTER)CONTACT (692,000 GAL CAP.)

SCALE SUMP

OIL/SCALE REMOVAL (OFFSITE)

SAND FILTER

EVAP RATE (229 GPM)

COOLING TOWER

RECIRCULATION (10,787 GPM)

COLD WELL

CHEM: A, B, C, D, J

MAKEUP (156 GPM)

BLOWDOWN INTERMITTENT

BACKWASH (230 GPM)

CSP (ROLLING MILL) CONTACT

CSP (ROLLING MILL) CONTACT (1,500,000 GAL CAP.)

SCALE SUMP

OIL/SCALE REMOVAL (OFFSITE)

SAND FILTER

EVAP RATE (448 GPM)

COOLING TOWER

RECIRCULATION (54,800 GPM)

COLD WELL

CHEM: A, B, C, J

MAKEUP (490 GPM)

BLOWDOWN (92 GPM)

BACKWASH (103 GPM)

LAMINAR COOLING CONTACT

CSP (ROLLING MILL) CONTACT (465,000 GAL CAP.)

SCALE SUMP

OIL/SCALE REMOVAL (OFFSITE)

EVAP RATE (448 GPM)

COOLING TOWER

RECIRCULATION (52,747 GPM)

COLD WELL

CHEM: A, B, C, E, J

BLOWDOWN (173 GPM)

MAKEUP (873 GPM)

SAND FILTER

BACKWASH (51 GPM)

COLD MILL CONTACT

CHEM: K, L, M

<1 GPM

SAND FILTER

RO UNIT

RO REJECT WATER (86 GPM)

CHEM: K, L, M

BOILERS (2)

CHEM: N

BOILER BLOWDOWN (2 GPM)

COLD MILL CONTACT

ACIDIC WATER BLOWDOWN (56 GPM)

OILY BLOWDOWN (13 GPM)

COATING LINE DISCHARGE (120 GPM)

MAKEUP (345 GPM)

COLD MILL NON-CONTACT

COLD MILL NON-CONTACT

HOT WELL

EVAP RATE (190 GPM)

COOLING TOWER

RECIRCULATION (22,340 GPM)

COLD WELL

CHEM: A, B, J

MAKEUP (322 GPM)

BLOWDOWN (45 GPM)

SAND FILTER

BACKWASH (8 GPM)

CSP (ROLLING MILL) NON-CONTACT

ROLLING MILL NON-CONTACT

EVAP RATE (230 GPM)

COOLING TOWER

RECIRCULATION (12,800 GPM)

COLD WELL

CHEM: A, B, J

MAKEUP (160 GPM)

SAND FILTER

BACKWASH (8 GPM)

SAND FILTER BACKWASH FILTER SYSTEM SUMP

BLOWDOWN COLLECTION SYSTEM

INTERMITTENT

INTERMITTENT (80 GPM)

CAUSTIC WASTEWATER PRETREATMENT

405 GPM

RAPID MIX TANK

FLOCCULATION TANK

DISSOLVED AIR FLOATATION UNIT

LAMELLA CLARIFIER

FUTURE

REVERSE OSMOSIS SYSTEM

SAND FILTER

<20 GPM CURRENT / TBD FUTURE FLOW

MONITORING POINT

OUTFALL 201

REJECT

THICKENER

DISSOLVED AIR FLOTATION OIL SEPARATION

OIL

OIL/SCALE REMOVAL (OFFSITE)

13 GPM

BACKWASH

FILTER SYSTEM

1.19 MGD (826 GPM)

OUTFALL 101

MONITORING POINT

CONSTRUCTED WETLAND (35.6 ACRES)

AVERAGE EVAP RATE (222 GPM)

BYPASS - INTERMITTENT 1.19 MGD

OUTFALL 001

MONITORING POINT

CHILTPIN CREEK (UNCLASSIFIED)

FUTURE

REVERSE OSMOSIS SYSTEM

REJECT

PERMEATE

MAKE-UP WATER

SLAG QUENCH OR ALT. DISPOSAL

EQUALIZATION TANK

PRIMARY NEUTRALIZATION TANK #1408

SECONDARY NEUTRALIZATION TANK #1409

CLARIFIER

SLUDGE HANDLING FILTER PRESS

OIL/SCALE REMOVAL (OFFSITE)

SLAG DETENTION POND 3 (9.7 ACRES)

SLAG PROCESSING AREA (45 ACRES)

SLAG QUENCH PROCESS POND (0.8 ACRES)

DOMESTIC WASTEWATER

CITY OF SINTON POTW

STORMWATER DRAINAGE AREA 3 (319 ACRES)

DETENTION POND 3 (15.0 ACRES)

MONITORING POINT

OUTFALL 004

DITCH 3

DITCH 5

STORMWATER DRAINAGE AREA 2 (236 ACRES)

DETENTION POND 2 (12.0 ACRES)

MONITORING POINT

OUTFALL 003

DITCH 2

DITCH 1

STORMWATER DRAINAGE AREA 1 (283 ACRES)

DETENTION POND 1 (13.4 ACRES)

MONITORING POINT

OUTFALL 002

CHEMICAL LEGEND

A.	CORROSION CONTROL
B.	BROMINE
C.	CATIONIC COAGULANT
D.	ANTISCALANT
E.	CATIONIC FLOCCULENT
F.	CORROSION INHIBITOR / DISPERSANT
G.	ANTISCALANT
H.	NON OXIDIZING BIOCIDE 1
I.	NON OXIDIZING BIOCIDE 2
J.	H2SO4
K.	CORROSION CONTROL
L.	OXYGEN SCAVENGER
M.	AMINE
N.	ROLLING OIL

CONTINUOUS FLOW
INTERMITTENT FLOW
MAKE-UP AND UTILITY WATER
CHEMICAL ADDITIVES
WASTEWATER
STORMWATER

WATER BALANCE BLOCK DIGRAM

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 06

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

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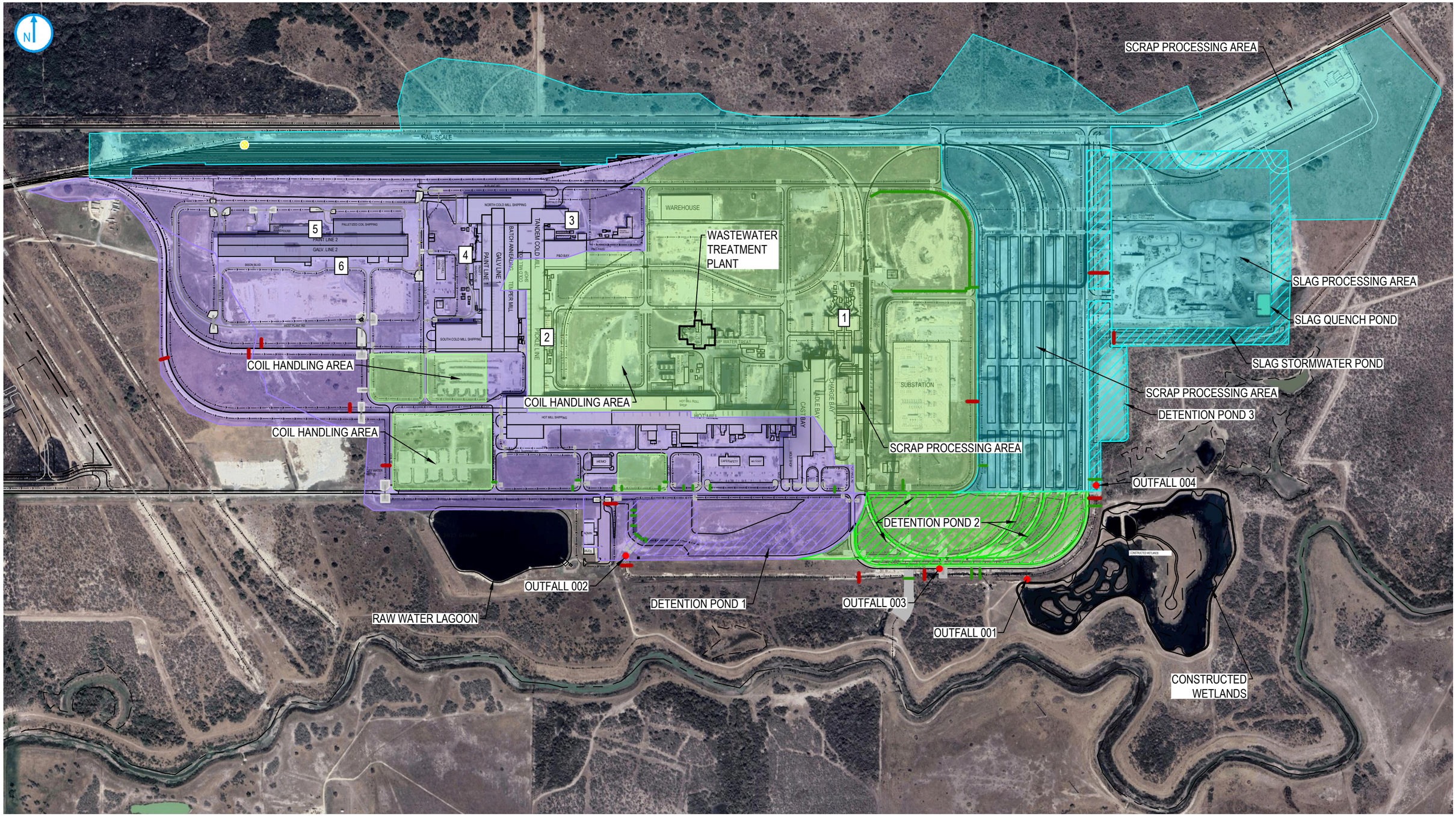
DESIGNER: LENGLE

DATED: 10/15/2025

PROJECT: 19401114508



PROPERTY BOUNDARY (APPROXIMATE)

OUTFALL

ROCK DAM/RIPRAP

SILT FENCE

0 800 Feet

DETENTION POND 1 / OUTFALL 002

DETENTION POND 2 / OUTFALL 003

DETENTION POND 3 / OUTFALL 004

AIR TREATMENT UNIT

REPORTABLE SPILL

AIR TREATMENT #:

1. ELECTRIC ARC FURNACE AND SCALE BREAKER BAGHOUSES
2. PICKLE LINE WET SCRUBBER
3. TANDEM COLD MILL MIST ELIMINATOR
4. PAINT LINE 1 REGENERATIVE THERMAL OXIDIZER
5. PAINT LINE 2 REGENERATIVE THERMAL OXIDIZER
6. GALV LINE 2 WET SCRUBBER

STORMWATER MAP

STEEL DYNAMICS SOUTHWEST, LLC
SINTON, TEXAS

FIGURE 07

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

Attachment 1

Proof of Application Fee Payment

Attachment 2

Water Treatment Additives Information and SDS

ATTACHMENT 2: WATER TREATMENT CHEMICALS

Product Name	System	Product Use	Estimated Daily use (gal/day)	Frequency of Use	Toxicity Data
Nalco 3DT487	Cooling Water Basin and Cold well	Cooling Water Treatment	858	As needed	See SDS
Nalco CB70	Cooling Water Basin	Biocide, Chlorine Enhancer	270	As needed	See SDS
Bleach	Cooling Water Basin	Biological Control	804	As needed	See SDS
Acid	Cooling Water Basin	pH Control	432	As needed	See SDS
Nalco 3DT120	Cooling Water Basin	Cooling Water Treatment	36	As needed	See SDS
Nalco 8108	Cooling water Scale Pit	Water Treatment	103	As needed	See SDS
Nalco Pureate	Cooling Water Basin	Biocide Precursor	332	As needed	See SDS
Nalco DC14	Cooling Water Basin	Cleaner	4.56	As needed	See SDS
Nalco 8187	Cooling Water Basin	Water Clarification Aid	240	As needed	See SDS
Nalco 7744	Cooling Water Scale Pit	Flocculant	288	As needed	See SDS
Nalco 2495	Cooling Water Basin	Demulsifier	36	As needed	See SDS
Nalco TRAC113	Cold Well	Water Treatment	22	As needed	See SDS
Nalco 77352NA	Cold Well	Water Treatment	6	As needed	See SDS
Nalco 7320	Cold Well	Microorganism Control	60	As needed	See SDS
Nalco Trac105	Cold Tank	Closed System Treatment	16	As needed	See SDS
Nalco 2513	Cold Tank	Water Stabilization	16	As needed	See SDS
Chemtreat P835E	Clarifier and Thickener	Water Clarification/Solids Conditioning Agent	30	Continuous	See SDS
Chemtreat P8007L	Clarifier	Metal Precipitant	6.6	Continuous	See SDS
Chemtreat P8916L	Clarifier, Thickener and DAF	Water Clarification Agent	178	Continuous	See SDS
Nalco 22310	Boiler	Internal Treatment	2.5	As needed	See SDS
Nalco 1820	Boiler	Corrosion Inhibitor	0.1	As needed	See SDS
Nalco 1720	Boiler	Oxygen Scavenger	0.1	As needed	See SDS
Nalco ST-70	Cold Well	Water Treatment	6	As needed	See SDS
Rocide IS2	RO unit	Water Treatment		As needed	See SDS
SW-2503-MSBC	RO unit	Water Treatment	3	As needed	See SDS
SW-4000-MF	RO unit	Water treatment chemical /MMF Multimedia Filtration	3.8	As needed	See SDS
SW-4556-AS	RO unit	Water Treatment	2.2	As needed	See SDS

Notes:

Discharges for all systems are ultimately through Outfall 001. Based on typical usage rates and fate and degradation, the chemicals above are not anticipated to be present at the Outfall in concentrations that contribute to aquatic toxicity.

See provided SDS sheets for information on toxicity, persistent and bioaccumulative properties a product half-life.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

Tri-ACT™ 1820

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Tri-ACT™ 1820
Other means of identification	:	Not applicable.
Recommended use	:	CORROSION INHIBITOR
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	01/27/2022

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

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

GHS Label element

Hazard pictograms :

Signal Word : Danger

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

Precautionary Statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several

minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
Storage:
Store in a well-ventilated place.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

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

Section: 4. FIRST AID MEASURES

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

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

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

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

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

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

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

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

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

Personal protective equipment

Eye protection : Safety goggles
Face-shield

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

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

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

Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Section: 10. STABILITY AND REACTIVITY

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

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

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

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 779 mg/kg Test substance: Similar Product
Acute inhalation toxicity	:	Acute toxicity estimate: 37.89 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 rabbit: 2,055 mg/kg Test substance: Similar Product

Skin corrosion/irritation	:	Result: 8.0 Method: Draize Test Test substance: Similar Product
Serious eye damage/eye irritation	:	Result: 110.0 Method: Draize Test Test substance: Similar Product
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	Prolonged exposure to cyclohexylamine in the diet has produced reproductive effects in rats. The relevance to humans is unknown.
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : Harmful to aquatic life.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): 130 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Cyprinodon variegatus (sheepshead minnow): 454 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Fish: 650 mg/l
Test substance: Product

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

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

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

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

Test substance: Product

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

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

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

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

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

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

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

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

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

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

Persistence and degradability

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

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

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

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

Air transport (IATA)

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

Sea transport (IMDG/IMO)

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

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

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

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

Cyclohexylamine 108-91-8

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

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

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

Canadian Domestic Substances List (DSL)

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

Japan. ENCS - Existing and New Chemical Substances Inventory

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

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

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

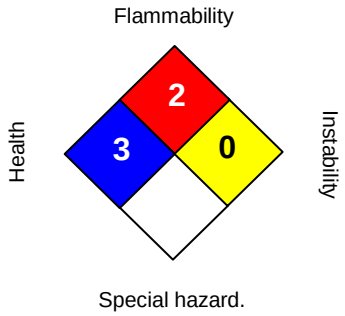
Korea. Korean Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory.

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

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

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	2
PHYSICAL HAZARD	0

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

Revision Date	:	01/27/2022
Version Number	:	2.0
Prepared By	:	Regulatory Affairs

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

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

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

ULTRION® 8187

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	ULTRION® 8187
Other means of identification	:	Not applicable.
Recommended use	:	WATER CLARIFICATION AID
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	11/08/2023

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : May be corrosive to metals.

Precautionary Statements : **Prevention:**
Keep only in original container.
Response:
Absorb spillage to prevent material damage.
Storage:
Store in corrosive resistant container with a resistant inner liner.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Aluminum Chloride Hydroxide	12042-91-0	30 - 60

Section: 4. FIRST AID MEASURES

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

Section: 5. FIRE-FIGHTING MEASURES

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

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national

regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling : Wash hands thoroughly after handling. Use only with adequate ventilation.

Conditions for safe storage : Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Buna-N, Polyurethane, Polypropylene, Polyethylene, Viton, HDPE (high density polyethylene), 100% phenolic resin liner

Unsuitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Hypalon, Stainless Steel 304, EPDM, Mild steel, Stainless Steel 316L, Neoprene, Epoxy phenolic resin

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Aluminum Chloride Hydroxide	12042-91-0	TWA	2 mg/m3 (Aluminium)	NIOSH REL

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

Personal protective equipment

Eye protection : Safety glasses

Hand protection : Wear impervious chemical-resistant gloves when handling this product.
butyl-rubber
Neoprene gloves
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Wear protective gloves.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne mist and vapor.
Where concentrations in air may exceed the limits given in this section or when significant mists, vapors, aerosols are generated, an approved air purifying respirator equipped with suitable filter cartridges is recommended.
Use a particulate pre-filter where operations generate significant mists or

		aerosols. Recommended gas and vapour cartridge: Combined particulates and inorganic gas/vapour type In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	Colorless
Odour	:	None
Flash point	:	does not flash
pH	:	4.00 - 4.40,(30 %), (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -5 °C, ASTM D-1177
Initial boiling point and boiling range	:	104 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	similar to water
Relative vapour density	:	no data available
Relative density	:	1.34, (25 °C), ASTM D-1298
Density	:	11.1 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available

VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature
Incompatible materials	:	Strong Bases
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Hydrogen chloride metal oxides

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

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

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: 4,588 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	Acute toxicity estimate: 5,000 mg/kg

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

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

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

LC50 Rainbow Trout: 590 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Fathead Minnow: 1,094 mg/l
Exposure time: 96 hrs
Test substance: Product

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

NOEC Rainbow Trout: 250 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Fathead Minnow: 313 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna: > 5,000 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): 4,773 mg/l
Exposure time: 96 hrs

Test substance: Product

LC50 Ceriodaphnia dubia: > 5,000 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna: 5,000 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 1,250 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 2,500 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 15 mg/l
End point: Survival
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product

LOEC: 30 mg/l
End point: Survival
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product

EC25 / IC25: 7.2 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product

IC50: 10.3 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product

NOEC: 7.5 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product

LOEC: 15 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product

Components

Toxicity to bacteria : Aluminum Chloride Hydroxide
> 4.4 mg/l

Components

Toxicity to fish (Chronic toxicity) : Aluminum Chloride Hydroxide
NOEC: 0.013 mg/l
Exposure time: 60 d

Persistence and degradability

Biodegradability : Result: Not applicable - inorganic

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

Not subject to any requirements of Subchapter C of the 49CFR when transported by motor vehicle or rail car in a packaging constructed of materials that will not react dangerously with or be degraded by the corrosive material (173.154(d)).

Land transport (DOT)

Proper shipping name	:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

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

Sea transport (IMDG/IMO)

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

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Corrosive to metals

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

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

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

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

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

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

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

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

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

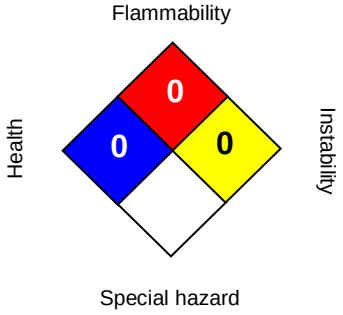
China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

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

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

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date	:	11/08/2023
Version Number	:	2.1
Prepared By	:	Regulatory Affairs

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

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

SAFETY DATA SHEET

NALCO® DC14

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® DC14
Other means of identification	:	Not applicable.
Recommended use	:	CLEANER
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	08/10/2021

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.

Precautionary Statements :

Prevention:
Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position 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 or doctor/ physician. Wash contaminated clothing before reuse.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Urea hydrochloride	506-89-8	30 - 60

Section: 4. FIRST AID MEASURES

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

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

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

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

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Carbon oxides

Special protective equipment for firefighters : Use personal protective equipment.

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Aluminum

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear the following personal protective equipment: Wear impervious chemical-resistant gloves when handling this product. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection	:	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	:	No personal respiratory protective equipment normally required. If user operations generate significant vapours that cannot be controlled with ventilation or engineering controls, use an approved air-purifying respirator fitted with a gas and vapour cartridge. Use a particulate pre-filter where operations generate significant mists or aerosols. Recommended gas and vapour cartridge: Organic vapor cartridge. In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	clear
Odour	:	odourless
Flash point	:	> 93.3 °C
pH	:	1.5,(1 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.1972, (25 °C),
Density	:	9.95 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available

Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

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

Toxicity

Product

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

Components

Acute oral toxicity	:	Urea hydrochloride LD50: 1,121 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): > 10,000 mg/l Exposure time: 96 hrs Test substance: Similar Product Test Type: Static NOEC Pimephales promelas (fathead minnow): 10,000 mg/l Exposure time: 96 hrs Test substance: Similar Product Test Type: Static LC50 Fathead Minnow: > 10,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Fathead Minnow: 10,000 mg/l Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other	:	LC50 Daphnia magna (Water flea): > 10,000 mg/l

aquatic invertebrates	Exposure time: 48 hrs Test substance: Similar Product Test Type: Static NOEC Daphnia magna (Water flea): 10,000 mg/l Exposure time: 48 hrs Test substance: Similar Product Test Type: Static LC50 Ceriodaphnia dubia: 6,830 mg/l Exposure time: 48 hrs Test substance: Product NOEC Ceriodaphnia dubia: 5,000 mg/l Exposure time: 48 hrs Test substance: Product

Persistence and degradability

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

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

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

Air transport (IATA)

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

Sea transport (IMDG/IMO)

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

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

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

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

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

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

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

Japan. ENCS - Existing and New Chemical Substances Inventory
This product contains substance(s) which are not in compliance with the Law Regulating the Manufacture and Importation Of Chemical Substances and are not listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)
This product contains substance(s) which are not in compliance with the Chemical Control Act (CCA) and may require additional review.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
This product contains substance(s) which are not in compliance with the Republic Act 6969 (RA 6969) and may require additional review.

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

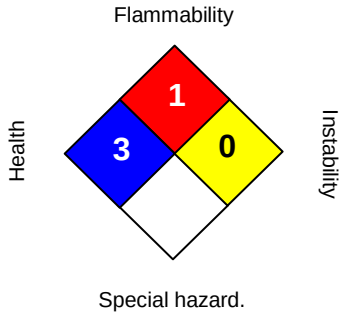
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Taiwan Chemical Substance Inventory
not determined

Section: 16. OTHER INFORMATION

NALCO® DC14

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date	:	08/10/2021
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

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

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

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

IronGUARD™ 2495

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	IronGUARD™ 2495
Other means of identification	:	Not applicable.
Recommended use	:	DEMULSIFIER
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	08/12/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

No hazardous ingredients

Section: 4. FIRST AID MEASURES

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

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

Section: 5. FIRE-FIGHTING MEASURES

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

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

Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Nylon, Stainless Steel 304, Stainless Steel 316L, Hastelloy C-276, MDPE (medium density polyethylene), Plexiglass, EPDM, PVC, HDPE (high density polyethylene), Polyurethane, Aluminum, Ethylene propylene, Polypropylene, Polyethylene, Polytetrafluoroethylene/polypropylene copolymer, PTFE, Perfluoroelastomer, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Copper, Brass, Buna-N, Natural rubber, Mild steel, Neoprene, Chlorosulfonated polyethylene rubber, Fluoroelastomer

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

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

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless
Odour	:	odourless
Flash point	:	> 93.3 °C, Method: ASTM D 93, Pensky-Martens closed cup
pH	:	4.2 - 5.8,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	similar to water

Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	similar to water
Relative vapour density	:	no data available
Relative density	:	1.06, (16 °C), ASTM D-1298
Density	:	8.5 - 8.8 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	1,000 - 6,000 mPa.s (24 °C), Method: ASTM D 2983 < 6,000 mPa.s (25 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Hydrogen chloride

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

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

Experience with human exposure

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

Toxicity

Product

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

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

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

LC50 Pimephales promelas (fathead minnow): > 1,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 1,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 1,000 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): > 1,000 mg/l
Exposure time: 48 hrs
Test substance: Product

EC50 Daphnia magna (Water flea): > 1,000 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 1,000 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 150 mg/l
Exposure time: 120 hrs
Test substance: Product

NOEC Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 37 mg/l
Exposure time: 120 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC25 / IC25: > 1,000 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 1,000 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

IC50: > 1,000 mg/l
End point: Reproduction
Exposure time: 7 Days
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

Persistence and degradability

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

Mobility

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

Air	:	<5%
Water	:	10 - 30%
Soil	:	70 - 90%

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : No SARA Hazards

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

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

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

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

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

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

Canadian Domestic Substances List (DSL)

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

Japan. ENCS - Existing and New Chemical Substances Inventory

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

China Inventory of Existing Chemical Substances

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

Korea. Korean Existing Chemicals Inventory (KECI)

On the Korea Existing Chemicals Inventory.

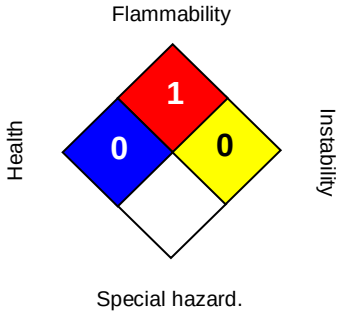
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

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

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

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date	:	08/12/2024
Version Number	:	1.2
Prepared By	:	Regulatory Affairs

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

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

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

NALCO® 1720

Section: 1. IDENTIFICATION

Product name	:	NALCO® 1720
Other means of identification	:	Not applicable.
Recommended use	:	OXYGEN SCAVENGER
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Canada ULC 1055 Truman Street Burlington, Ontario L7R 3Y9 Canada TEL: (905) 633-1000
Emergency telephone number	:	(800) 463-3216 (24 Hours) CHEMTREC
Issuing date	:	2021/06/08

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals	:	Category 1
Acute toxicity (Oral)	:	Category 4
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May be corrosive to metals.
Harmful if swallowed.
Causes serious eye damage.

Precautionary Statements :

Prevention:
Keep only in original packaging. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection.

Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

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

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

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name/Common Name/Synonyms	CAS-No.	Concentration: (%) (w/w) *
Sodium Bisulfite	7631-90-5	10 - 30
Potassium Bisulfite	7773-03-7	1 - 5

* Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

Section: 4. FIRST AID MEASURES

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

In case of skin contact : Wash off with soap and plenty of water. Get medical attention if symptoms occur.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

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

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

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed :

Potential Health Effects

Eyes : Causes serious eye damage.

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

Ingestion : Harmful if swallowed.

Inhalation : May release toxic, irritating and/or corrosive gases.

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

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	No symptoms known or expected.
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Additional information on delayed, immediate or chronic effects from short or long term exposure is not available.

Section: 5. FIREFIGHTING MEASURES

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only

with adequate ventilation. Containers should be opened cautiously and only in well ventilated areas.

Conditions for safe storage : Keep out of reach of children. Keep container tightly closed. Store in a well-ventilated place. Store in suitable labelled containers. Do not store at elevated temperature. Protect product from freezing.

Keep out of reach of children. Keep container tightly closed. Store in a well-ventilated place. Store in suitable labelled containers. Do not store at elevated temperature.

Suitable material : Keep in properly labelled containers.

Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

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

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Bisulfite	7631-90-5	TWA	5 mg/m3	ACGIH
		TWA	5 mg/m3	NIOSH REL
Sodium Bisulfite	7631-90-5	TWA	5 mg/m3	CAD AB OEL
		TWA	5 mg/m3	CAD BC OEL
		VME	5 mg/m3	OEL (QUE)
Sulfur Dioxide	7446-09-5	STEL	0.25 ppm	ACGIH
		TWA	2 ppm 5 mg/m3	NIOSH REL
		STEL	5 ppm 13 mg/m3	NIOSH REL
		TWA	5 ppm 13 mg/m3	OSHA Z1
Sulfur Dioxide	7446-09-5	STEL	5 ppm 13 mg/m3	CAD AB OEL
		TWA	2 ppm 5.2 mg/m3	CAD AB OEL
		TWA	2 ppm	CAD BC OEL
		STEL	5 ppm	CAD BC OEL
		TWA	2 ppm 5.2 mg/m3	CA ON OEL
		STEL	5 ppm 10.4 mg/m3	CA ON OEL
		VME	2 ppm 5.2 mg/m3	OEL (QUE)
		STEV	5 ppm 13 mg/m3	OEL (QUE)

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

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear impervious chemical-resistant gloves when handling this product. The following glove types are recommended based on our review of glove manufacturer information and/or other available sources. Nitrile-rubber, Butyl-Rubber and Neoprene gloves. Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	Use local exhaust ventilation or other engineering controls as necessary to control airborne vapour and mist. Where concentrations in air may exceed the limits given in this section or when significant vapours are generated, use an approved air purifying respirator fitted with a gas and vapour cartridge. Use a particulate pre-filter where operations generate significant mists or aerosols. Recommended gas and vapour cartridge: Multi-purpose combination filter In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

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

Human Exposure Characterization :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	clear
Odour	:	Pungent
Flash point	:	does not flash
pH	:	3.5 - 4.1,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -11 °C, ASTM D-1177

Initial boiling point and boiling range	:	96 °C, (760 mm Hg), Method: ASTM D 86
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.22 - 1.28, (15.6 °C),
Density	:	10.1 - 10.7 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	Not flammable
Thermal decomposition	:	no data available
Viscosity, dynamic	:	5 mPa.s (15 °C), Method: ASTM D 2983
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Evolves SO2 when open to atmosphere. The rate of SO2 evolution increases with temperature and/or transfer of product.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Keep away from heat and sources of ignition. Freezing temperatures.
Incompatible materials	:	SO2 may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles.
Hazardous decomposition products	:	Carbon oxides In case of fire, hazardous decomposition products may be produced such as: Sulphur oxides metal oxides

Section: 11. TOXICOLOGICAL INFORMATION

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

exposure

Potential Health Effects

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

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	No symptoms known or expected.
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: 1,783 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	rabbit: > 3,000 mg/kg Test substance: Similar Product Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation	:	Result: 1.0 Method: Draize Test Test substance: Similar Product
Serious eye damage/eye irritation	:	Result: 9.4 Method: Draize Test Test substance: Similar Product
Respiratory or skin sensitization	:	Result: Contains an ingredient that can cause asthmatic-like reactions in sulfite-sensitive individuals.
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available
Further information	:	Additional information on delayed, immediate or chronic effects from short or

long term exposure is not available.

Human Hazard Characterization

Based on our hazard characterization, the potential human hazard is: High

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Pimephales promelas (fathead minnow): 382 mg/l
Exposure time: 96 hrs
Test substance: Product

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

NOEC Pimephales promelas (fathead minnow): 250 mg/l
Exposure time: 96 hrs
Test substance: Product

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

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 728 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 250 mg/l
Exposure time: 48 hrs
Test substance: Product

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

EC50 Ceriodaphnia dubia: 491 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 508 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 313 mg/l
Exposure time: 48 hrs

Test substance: Product

Toxicity to algae : no data available

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Mobility

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

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

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

Bioaccumulative potential

The product will not bioaccumulate.

Other information

no data available

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: High

Section: 13. DISPOSAL CONSIDERATIONS

In Ontario, the waste class under Regulation 347 is: 148L

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (TDG)

Proper shipping name	:	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Technical name(s)	:	Sodium Bisulfite
UN/ID No.	:	UN 2693
Transport hazard class(es)	:	8
Packing group	:	III

Air transport (IATA)

Proper shipping name	:	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Technical name(s)	:	Sodium Bisulfite
UN/ID No.	:	UN 2693
Transport hazard class(es)	:	8
Packing group	:	III

Sea transport (IMDG/IMO)

Proper shipping name	:	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Technical name(s)	:	Sodium Bisulfite
UN/ID No.	:	UN 2693
Transport hazard class(es)	:	8
Packing group	:	III

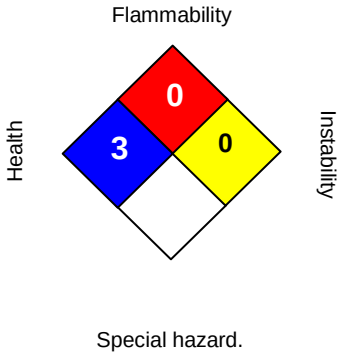
Section: 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's

general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

Revision Date	:	2021/06/08
Version Number	:	1.6
Prepared By	:	Regulatory Affairs

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

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

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **3D TRASAR® 3DT120**

APPLICATION : COOLING WATER TREATMENT

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER : 0
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.
Wear suitable protective clothing.
May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
May cause irritation with prolonged contact.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
Not a likely route of exposure. May cause gastrointestinal irritation.

INHALATION :
Not a likely route of exposure. No adverse effects expected.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

HUMAN HEALTH HAZARDS - CHRONIC :
No adverse effects expected other than those mentioned above.

4. FIRST AID MEASURES

EYE CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

SKIN CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

INGESTION :
Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink.

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : Not applicable

EXTINGUISHING MEDIA :
Water, Carbon dioxide, Dry powder, Foam
This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water., Prevent material from entering sewers or waterways., If drains, streams, soil or sewers become contaminated, notify local authority.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

STORAGE CONDITIONS :
Store in suitable labeled containers. Store the containers tightly closed.

UNSUITABLE CONSTRUCTION MATERIAL :
Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Multi-contaminant cartridge. with a Particulate pre-filter. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If

respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION :
See general advice.

EYE PROTECTION :
Wear safety glasses with side-shields.

HYGIENE RECOMMENDATIONS :
Use good work and personal hygiene practices to avoid exposure. Consider the provision in the work area of a safety shower and eyewash. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is:
Low

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Yellow
ODOR	Neutral

SPECIFIC GRAVITY	1.113 - 1.149
SOLUBILITY IN WATER	Complete
pH (100 %)	2.4 - 3.6
VISCOSITY	39.93 - 42.69 cst
POUR POINT	28.4 °F / -2.0 °C
VOC CONTENT	0.0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Extremes of temperature

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Bases Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. SO2 may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

The following results are for the product, unless otherwise indicated.

ACUTE ORAL TOXICITY :
Species: Rat
LD50: 5,000 mg/kg
Test Descriptor: Similar Product

ACUTE DERMAL TOXICITY :
Species: Rabbit
LD50: > 2,000 mg/kg
Test Descriptor: Similar Product

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product, unless otherwise indicated.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Bluegill Sunfish	96 hrs	> 5,000 mg/l	Similar Product
Rainbow Trout	96 hrs	> 8,000 mg/l	Product

Inland Silverside	96 hrs	3,736 mg/l	Similar Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	1,339 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	3,750 mg/l		Similar Product

PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 120,000 mg/l

Chemical Oxygen Demand (COD) : 300,000 mg/l

Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
5 d	175 mg/l	Product

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

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

Air	Water	Soil/Sediment
<5%	10 - 30%	70 - 90%

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

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is:
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

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

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

CERCLA/SUPERFUND, 40 CFR 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 141583
This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Sodium Bisulfite • Sulfuric Acid	Sec. 311

CLEAN AIR ACT, Sec. 112 (Hazardous Air Pollutants, as amended by 40 CFR 63), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :
Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

INTERNATIONAL CHEMICAL CONTROL LAWS :

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

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

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

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

KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

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

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

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version),
Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH,
(TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : SHE Department
Date issued : 03/28/2011
Version Number : 1.14

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

3D TRASAR™ 3DT487

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	3D TRASAR™ 3DT487
Other means of identification	:	Not applicable.
Recommended use	:	COOLING WATER TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630)305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	11/09/2018

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals : Category 1

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : May be corrosive to metals.

Precautionary Statements : **Prevention:**
Keep only in original container.
Response:
Absorb spillage to prevent material damage.
Storage:
Store in corrosive resistant container with a resistant inner liner.

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

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Phosphoric Acid	7664-38-2	5 - 10

Section: 4. FIRST AID MEASURES

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

Section: 5. FIREFIGHTING MEASURES

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

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

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Phosphoric Acid	7664-38-2	TWA	1 mg/m3	ACGIH
		STEL	3 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		STEL	3 mg/m3	NIOSH REL
		TWA	1 mg/m3	OSHA Z1

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

Personal protective equipment

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow
Odour	:	None
Flash point	:	102.8 °C, Method: ASTM D 92, Does not sustain combustion.
pH	:	1.3 - 2.0

Odour Threshold	:	no data available
Melting point/freezing point	:	Melting point/freezing point: -7.4 °C
Initial boiling point and boiling range	:	97.8 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.223, (15.6 °C), 1.2050 - 1.2350, (25 °C),
Density	:	no data available
Water solubility	:	Complete
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	16.5 mPa.s (23 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong bases
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

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

exposure

Potential Health Effects

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

Experience with human exposure

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

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 10.39 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity	:	Phosphoric Acid LD50 rabbit: > 2,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Fathead Minnow: 7,175 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Fathead Minnow: 3,600 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Rainbow Trout: > 10,000 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Rainbow Trout: 6,000 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : EC50 Ceriodaphnia dubia: 1,103 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1,350 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 313 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Immobilization

NOEC Ceriodaphnia dubia: 625 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC25 / IC25: 376 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: Reproduction

NOEC: 94 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: Reproduction

LOEC: 188 mg/l

Exposure time: 7 d
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: Reproduction

Components

Toxicity to algae : Phosphoric Acid
EC50 Desmodesmus subspicatus (green algae): > 100 mg/l
Exposure time: 72 h

Persistence and degradability

Total Organic Carbon (TOC) : 120,000 mg/l

Chemical Oxygen Demand (COD): 300,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	400 mg/l	

Mobility

no data available

Bioaccumulative potential

no data available

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name : PHOSPHORIC ACID SOLUTION
Technical name(s) :
UN/ID No. : UN 1805
Transport hazard class(es) : 8

Packing group	:	III
Reportable Quantity (per package)	:	54,007 lbs
RQ Component	:	Phosphoric Acid

Air transport (IATA)

Proper shipping name	:	PHOSPHORIC ACID SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1805
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	54,007 lbs
RQ Component	:	Phosphoric Acid

Sea transport (IMDG/IMO)

Proper shipping name	:	PHOSPHORIC ACID SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1805
Transport hazard class(es)	:	8
Packing group	:	III

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phosphoric Acid	7664-38-2	5000	54007

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Corrosive to metals

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

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

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

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

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

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

Australia. Industrial Chemical (Notification and Assessment) Act
not determined

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
not determined

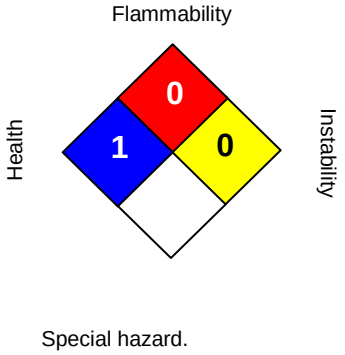
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

China Inventory of Existing Chemical Substances
not determined

Taiwan Chemical Substance Inventory
not determined

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date : 11/09/2018
Version Number : 1.10
Prepared By : Regulatory Affairs

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

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

SAFETY DATA SHEET

according to 29 CFR 1910.1200(g)

Sulfuric Acid 93-98 Percent

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Name:	Sulfuric Acid 93-98 Percent
Product Code:	SA93/98
Formula:	H2SO4
Synonyms:	Oil of Vitriol
Intended Use of the Product:	Inorganic Acid. For industrial use only.
Manufacturer:	PCI Nitrogen, LLC 2001 Jackson Rd Pasadena, TX 77506 713-920-5300 www.pcicorp.net
Emergency number:	CHEMTREC 800-424-9300 (within US); 202-366-4488 (outside US)

SECTION 2: HAZARDS IDENTIFICATION

Classification (GHS-US):	Skin Corr. 1A H314 Eye Dam. 1 H318 Carc. 1A H350
Label Elements: GHS-US Labeling Hazard Pictograms (GHS-US)	 GHS05 GHS08
Signal Word (GHS-US)	Danger.
Hazard Statements (GHS-US)	H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage. H350 - May cause cancer (Inhalation).
Precautionary Statements (GHS-US)	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe fume, mist, vapors, spray. P264 - Wash hands and forearms thoroughly after handling. P280 - Wear eye protection, face protection, protective gloves, protective clothing. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned: Get medical advice/attention. P310 - Immediately call a POISON CENTER or doctor. P321 - Specific treatment (see Section 4). P363 - Wash contaminated clothing before reuse.

SECTION 2: HAZARDS IDENTIFICATION (CONTINUED)

Precautionary Statements (GHS-US)	P405 - Store locked up. P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.
Other Hazards:	Not available
Unknown Acute Toxicity (GHS-US):	Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Sulfuric acid	(CAS No) 7664-93-9	93-98	Skin Corr. 1A, H314 Eye Dam. 1, H318 Carc. 1A, H350
Water	(CAS No) 7732-18-5	7-2	Not classified

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation:	Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice.
Skin Contact:	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Eye Contact:	Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Rinse mouth.

Most Important Symptoms and Effects Both Acute and Delayed

General: Corrosive. Causes burns.

Inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include: burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.
Skin Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Highly corrosive to skin.
Eye Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms:	Prolonged and frequent exposure through inhalation may cause cancer.

SECTION 4: FIRST AID MEASURES (CONTINUED)

Indication of Any Immediate Medical Attention and Special Treatment Needed
If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media: Do not get water inside containers. Do not apply water stream directly at source of leak. A direct water stream will cause violent splattering and generation of heat.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable but reacts exothermically with incompatibles, releasing heat and increasing risk of fire or explosion.
Explosion Hazard: Risk of fire and explosion on contact with combustible substances or reducing agents.
Reactivity: Reacts exothermically with (some) bases. Violent exothermic reaction with water: release of corrosive gases/vapors.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Do not get water inside containers. Do not apply water stream directly at source of leak.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Sulphur oxides.
Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections:

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor or mist.

For Non-Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Do not allow to enter drains or water courses. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Liquid spill: neutralize with powdered limestone or sodium bicarbonate.
Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Do not absorb with combustible material such as: saw dust or cellulosic material.

SECTION 6: ACCIDENTAL RELEASE MEASURES (CONTINUED)

Methods for Cleaning Up: Ventilate area. Collect absorbed material and place into a sealed, labelled container for proper disposal.

Reference to Other Sections

See section 8, Exposure Controls and Personal Protection

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ensure all national/local regulations are observed.

Storage Conditions: Store in original container or corrosive resistant and/or lined container. May be stored in stainless steel containers. Store in an area having corrosion resistant concrete floor. Store in a dry, cool and well-ventilated place. Store away from other materials. **Incompatible**

Materials: Reducing agents, organic materials, alkalis, moisture.

Specific End Use(s)

Inorganic Acid. For industrial use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Sulfuric acid (7664-93-9)

Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA IDLH	US IDLH (mg/m³)	15 mg/m³
Alberta	OEL STEL (mg/m³)	3 mg/m³
Alberta	OEL TWA (mg/m³)	1 mg/m³
British Columbia	OEL TWA (mg/m³)	0.2 mg/m³ (Thoracic, contained in strong inorganic acid mists)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³
New Brunswick	OEL STEL (mg/m³)	3 mg/m³
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³
Nunavut	OEL STEL (mg/m³)	3 mg/m³
Nunavut	OEL TWA (mg/m³)	1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	3 mg/m³

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

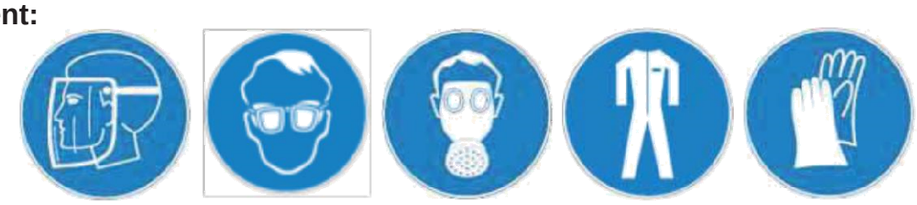
Sulfuric acid (7664-93-9)

Northwest Territories	OEL TWA (mg/m³)	1 mg/m³
Ontario	OEL TWA (mg/m³)	0.2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³
Québec	VECD (mg/m³)	3 mg/m³
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³
Yukon	OEL STEL (mg/m³)	1 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment:



Materials for Protective Clothing: Acid-resistant clothing.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: A full face shield is recommended. Chemical goggles or safety glasses. **Skin and Body Protection:** Chemical resistant suit. Rubber apron, boots.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection: If material is hot, wear thermally resistant protective gloves.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Information on Basic Physical & Chemical Properties

Physical State:	Liquid
Appearance:	Clear
Odor:	Pungent, irritating
Odor Threshold:	Not available
pH:	< 1
Relative Evaporation Rate (butylacetate=1):	Not available

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES (CONTINUED)

Melting Point:	1 °C (30 °F)
Freezing Point:	- 1 °C (30 °F)
Boiling Point:	327 °C (621 °F)
Flash Point:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Flammability (solid, gas):	Not available
Lower Flammable Limit:	Not available
Upper Flammable Limit:	Not available
Vapor Pressure:	0.002 mm Hg at 40 °C (104 °F)
Relative Vapor Density at 20 °C:	3.4 (air = 1)
Relative Density:	1.84 at 15.55 °C (60 °F) (water = 1)
Density:	15.35 lb/gal at 15.55˚C (60˚F)
Solubility:	Miscible
Log Pow:	Not available
Log Kow:	Not available
Viscosity, Kinematic:	Not available
Viscosity, Dynamic:	26.7 cP at 20 °C (68 °F)
Explosion Data – Sensitivity to Mechanical Impact:	Not available
Explosion Data – Sensitivity to Static Discharge:	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Reacts exothermically with (some) bases. Violent exothermic reaction with water (moisture): release of corrosive gases/vapours.
Chemical Stability:	Stable at standard temperature and pressure.
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to Avoid:	Protect from moisture. Water. Keep away from (strong) bases. Contact with metallic substances.

SECTION 10: STABILITY AND REACTIVITY (CONTINUED)

Incompatible Materials:	Reducing agents, water, combustible materials, bases, organic materials, metals.
Hazardous Decomposition Products:	Under conditions of fire this material may produce sulphur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION	**Information on Toxicological Effects - Product**
Acute Toxicity:	Not classified
LD50 and LC50 Data:	See below and Section 12
Skin Corrosion/Irritation:	Causes severe skin burns and eye damage (pH: < 1)
Serious Eye Damage/Irritation:	Causes serious eye damage (pH: < 1)
Respiratory or Skin Sensitization:	Not classified
Germ Cell Mutagenicity:	Not classified
Teratogenicity:	Not available
Carcinogenicity:	May cause cancer (Inhalation)
Specific Target Organ Toxicity (Repeated Exposure):	Not classified
Reproductive Toxicity:	Not classified
Specific Target Organ Toxicity (Single Exposure):	Not classified
Aspiration Hazard:	Not classified
Symptoms/Injuries After Inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include: Burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. May cause pulmonary edema. Symptoms may be delayed.
Symptoms/Injuries After Skin Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Highly corrosive to skin.
Symptoms/Injuries After Eye Contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/Injuries After Ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms:	Prolonged and frequent exposure through inhalation may cause cancer.

Information on Toxicological Effects - Ingredient(s) - LD50 and LC50 Data	
Sulfuric acid (7664-93-9)	
LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat (mg/l)	510 mg/m³ (Exposure time: 2 h)
ATE (oral)	2140 mg/kg body weight
ATE (dust, mist)	510 mg/l/4h
Sulfuric acid (7664-93-9)	
IARC Group	1 (inorganic acid mist)

SECTION 12: ECOLOGICAL INFORMATION

Toxicity	
Sulfuric acid (7664-93-9)	
LC50 Fish 1	500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	29 mg/l (Exposure time: 24 h - Species: Daphnia magna)

Persistence and Degradability	
Sulfuric Acid 98 Percent	
Persistence and Degradability	Product is biodegradable.

Bioaccumulative Potential	
Sulfuric Acid 98 Percent	
Bioaccumulative Potential	Not expected to bioaccumulate.
Sulfuric acid (7664-93-9)	
BCF fish 1	(no bioaccumulation)

Mobility in Soil:	Not available
Other Adverse Effects	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG

DOT UN No.:	UN 1830
DOT Proper Shipping Name:	Sulfuric acid
Department of Transportation (DOT) Hazard Classes:	Class 8 - Corrosive
DOT Symbols:	None
Packing group (DOT)	II

SECTION 14: TRANSPORT INFORMATION (CONTINUED) *In Accordance With ICAO/IATA/DOT/TDG*

DOT Special Provisions	See 49 C.F.R. 172.102
DOT Reportable Quantity (RQ)	1,000 lb
USCG CHRIS Code	SFA

SECTION 15: REGULATORY INFORMATION — US Federal Regulations

Sulfuric Acid 93 Percent

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard Delayed (chronic) health hazard

Sulfuric acid (7664-93-9)

United States TSCA (Toxic Substances Control Act) inventory	Yes.
EPCRA (SARA) § 313 Toxic Release Inventory (TRI)	Yes – Aerosol forms only.
EPCRA (SARA) § 302 Extremely Hazardous Substance (EHS)	Yes
EPCRA (SARA) § 302 Threshold Planning Quantity (TPQ)	1,000 lb.
EPCRA (SARA) § 302 EHS Reportable Quantity (RQ)	1,000 lb.
CERCLA Reportable Quantity (RQ)	1,000 lb.
CERCLA Hazardous Substance	Yes.

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sulfuric acid (7664-93-9)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants

SECTION 15: REGULATORY INFORMATION (CONTINUED)

US State Regulations

Sulfuric acid (7664-93-9)

U.S. - Maine - Air Pollutants - Hazardous Air Pollutants

U.S. - Massachusetts - Allowable Ambient Limits (AALs)

U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)

U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1 U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2 U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity

U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1 U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2 U.S. - Massachusetts - Right To Know List

U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)

U.S. - Massachusetts - Toxics Use Reduction Act

U.S. - Michigan - Occupational Exposure Limits - TWAs

U.S. - Michigan - Polluting Materials List

U.S. - Minnesota - Chemicals of High Concern

U.S. - Minnesota - Hazardous Substance List

U.S. - Minnesota - Permissible Exposure Limits - TWAs

U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances

U.S. - New Jersey - Environmental Hazardous Substances

List U.S. - New Jersey - Right to Know Hazardous Substance

List U.S. - New Jersey - Special Health Hazards Substances

List U.S. - New York - Occupational Exposure Limits - TWAs

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - North Carolina - Control of Toxic Air Pollutants

U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour

U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities

U.S. - Oregon - Permissible Exposure Limits - TWAs

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour

U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual

U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations

SECTION 15: REGULATORY INFORMATION (CONTINUED)

US State Regulations

Sulfuric acid (7664-93-9)

U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories

U.S. - Tennessee - Occupational Exposure Limits - TWAs

U.S. - Texas - Effects Screening Levels - Long Term

U.S. - Texas - Effects Screening Levels - Short Term

U.S. - Vermont - Permissible Exposure Limits - TWAs

U.S. - Washington - Permissible Exposure Limits - STELs

U.S. - Washington - Permissible Exposure Limits - TWAs

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater

U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Canadian Regulations

Sulfuric acid 93-98 Percent (7664-93-9)

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material

Sulfuric acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Indication of Changes:	11/20/2013
Other Information:	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200
GHS Full Text Phrases:	
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H350	May cause cancer

Party Responsible for the Preparation of This Document

Technical Manager of PCI Nitrogen, LLC
Phone Number: 713-920-5300

The information contained in this Material Safety Data Sheet (MSDS) relates only to the specific product(s) designated herein. The information and recommendations are based upon data believed to be current as of the date of this MSDS and was obtained from sources believed to be accurate. However, this information is furnished without warranty, representations, or license of any kind, express or implied, with respect to accuracy, correctness, or completeness and neither PCI Nitrogen, LLC nor its marketing affliates assume any legal responsibility for use or reliance upon same.

North America GHS US 2012 & WHMIS

SAFETY DATA SHEET

NALCO® 2513 WATER STABILIZER

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® 2513 WATER STABILIZER
Other means of identification	:	Not applicable.
Recommended use	:	WATER STABILIZATION
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/08/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation	:	Category 2A
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : Causes serious eye irritation.
May cause respiratory irritation.

Precautionary Statements :

Prevention:
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Storage:
Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect product from freezing.

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

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Sodium Silicate	1344-09-8	30 - 60

Section: 4. FIRST AID MEASURES

In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
In case of skin contact	:	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Storage temperature	:	15 °C to 49 °C
Suitable material	:	Keep in properly labelled containers.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

Eye protection	:	Safety glasses with side-shields
Hand protection	:	Wear protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Filter type: P, Particulates type
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	Colorless Cloudy
Odour	:	None
Flash point	:	does not flash
pH	:	11.2,(100 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	101.6 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.4,
Density	:	1.39 g/cm3 , 11.6 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	< 350 mPa.s (25 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.

Conditions to avoid	:	Freezing temperatures.
Incompatible materials	:	Acids
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available

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

Components

Acute dermal toxicity : Sodium Silicate
LD50 rat: > 5,000 mg/kg
Test substance: Information given is based on data obtained from similar substances.

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : LC50 Gambusia affinis (Mosquito fish): 2,320 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Inland Silverside: > 10,000 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

LC50 Fathead Minnow: 3,987 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

NOEC Inland Silverside: 10,000 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

NOEC Fathead Minnow: 2,160 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna: 494 mg/l
Exposure time: 48 hrs
Test substance: Active Substance

LC50 Mysid Shrimp (Mysidopsis bahia): > 10,000 mg/l
Exposure time: 48 hrs
Test substance: Product

Test Type: Static

LC50 Daphnia magna: 5,417 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

NOEC Mysid Shrimp (Mysidopsis bahia): 10,000 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

NOEC Daphnia magna: 1,296 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

Components

Toxicity to algae : Sodium Silicate
EC50 Desmodesmus subspicatus (green algae): 207 mg/l
Exposure time: 72 h

Components

Toxicity to bacteria : Sodium Silicate
> 348 mg/l

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

TSCA list : Not relevant

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

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

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

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

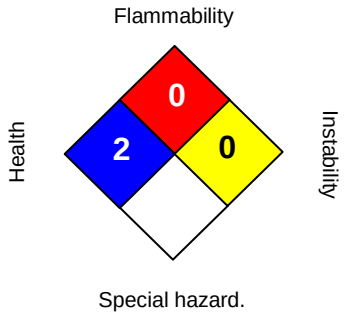
Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

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

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

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date	:	10/08/2020
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

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

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

SAFETY DATA SHEET

NALCO® 7320

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® 7320
Other means of identification	:	Not applicable.
Recommended use	:	MICROORGANISM CONTROL CHEMICAL
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630)305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	06/06/2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 3
Acute toxicity (Inhalation)	:	Category 3
Skin irritation (Dermal)	:	Category 2
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes serious eye damage.
May cause an allergic skin reaction.
Causes skin irritation.
Toxic if swallowed or if inhaled

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair):

Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position 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 or doctor/ physician. If skin irritation or rash occurs: Get medical advice/ attention. Wash contaminated clothing before reuse.
Storage:
Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Polyethylene Glycol	25322-68-3	30 - 60
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	10 - 30
Sodium Bromide	7647-15-6	1 - 5
Dibromoacetonitrile	3252-43-5	0.1 - 1

Section: 4. FIRST AID MEASURES

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

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

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

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

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Polypropylene, Polyethylene, Hastelloy C-276, HDPE (high density polyethylene), PTFE, Fluoroelastomer
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Copper, Brass, Aluminum, Mild steel, Buna-N, Ethylene propylene, Neoprene, Polyurethane, Stainless Steel 304, Stainless Steel 316L, Carbon steel, Chlorosulfonated polyethylene rubber

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Polyethylene Glycol	25322-68-3	TWA (Aerosol.)	10 mg/m3	AIHA WEEL

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

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless
Odour	:	Mild, Disinfectant
Flash point	:	> 182 °C, Method: ASTM D-92, COC
pH	:	1.5 - 5.0, 100 %, Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	POUR POINT: -45 °C, ASTM D-97 FREEZING POINT: -50 °C
Initial boiling point and boiling range	:	> 70 °C, Decomposes on heating.
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	< 0.1 mm Hg, (21 °C),
Relative vapour density	:	no data available
Relative density	:	1.20 - 1.30, (23 °C), ASTM D-1298

Density	:	10.0 - 10.8 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition temperature	:	no data available
Viscosity, dynamic	:	138 mPa.s (20 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat Extremes of temperature None known.
Incompatible materials	:	Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. Oxidizing agents Aluminum
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Hydrogen halides Bromine cyanogenbromide and dibromoacetonitrile

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes skin irritation. May cause allergic skin reaction.

Ingestion	:	Toxic if swallowed.
Inhalation	:	Toxic if inhaled.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Inhalation	:	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 178 - 235 mg/kg Test substance: Active Substance LD50 guinea pig: 118 mg/kg Test substance: Active Substance rabbit: 118 mg/kg Test substance: Active Substance
Acute inhalation toxicity	:	LC50 rat: 1.4 mg/l Exposure time: 4 hrs Test substance: Product rat: 1.25 mg/l Exposure time: 4 hrs Test substance: Product
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available

Carcinogenicity

IARC

Group 2B: Possibly carcinogenic to humans Active ingredient did not cause cancer in laboratory animals. There is evidence that dibromoacetonitrile (DBAN), a possible by-product of 2,2-dibromo-3-nitrilopropionamide (DBNPA), can produce cancer in laboratory animals. However, the relevance of this to humans is unknown.

Dibromoacetonitrile	3252-43-5

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

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

NTP

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

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

Components

Acute dermal toxicity : Polyethylene Glycol
LD50 rabbit: 20,000 mg/kg

Sodium Bromide
LD50 rabbit: > 2,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : Toxic to aquatic life.

Product

Toxicity to fish : LC50 Lepomis macrochirus (Bluegill sunfish): 8.9 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Oncorhynchus mykiss (rainbow trout): 3.6 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Cyprinodon variegatus (sheepshead minnow): 7.5 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Pimephales promelas (fathead minnow): 1.36 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Oncorhynchus mykiss (rainbow trout): 1 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Cyprinodon variegatus (sheepshead minnow): 1.4 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Bluegill Sunfish: 1.3 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Leuciscus idus (Golden orfe): 4.7 mg/l
Exposure time: 96 hrs

Test substance: Product

NOEC Lepomis macrochirus (Bluegill sunfish): 6.5 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 2.8 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Cyprinodon variegatus (sheepshead minnow): 3.2 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Mysid Shrimp (Mysidopsis bahia): 4.2 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Daphnia magna (Water flea): 4.3 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Daphnia magna (Water flea): 1.24 mg/l
Exposure time: 48 hrs
Test substance: Active Substance

LC50 Grass Shrimp: 11.5 mg/l
Exposure time: 96 hrs
Test substance: Active Substance

LC50 Acartia tonsa: 1.78 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 6.67 mg/l
Exposure time: 48 hrs
Test substance: Product

EC50 Mysid Shrimp (Mysidopsis bahia): 3.2 mg/l
Exposure time: 96 hrs
Test substance: Product

EC50 Daphnia magna (Water flea): 2.5 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 3.6 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 5.0 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Marine Algae (Skeletonema costatum): 1.5 mg/l

Exposure time: 72 hrs
Test substance: Product

Toxicity to bacteria : LC50 Pseudomonas putida: > 2.0 mg/l
Test substance: Product

Persistence and degradability

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

Total Organic Carbon (TOC) : 280,000 mg/l

Chemical Oxygen Demand (COD): 1,110,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	1,100 mg/l	Product

Mobility

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

Air : <5%
Water : 10 - 30%
Soil : 70 - 90%

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

Bioaccumulative potential

This substance has a low potential to bioconcentrate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Hazardous Waste: : D002

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	2,2-DIBROMO-3-NITRILOPROPIONAMIDE
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	III

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	2,2-DIBROMO-3-NITRILOPROPIONAMIDE
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	III

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)	:	2,2-DIBROMO-3-NITRILOPROPIONAMIDE
UN/ID No.	:	UN 3265
Transport hazard class(es)	:	8
Packing group	:	III
*Marine pollutant	:	2,2-Dibromo-3-nitrilopropionamide

*Note: This product is regulated as a Marine Pollutant when shipped by Rail, Highway (in bulk quantities), or Air (if no other hazard class applies), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

EPA Reg. No. : 1706-138

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute Health Hazard

SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.	
SARA 313	:	The following components are subject to reporting levels established by SARA Title III, Section 313:	
		2,2-Dibromo-3-nitrilopropionamide	10222-01-2 10 - 30 %

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

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

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

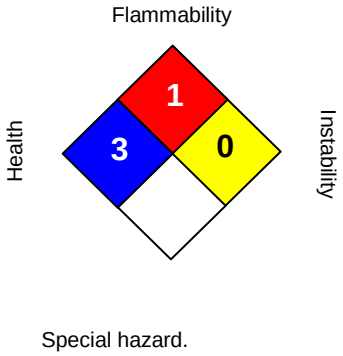
KOREA
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

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

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

Section: 16. OTHER INFORMATION

NFPA:



Special hazard.

HMIS III:

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date	:	06/06/2016
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

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

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

SAFETY DATA SHEET

PRODUCT

NexGuard® 22310

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NexGuard® 22310**

APPLICATION : BOILER WATER INTERNAL TREATMENT

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Use a mild soap if available.
Wear suitable protective clothing.
Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
May cause irritation with prolonged contact.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
Not a likely route of exposure. There may be irritation to the gastro-intestinal tract with nausea and vomiting.

INHALATION :
Not a likely route of exposure. Repeated or prolonged exposure may irritate the respiratory tract.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

HUMAN HEALTH HAZARDS - CHRONIC :
No adverse effects expected other than those mentioned above.

4. FIRST AID MEASURES

EYE CONTACT :
Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.

SKIN CONTACT :
Flush with large amounts of water. Use soap if available. If symptoms develop, seek medical advice.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Keep people away from and upwind of spill/leak. Ventilate spill area if possible.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled.

STORAGE CONDITIONS :
Protect product from freezing. Store the containers tightly closed. Store in suitable labeled containers.

SUITABLE CONSTRUCTION MATERIAL :
PVC, Stainless Steel 304, EPDM, Buna-N, HDPE (high density polyethylene), Polyurethane, Neoprene, Polypropylene, Polyethylene, Stainless Steel 316L, 100% phenolic resin liner, Chlorosulfonated polyethylene rubber, Fluoroelastomer, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

UNSUITABLE CONSTRUCTION MATERIAL :
Brass, Mild steel, Epoxy phenolic resin

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

RESPIRATORY PROTECTION :
Where concentrations in air may exceed the limits given in this section or when significant mists, vapors, aerosols, or dusts are generated, an approved air purifying respirator equipped with suitable filter cartridges is recommended. Consult the respirator / cartridge manufacturer data to verify the suitability of specific devices. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory

protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled. Please contact the PPE manufacturer for advice on what type of glove material may be suitable. Gloves should be replaced immediately if signs of degradation are observed.

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear safety glasses with side-shields.

HYGIENE RECOMMENDATIONS :
Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Fluorescent Orange Yellow
ODOR	Normally None, however residual ammonia may be present in headspace of newly opened containers

SPECIFIC GRAVITY	1.19 @ 77 °F / 25 °C
DENSITY	9.9 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	10.5
FREEZING POINT	22 °F / -6 °C
VAPOR PRESSURE	Same as water
VOC CONTENT	0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen, Oxides of sulfur

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	7,070 mg/l	Product
Fathead Minnow	96 hrs	1,086 mg/l	Product
Inland Silverside	96 hrs	> 5,000 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	1,650 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	> 5,000 mg/l		Product

AQUATIC PLANT RESULTS :

Species	Exposure	EC50/LC50	Test Descriptor
Algae	72 hrs	10 mg/l	

PERSISTENCY AND DEGRADATION :

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

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

Biological Oxygen Demand (BOD) :

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

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

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

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%

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

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

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

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

CERCLA/SUPERFUND, 40 CFR 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.310 Boiler Water Additives

The following limitations apply:

Maximum dosage	Limitation
1000 PPM	as product in the boilerwater

The polymer must not be used at pressures above 1,000 PSIG (6895 kPa).

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 121221
This product is acceptable for use in meat, poultry, and other food processing areas as a Boiler Treatment Product (G6), for treating boiler and steam lines where the steam produced may contact edible products. Acceptable usage shall be in accordance with the dosage limitations specified on the product label.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Sodium Hydroxide	Sec. 311

CLEAN AIR ACT, Sec. 112 (Hazardous Air Pollutants, as amended by 40 CFR 63), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :
Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Sulfate	7757-82-6

INTERNATIONAL CHEMICAL CONTROL LAWS :

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

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

EUROPE
The substance(s) in this preparation are included in or exempted from the EINECS or ELINCS inventories

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

KOREA
This product contains substance(s) which are not in compliance with the Toxic Chemical Control Law (TCCL) and may require additional review.

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

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

16. OTHER INFORMATION

Nalco Internal Number F105654

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's

general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version),
Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH,
(TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 02/17/2011
Version Number : 2.2

SAFETY DATA SHEET

PRODUCT

NALCO® 77352NA

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO® 77352NA**

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 3 / 3 FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Magnesium Nitrate	10377-60-3	1.0 - 5.0
2-Methyl-4-Isothiazolin-3-one	2682-20-4	0.1 - 1.0
5-Chloro-2-Methyl-4-Isothiazolin-3-one	26172-55-4	1.0 - 5.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

DANGER
CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN BURNS. MAY CAUSE ALLERGIC SKIN REACTION. HARMFUL IF INHALED, HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN. Very toxic to aquatic organisms.
Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Avoid breathing vapor or mist. Avoid contamination of food. Do not take internally. Wash thoroughly after handling.
Not flammable or combustible. May evolve HCl under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT :
May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

INGESTION :
Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach. Harmful if swallowed.

INHALATION :
Not a likely route of exposure. May cause irritation of mucous membranes.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

4. FIRST AID MEASURES

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for treatment advice

IF SWALLOWED: Call a poison control center or doctor immediately for advice. Do not induce vomiting unless told by a poison control center or doctor. Have person sip a glass of water if able to swallow.

NOTE TO PHYSICIAN :
Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

5. FIRE FIGHTING MEASURES

FLASH POINT : Not applicable

EXTINGUISHING MEDIA :
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
Not flammable or combustible. May evolve HCl under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Dike and absorb with inert material (e.g. dry earth, sand), shovel all contaminated solids into a pail or drum and then treat with enough deactivation solution to wet the solids thoroughly. Let these containers stand open for 48 hours to prevent pressure build up and then seal for disposal. Equipment containing residues should be decontaminated before carrying out maintenance or repair work or using for other service. Contaminated surfaces should be swabbed with deactivation solution, wait for the reaction to subside and rinse thoroughly with clean water. DEACTIVATION SOLUTION - Estimate volume of remaining spilled material on the floor and prepare 10 times as much deactivation solution as follows. Prepare fresh by mixing 5% sodium hypochlorite (household bleach) and 5% sodium bicarbonate or potassium bicarbonate away from the immediate area of the spill. The solution can be prepared by adding household bleach to the 3-quart fill mark on the 1 gallon plastic container containing 1/3 of a lb. (150 grams) of sodium bicarbonate. Put on the appropriate personal protection equipment and close the container securely and shake well for 1 minute. The materials and equipment for preparing solutions should be kept available for use in areas where spills may occur. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Very toxic to aquatic organisms., Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled.

STORAGE CONDITIONS :
Store in suitable labeled containers. Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Country/Source	Substance(s)	Category:	ppm	mg/m3
	2-Methyl-4-Isothiazolin-3-one	Manufacturer's Recommendation/TWA		1.5
		Manufacturer's		4.5

5-Chloro-2-Methyl-4-Isothiazolin-3-one	Recommendation/STEL Manufacturer's Recommendation/TWA Manufacturer's Recommendation/STEL	0.076 0.23

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled.

HAND PROTECTION :
When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION :
When handling this product, the use of a chemical resistant suit and rubber boots is recommended.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Light yellow
ODOR	Pungent

SPECIFIC GRAVITY	1.02 @ 60 °F / 15.5 °C
DENSITY	8.5 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	2.0 - 4.0
VISCOSITY	3 cps @ 77 °F / 25 °C
VAPOR PRESSURE	No data available.
VOC CONTENT	1.5 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
None known

MATERIALS TO AVOID :
None known

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen, Oxides of sulfur

11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE ORAL TOXICITY :
Species: Rat
LD50: 3,310 mg/kg
Test Descriptor: Product

ACUTE DERMAL TOXICITY :
Species: Rabbit
LD50: > 5,000 mg/kg
Test Descriptor: Product

ACUTE INHALATION TOXICITY :
Species: Rat
LD50: 0.33 mg/l (4 hrs)
Test Descriptor: Product

SENSITIZATION :
Repeated or prolonged contact may cause skin sensitization.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the active components.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Bluegill Sunfish	96 hrs	0.28 mg/l	Active Substance
Rainbow Trout	96 hrs	0.19 mg/l	Active Substance

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	0.16 mg/l		Active Substance

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

Air	Water	Soil/Sediment
< 5%	30 - 50%	50 - 70%

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

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

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

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II
Flash Point :	Not applicable

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II
IATA Cargo Packing Instructions :	812
IATA Cargo Aircraft Limit :	30 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) :	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Magnesium Nitrate : Eye irritant
2-Methyl-4-Isothiazolin-3-one : Corrosive, Sensitizer

5-Chloro-2-Methyl-4-Isothiazolin-3-one : Corrosive, Sensitizer

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
X	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product contains the following substance(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals

Hazardous Substance(s)	CAS NO	% (w/w)
Magnesium Nitrate	10377-60-3	1.0 - 5.0

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :
NSF Registration number for this product is : 140974
This product is acceptable for treating boilers, steam lines, and/or cooling systems where neither the treated water nor the steam produced may contact edible products in and around food processing areas, excluding such use in areas where meat and poultry are processed (G10).

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :
EPA Reg. No. 707-133-1706

In all cases follow instructions on the product label.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :
Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :
Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Magnesium Salt	Proprietary

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
E - Corrosive Material, D2B - Materials Causing Other Toxic Effects - Toxic Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

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

KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

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

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 07/31/2009
Version Number : 1.2

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

CAT-FLOC 8108 PLUS

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	CAT-FLOC 8108 PLUS
Other means of identification	:	Not applicable.
Recommended use	:	WATER TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630)305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/08/2018

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements	:	**Prevention:** Wash hands thoroughly after handling. **Response:** Specific measures: consult SDS Section 4. **Storage:** Store in accordance with local regulations.
Other hazards	:	None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture	:	Mixture

No hazardous ingredients

Section: 4. FIRST AID MEASURES

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

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

Section: 5. FIREFIGHTING MEASURES

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Wash hands thoroughly after handling.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: HDPE (high density polyethylene), Brass, Neoprene, Buna-N, Polyurethane, PVC, Polypropylene, Polyethylene, Stainless Steel 304, EPDM, 100% phenolic resin liner, Epoxy phenolic resin, Chlorosulfonated polyethylene rubber, Fluoroelastomer The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Viscous liquid
Colour	:	yellow
Odour	:	odourless
Flash point	:	no data available
pH	:	5.0 - 8.0,(100 %), (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	> 100 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available

Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	Same as water
Relative density	:	1.018 - 1.058, (25 °C),
Density	:	8.4 - 8.8 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	500 - 3,200 mPa.s (25 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, 0 g/l, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

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

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

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

Experience with human exposure

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

Toxicity

Product

Acute oral toxicity	:	LD50 rat: Test substance: Product Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 rabbit: > 20 g/kg Test substance: Product
Skin corrosion/irritation	:	Species: Rabbit Result: 1.0 Method: Draize Test Test substance: 40% Active Ingredient
Serious eye damage/eye irritation	:	Species: rabbit Result: 8.0 Method: Draize Test Test substance: 40% Active Ingredient
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Harmful to aquatic life with long lasting effects.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): 0.76 mg/l
Exposure time: 96 hrs
Test substance: Product tested in clean water

LC50 Lepomis macrochirus (Bluegill sunfish): 1.07 mg/l
Exposure time: 96 hrs
Test substance: Product tested in clean water

LC50 Zebra Danio: 10 - 100 mg/l
Exposure time: 96 hrs
Test substance: Representative polymer tested in water with DOC

LC50 Inland Silverside: 4,988.87 mg/l
Exposure time: 96 hrs
Test substance: Product tested in clean water
Test Type: Static

NOEC Inland Silverside: 2,500 mg/l
Exposure time: 96 hrs
Test substance: Product tested in clean water
Test Type: Static

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 1.8 mg/l
Exposure time: 48 hrs
Test substance: Product tested in clean water

LC50 Daphnia magna (Water flea): 3.7 mg/l
Exposure time: 48 hrs
Test substance: Tested with 50 mg/l Clay

LC50 Daphnia magna (Water flea): 49.6 mg/l
Exposure time: 48 hrs
Test substance: Tested with 1000 mg/l Clay

LC50 Mysid Shrimp (Mysidopsis bahia): 92 mg/l
Exposure time: 96 hrs
Test substance: Product tested in clean water
Test Type: Static

NOEC Mysid Shrimp (Mysidopsis bahia): 62.5 mg/l
Exposure time: 96 hrs
Test substance: Product tested in clean water
Test Type: Static

Persistence and degradability

The polymer in this product is poorly biodegradable. However, it is rapidly eliminated from the aquatic environment by adsorption onto organic particulate matter and sediment.

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

The hazard characterization is based on the tests or potential hazard in the clean water.

Section: 13. DISPOSAL CONSIDERATIONS

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

Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards	:	No SARA Hazards
SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Australia. Industrial Chemical (Notification and Assessment) Act

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

Canadian Domestic Substances List (DSL)

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

Japan. ENCS - Existing and New Chemical Substances Inventory

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

Korea. Korean Existing Chemicals Inventory (KECI)

All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

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

China Inventory of Existing Chemical Substances

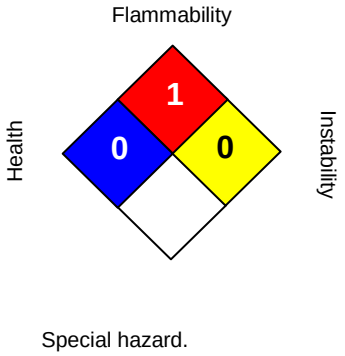
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Taiwan Chemical Substance Inventory

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

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date	:	10/08/2018
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

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

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

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

ControlBrom® CB70

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	ControlBrom® CB70
Other means of identification	:	Not applicable.
Recommended use	:	BIOCIDE, CHLORINE ENHANCER
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Canada ULC 1055 Truman Street Burlington, Ontario L7R 3Y9 Canada TEL: (905)633-1000
Emergency telephone number	:	(800)463-3216 (24 Hours) For Transportation Emergencies call CANUTEC 613-996-6666 (24 hours)
Issuing date	:	2018/07/05

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Eye irritation	:	Category 2A

GHS Label element

Hazard pictograms :

Signal Word :

Warning

Hazard Statements :

Harmful if swallowed or in contact with skin
Causes serious eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves/ protective clothing.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.If eye irritation persists: Get medical advice/ attention.Wash contaminated clothing before reuse.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%) (w/w) *
Sodium Bromide	7647-15-6	30

* Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

Section: 4. FIRST AID MEASURES

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

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops and persists.

If swallowed : Do NOT induce vomiting. Get medical attention if symptoms occur. Do not give anything to drink.

If inhaled : Get medical attention if symptoms occur.

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

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

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Do not ingest. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Stainless Steel 304, Neoprene, Buna-N, Polyurethane, EPDM, Polypropylene (rigid), Polyethylene (rigid), CPVC (rigid), Plasite 4300, Plasite 7122, 100% phenolic resin liner, Epoxy phenolic resin, Chlorosulfonated polyethylene rubber, Fluoroelastomer, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Brass

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

Eye protection	:	Safety glasses with side-shields
Hand protection	:	Wear the following personal protective equipment:

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

Human Exposure Characterization :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless
Odour	:	odourless
Flash point	:	does not flash
pH	:	10.2 - 12.4,(100 %), (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -29 °C
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	11.5 mm Hg, (20 °C),
Relative vapour density	:	no data available
Relative density	:	1.38 - 1.42, (20 °C),
Density	:	11.6 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	1 mPa.s (20 °C)
Viscosity, kinematic	:	no data available

Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature
Incompatible materials	:	Reducing agents Oxidizing agents Acids Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes	:	Causes serious eye irritation.
Skin	:	Harmful in contact with skin.
Ingestion	:	Harmful if swallowed.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	No information available.
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	LD50 rat: > 5,000 mg/kg Test substance: Product
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 rabbit: > 5,000 mg/kg Test substance: Product
Skin corrosion/irritation	:	Species: Rabbit Result: No skin irritation Test substance: Product Species: Rabbit Result: 0.0 Method: Draize Test Test substance: Product
Serious eye damage/eye irritation	:	Species: rabbit Result: 7.0 Method: Draize Test Test substance: Product Species: rabbit Result: Essentially non-irritating Test substance: Product
Respiratory or skin sensitization	:	Test Method: Buehler Species: Guinea pig Result: Did not cause sensitisation on laboratory animals. Test substance: Product
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Human Hazard Characterization

Based on our hazard characterization, the potential human hazard is: Low

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Harmful to aquatic life.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product NOEC Pimephales promelas (fathead minnow): > 5,000 mg/l Exposure time: 96 hrs Test substance: Product

Toxicity to daphnia and other aquatic invertebrates	:	LC50 Ceriodaphnia dubia: > 5,000 mg/l Exposure time: 48 hrs Test substance: Product NOEC Ceriodaphnia dubia: > 5,000 mg/l Exposure time: 48 hrs Test substance: Product
Toxicity to algae	:	no data available

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Chemical Oxygen Demand (COD): 92,000 mg/l

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Moderate

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

Section: 13. DISPOSAL CONSIDERATIONS

In Ontario, the waste class under Regulation 347 is: 148L

Disposal methods	:	For Porta-Feed System: 1. Close valve. 2. Arrange for return of Porta-Feed. For Other Containers: 1. Triple- or pressure-

rinse the empty container. Add the rinsings to the treatment site. 2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal. 3. Make the empty container unsuitable for further use. 4. Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

Section: 14. TRANSPORT INFORMATION

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

Land transport (TDG)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

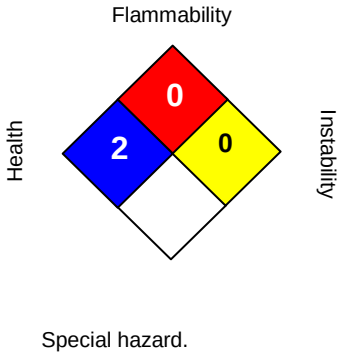
PEST CONTROL PRODUCTS ACT (PCP)
Registration Number : 29971
NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

Revision Date	:	2018/07/05
Version Number	:	1.1
Prepared By	:	Regulatory Affairs (905)633-1000

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

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

SAFETY DATA SHEET

NALCLEAR™ 7744

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCLEAR™ 7744
Other means of identification	:	Not applicable.
Recommended use	:	FLOCCULANT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/23/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Hydrotreated Light Distillate (petroleum)	64742-47-8	1 - 5

Section: 4. FIRST AID MEASURES

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

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

Section: 5. FIREFIGHTING MEASURES

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

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

Suitable material	:	Keep in properly labelled containers.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Hydrotreated Light Distillate (petroleum)	64742-47-8	TWA	500 ppm 2,000 mg/m3	OSHA Z1
		TWA	200 mg/m3 (as total hydrocarbon vapor)	ACGIH
		TWA (Mist)	5 mg/m3	OSHA Z1
		TWA (Mist)	5 mg/m3	NIOSH REL
		STEL (Mist)	10 mg/m3	NIOSH REL
Sulfuric Acid	7664-93-9	TWA (Thoracic fraction)	0.2 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		TWA	1 mg/m3	OSHA Z1

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

Personal protective equipment

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	off-white
Odour	:	hydrocarbon-like
Flash point	:	93.3 °C, Method: ASTM D 93, Pensky-Martens closed cup, minimum
pH	:	3.6 - 5.0,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available

Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.04, (25 °C),
Density	:	1.04 g/cm3 , 8.4 - 8.7 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, 0 g/l, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Freezing temperatures.
Incompatible materials	:	None known
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx)

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

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

Toxicity

Product

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

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Harmful to aquatic life.

Product

Toxicity to fish : LC50 Pimephales promelas (fathead minnow): 1,768 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 1,250 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Inland Silverside: 52.5 mg/l
Exposure time: 96 hrs
Test substance: Similar (more concentrated) Product

NOEC Inland Silverside: 6.25 mg/l
Exposure time: 96 hrs
Test substance: Similar (more concentrated) Product

LC50 Rainbow Trout: 8,800 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

NOEC Rainbow Trout: 3,600 mg/l
Exposure time: 96 hrs
Test substance: Similar Product

Toxicity to daphnia and other aquatic invertebrates : EC50 Ceriodaphnia dubia: 16.3 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 28.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 9.4 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Daphnia magna: 410 mg/l
Exposure time: 48 hrs
Test substance: Similar Product

EC50 Daphnia magna: 190 mg/l
Exposure time: 48 hrs
Test substance: Similar Product

NOEC Daphnia magna: 80 mg/l
Exposure time: 48 hrs
Test substance: Similar Product

Components

Toxicity to algae : Hydrotreated Light Distillate (petroleum)
EC50 : > 1,000 mg/l
Exposure time: 72 h

Components

Toxicity to bacteria : Hydrotreated Light Distillate (petroleum)
> 1,000 mg/l
Exposure time: 48 h

Persistence and degradability

Total Organic Carbon (TOC) : 57,660 mg/l

Chemical Oxygen Demand (COD): 76,980 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
	6,100 mg/l	Product

Mobility

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

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

Bioaccumulative potential

no data available

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Air transport (IATA)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Sea transport (IMDG/IMO)

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : No SARA Hazards

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

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

California Prop. 65

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

Sulfuric Acid	7664-93-9

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

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

Australia. Industrial Chemical (Notification and Assessment) Act

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

Canadian Domestic Substances List (DSL)

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

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

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

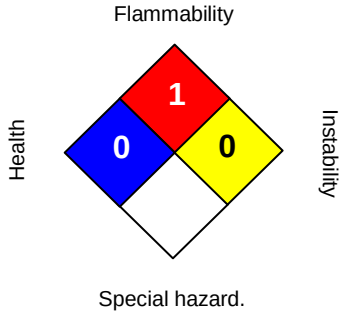
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

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

Taiwan Chemical Substance Inventory
not determined

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date	:	10/23/2019
Version Number	:	1.5
Prepared By	:	Regulatory Affairs

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

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

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

PURATE

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	PURATE
Other means of identification	:	Not applicable.
Recommended use	:	BIOCIDE PRECURSOR
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	05/28/2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing liquids	:	Category 1
Acute toxicity (Inhalation)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Serious eye damage	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May cause fire or explosion; strong oxidiser.
Harmful in contact with skin or if inhaled.
Causes serious eye damage.

Precautionary Statements : **Prevention:**
Keep away from heat. Keep/Store away from clothing and other combustible materials. Avoid breathing mist or vapours. Wear protective gloves/ eye protection/ face protection. Wear fire/ flame resistant/ retardant clothing.
Response:
IF ON SKIN: Wash with plenty of water. Call a POISON CENTER or doctor/ physician if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. IF ON CLOTHING:

rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Chlorate	7775-09-9	40
Hydrogen Peroxide	7722-84-1	5 - 10

Section: 4. FIRST AID MEASURES

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

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

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

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

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

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

Section: 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water

Unsuitable extinguishing media : Foam
Carbon dioxide (CO2)
Dry chemical

Specific hazards during firefighting : Oxidizer. Contact with other material may cause fire.
Cool closed containers exposed to fire with water spray.

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

Special protective equipment : Use personal protective equipment.

for firefighters

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

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Move all flammable sources out of danger and keep them away from the scene. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water. DO NOT hermetically seal any defective containers, including drums (risk of bursting due to the decomposition of the product)
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. Isolate absorbed wastes contaminated with this product from other waste streams containing combustible materials (paper, wood fibers, cloth, etc.). Combustible materials exposed to this product should be rinsed immediately with large amounts of water to ensure that all product is removed. Residual product which is allowed to dry on organic materials such as rags, cloths, paper, fabrics, cotton, leather, wood, or other combustibles may spontaneously ignite and result in a fire.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers. Do not hermetically seal the container. Always transport and store the containers upright. Risk of overpressure and bursting in the event of decomposition in closed containers and in pipes.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible	Basis

			concentration	
Hydrogen Peroxide	7722-84-1	TWA	1 ppm	ACGIH
		TWA	1 ppm 1.4 mg/m3	NIOSH REL
		TWA	1 ppm 1.4 mg/m3	OSHA Z1

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

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Flame retardant protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour : clear colourless to light blue yellow

Odour : Slight, Pungent

Flash point : does not flash

pH : 2 - 6

Odour Threshold : no data available

Melting point/freezing point : no data available

Initial boiling point and boiling range : 104.0 °C

Evaporation rate : > 1

Flammability (solid, gas) : The product is not flammable.

Upper explosion limit : no data available

Lower explosion limit	:	no data available
Vapour pressure	:	6.7 kPa, (40 °C),
Relative vapour density	:	no data available
Relative density	:	1.3400 - 1.3900, (25 °C),
Density	:	11.4 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	Not applicable
Thermal decomposition	:	no data available
Viscosity, dynamic	:	1.8 mPa.s (20 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Decomposes on heating. Contamination may result in dangerous pressure increases - closed containers may rupture.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	Flammable materials
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Chlorine HCl

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Skin	:	Harmful in contact with skin. Causes severe skin burns.
Ingestion	:	Causes digestive tract burns.
Inhalation	:	Harmful if inhaled. May cause nose, throat, and lung irritation.

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

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	No symptoms known or expected. Redness, Pain, Corrosion
Ingestion	:	No symptoms known or expected. Corrosion, Abdominal pain
Inhalation	:	No symptoms known or expected. Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Acute toxicity estimate: 3,531 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 10 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	Acute toxicity estimate: > 1,000 mg/kg
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	Result: Irreversible effects on the eye Method: Expert judgement
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	Based on available data, the classification criteria are not met.

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	:	Harmful to aquatic life.

Components

Toxicity to fish : Sodium Chlorate
LC50 Fish: > 1,000 mg/l
Exposure time: 96 h

Hydrogen Peroxide
LC50 Pimephales promelas (fathead minnow): 16.4 mg/l
Exposure time: 96 h

Components

Toxicity to daphnia and other aquatic invertebrates : Sodium Chlorate
EC50 : > 1,000 mg/l
Exposure time: 48 h

Components

Toxicity to algae : Sodium Chlorate
EC50 : > 1,000 mg/l
Exposure time: 72 h

Hydrogen Peroxide
EC50 Skeletonema costatum (marine diatom): 1.38 mg/l
Exposure time: 72 h

Persistence and degradability

Biodegradability : Result: Not applicable - inorganic

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name	:	SODIUM CHLORATE, AQUEOUS SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 2428
Transport hazard class(es)	:	5.1
Packing group	:	II

Air transport (IATA)

Proper shipping name	:	SODIUM CHLORATE, AQUEOUS SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 2428
Transport hazard class(es)	:	5.1
Packing group	:	II

Sea transport (IMDG/IMO)

Proper shipping name	:	SODIUM CHLORATE, AQUEOUS SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 2428
Transport hazard class(es)	:	5.1
Packing group	:	II

Section: 15. REGULATORY INFORMATION

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

EPA Reg. No. : 1706-242

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Oxidiser (liquid, solid or gas)
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation

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

Hydrogen Peroxide 7722-84-1

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

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

Canadian Domestic Substances List (DSL)

Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

Korea. Korean Existing Chemicals Inventory (KECI)

On the Korea Existing Chemicals Inventory.

Japan. ENCS - Existing and New Chemical Substances Inventory

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

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

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

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

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

China Inventory of Existing Chemical Substances

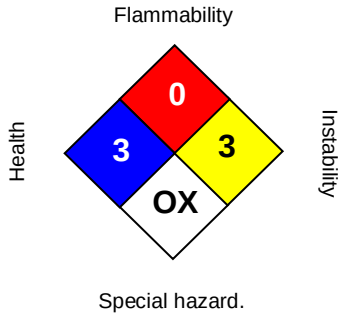
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

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

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

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	3

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

Revision Date	:	05/28/2024
Version Number	:	1.9
Prepared By	:	Regulatory Affairs

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

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For additional copies of an SDS visit www.ecolab.com/sds and request access.

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

STABREX™ ST70

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	STABREX™ ST70
Other means of identification	:	Not applicable.
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	09/11/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

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

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed or if inhaled
Causes severe skin burns and eye damage.

Precautionary Statements :

Prevention:
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

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

Section: 4. FIRST AID MEASURES

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

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

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

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

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Special protective equipment for firefighters : Use personal protective equipment.

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

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	This product is toxic to fish and other aquatic organisms. It is not to be used in circumstances that would cause or allow it to enter lakes, streams, ponds, estuaries, oceans or other waters in contravention of federal or provincial regulatory requirements. DO NOT discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. The requirements of applicable laws should be determined before using the product.
Methods and materials for containment and cleaning up	:	Clean-up methods - small spillage Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean-up methods - large spillage For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

Section: 7. HANDLING AND STORAGE

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

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Hypochlorite	7681-52-9	STEL	2 mg/m3	AIHA WEEL

Sodium Hydroxide	1310-73-2	Ceiling	2 mg/m3	ACGIH
		Ceiling	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z1

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

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
butyl-rubber
Neoprene gloves
Nitrile rubber
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

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

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Combined particulates and inorganic gas/vapour type

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour : light yellow

Odour : odourless

Flash point : Not applicable.

pH : 13.0

Odour Threshold : no data available

Melting point/freezing point : -8.2 °C, ASTM D-1177

Initial boiling point and boiling range : no data available

Evaporation rate : no data available

Flammability (solid, gas) : no data available

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : 7.7 mm Hg, (25 °C), ASTM D 2879-86,
27 mm Hg, (46 °C), ASTM D 2879-86,

Relative vapour density	:	no data available
Relative density	:	1.305 - 1.380, (25 °C), ASTM D-1298
Density	:	11.0 - 11.3 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	7 mPa.s
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	0 %, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Mixing this product with acid or ammonia releases chlorine gas.
Conditions to avoid	:	Avoid extremes of temperature. Heat and light which can accelerate decomposition. Freezing temperatures.
Incompatible materials	:	None known.

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

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

Experience with human exposure

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

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 1,500 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation	:	Species: rabbit Result: 7.9 Method: Draize Test Test substance: Similar Product
Serious eye damage/eye irritation	:	Species: rabbit Result: Corrosive Method: Draize Test Test substance: Similar Product
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Toxic to aquatic life.

Product

Toxicity to fish	:	LC50 Oncorhynchus mykiss (rainbow trout): 4.5 mg/l Exposure time: 96 hrs Test substance: Product LC50 Cyprinodon variegatus (sheepshead minnow): 16 mg/l Exposure time: 96 hrs Test substance: Product

LC50 Pimephales promelas (fathead minnow): 8.3 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Oncorhynchus mykiss (rainbow trout): 1.3 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Cyprinodon variegatus (sheepshead minnow): 8 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 3.6 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Pimephales promelas (fathead minnow): 7.1 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Pimephales promelas (fathead minnow): 5.0 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna (Water flea): 4.3 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Mysid Shrimp (Mysidopsis bahia): 27 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 1.6 mg/l
Exposure time: 48 hrs
Test substance: Product

EC50 Daphnia magna (Water flea): 4.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 2.2 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Mysid Shrimp (Mysidopsis bahia): 13 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 0.63 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 3.66 mg/l
Exposure time: 72 hrs

Test substance: Product

NOEC Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 2.5 mg/l
Exposure time: 72 hrs
Test substance: Product

Toxicity to fish (Chronic toxicity) : EC25 / IC25: 3.34 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

LOEC: 5 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

NOEC: 2.5 mg/l
Exposure time: 7 Days
Species: Fathead Minnow
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC25 / IC25: 15.6 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 2.5 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

LOEC: 5.0 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

NOEC: 20.0 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

LOEC: 40.0 mg/l
Species: Ceriodaphnia dubia
Test substance: Product
Test Type: 3 Brood

Persistence and degradability

Chemical Oxygen Demand (COD): 89,900 mg/l

Biochemical Oxygen Demand (BOD):This material is an oxidizing biocide and is not expected to persist in the environment.

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

Hazardous Waste:	:	D002
Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per	:	15,625 lbs

package)
RQ Component : Sodium Hydroxide

Air transport (IATA)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II
Reportable Quantity (per package)	:	15,625 lbs
RQ Component	:	Sodium Hydroxide

Sea transport (IMDG/IMO)

Proper shipping name	:	SODIUM HYDROXIDE SOLUTION
Technical name(s)	:	
UN/ID No.	:	UN 1824
Transport hazard class(es)	:	8
Packing group	:	II

Section: 15. REGULATORY INFORMATION

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

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

EPA Reg. No. : 1706-179

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium Hydroxide	1310-73-2	1000	15625

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

California Prop. 65

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

Canadian Domestic Substances List (DSL)
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

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

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

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

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

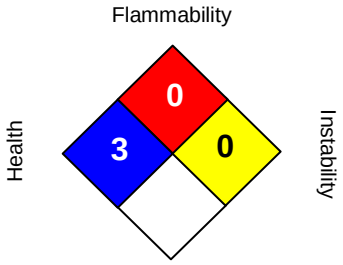
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Australia. Industrial Chemical (Notification and Assessment) Act
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

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

Section: 16. OTHER INFORMATION

NFPA:



Special hazard.

HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date	:	09/11/2019
Version Number	:	1.6
Prepared By	:	Regulatory Affairs

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

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

NALCO Water
An Ecolab Company

SAFETY DATA SHEET

TRASAR™ TRAC105

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	TRASAR™ TRAC105
Other means of identification	:	Not applicable.
Recommended use	:	CLOSED SYSTEM TREATMENT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630) 305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/15/2019

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation	:	Category 2
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.

Precautionary Statements :

Prevention:
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ eye protection/ face protection.

Response:
IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

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

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Morpholine	110-91-8	1 - 5
Substituted aromatic amine	Proprietary	1 - 5
Benzothiazole	Proprietary	0.1 - 1

Section: 4. FIRST AID MEASURES

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

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

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

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

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

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

Special protective equipment for firefighters : Use personal protective equipment.

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

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., Brass, EPDM, Stainless Steel 304, Polypropylene, Polyethylene, Nitrile, HDPE (high density polyethylene), Epoxy phenolic resin, PVC, 100% phenolic resin liner, Chlorosulfonated polyethylene rubber
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Neoprene, Polyurethane, Fluoroelastomer

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Morpholine	110-91-8	TWA	20 ppm	ACGIH
		TWA	20 ppm 70 mg/m3	NIOSH REL
		STEL	30 ppm 105 mg/m3	NIOSH REL
		TWA	20 ppm 70 mg/m3	OSHA Z1

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

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	clear
Odour	:	Organic
Flash point	:	does not flash
pH	:	9.2,(100 %)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -1.0 °C
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.0135 - 1.0435, (20.0 °C),
Density	:	1.01 - 1.04 g/cm3 , 8.45 - 8.71 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available

Thermal decomposition	:	no data available
Viscosity, dynamic	:	1.6 mPa.s (20 °C)
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	9.8 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature None known.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes skin irritation. May cause allergic skin reaction.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.

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

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Irritation, Allergic reactions
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 200 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Pimephales promelas (fathead minnow): 657 mg/l Exposure time: 96 hrs Test substance: Product Test Type: Static NOEC Pimephales promelas (fathead minnow): 500 mg/l Exposure time: 96 hrs Test substance: Product

Test Type: Static

Toxicity to daphnia and other aquatic invertebrates : LC50 Ceriodaphnia dubia: 354 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

NOEC Ceriodaphnia dubia: 250 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

Persistence and degradability

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

Chemical Oxygen Demand (COD): 270,000 mg/l

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

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

Section: 14. TRANSPORT INFORMATION

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

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, N.O.S.
Technical name(s)	:	Morpholine, Substituted carboxylic acid amine salt
UN/ID No.	:	UN 1760
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	2,340 lbs
RQ Component	:	MORPHOLINE

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, N.O.S.
Technical name(s)	:	Morpholine, Substituted carboxylic acid amine salt
UN/ID No.	:	UN 1760
Transport hazard class(es)	:	8
Packing group	:	III
Reportable Quantity (per package)	:	2,340 lbs
RQ Component	:	MORPHOLINE

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, N.O.S.
Technical name(s)	:	Morpholine, Substituted carboxylic acid amine salt
UN/ID No.	:	UN 1760
Transport hazard class(es)	:	8
Packing group	:	III

Section: 15. REGULATORY INFORMATION

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

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

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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

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

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Australia. Industrial Chemical (Notification and Assessment) Act
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

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

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

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

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

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

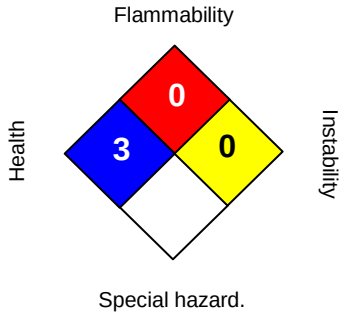
Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

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

Section: 16. OTHER INFORMATION

TRASAR™ TRAC105

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Revision Date	:	10/15/2019
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

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

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

NALCO
An Ecolab Company

SAFETY DATA SHEET

NALCO® TRAC113

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® TRAC113
Other means of identification	:	Not applicable.
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630)305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	01/13/2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure (Oral)	:	Category 1 (Blood)

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes damage to organs (Blood) if swallowed.

Precautionary Statements : **Prevention:**
Do not breathe dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or doctor/ physician. Immediately

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

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Nitrite	7632-00-0	10 - 30
Substituted Triazole	Proprietary	1 - 5

Section: 4. FIRST AID MEASURES

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

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

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

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

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

Notes to physician : Treat symptomatically.

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

Section: 5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

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

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Do not store near acids. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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

Personal protective equipment

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

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	light yellow clear
Odour	:	odourless
Flash point	:	> 93.3 °C
pH	:	12 - 14, 100 %
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.29 (15.5 °C)
Density	:	10.7 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available

Auto-ignition temperature	:	no data available
Thermal decomposition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature Do not allow evapouration to dryness. Dried product residue can act as an oxidizer.
Incompatible materials	:	Contact with reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) may generate heat, fires, explosions and toxic vapors. Do not mix with amines. Sodium nitrite can react with certain amines to produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Harmful if swallowed. Causes digestive tract burns. Produces methemoglobin.
Inhalation	:	May cause nose, throat, and lung irritation.
Chronic Exposure	:	May cause damage to organs.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion

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

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate : 727.64 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	LC50 Inland Silverside: 3,048 mg/l Exposure time: 96 hrs Test substance: Similar Product NOEC Inland Silverside: 1,250 mg/l Exposure time: 96 hrs Test substance: Similar Product

LC50 Fathead Minnow: 37.9 mg/l
Exposure time: 96 hrs
Test substance: Product

NOEC Fathead Minnow: 25 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : EC50 Ceriodaphnia dubia: 11.9 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Ceriodaphnia dubia: 14.5 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Ceriodaphnia dubia: 1.6 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Immobilization

NOEC Ceriodaphnia dubia: 3.1 mg/l
Exposure time: 48 hrs
Test substance: Product

Persistence and degradability

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

Chemical Oxygen Demand (COD): 180,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
5 d	695 mg/l	Product

Mobility

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

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

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

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

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

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

Section: 14. TRANSPORT INFORMATION

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

Land transport (DOT)

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper shipping name	:	CORROSIVE LIQUID, TOXIC, N.O.S
Technical name(s)	:	Sodium Nitrite
UN/ID No.	:	UN 2922
Transport hazard class(es)	:	8, 6.1
Packing group	:	III
Reportable Quantity (per package)	:	410 lbs
RQ Component	:	SODIUM NITRITE

Air transport (IATA)

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper shipping name	:	CORROSIVE LIQUID, TOXIC, N.O.S
Technical name(s)	:	Sodium Nitrite
UN/ID No.	:	UN 2922
Transport hazard class(es)	:	8, 6.1
Packing group	:	III
Reportable Quantity (per package)	:	410 lbs

RQ Component : SODIUM NITRITE

Sea transport (IMDG/IMO)

Proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S
Technical name(s) : Sodium Nitrite
UN/ID No. : UN 2922
Transport hazard class(es) : 8, 6.1
Packing group : III

Section: 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium Nitrite	7632-00-0	100	407

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

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:
Sodium Nitrite 7632-00-0 10 - 30 %

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D):
The following components are listed: Sodium Nitrite

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

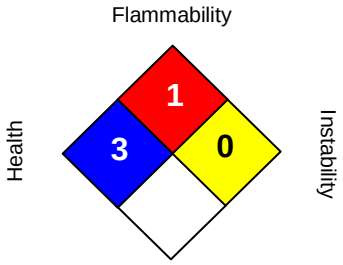
INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Section: 16. OTHER INFORMATION

NALCO® TRAC113

NFPA:



Special hazard.

HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date	:	01/13/2016
Version Number	:	1.2
Prepared By	:	Regulatory Affairs

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

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

SAFETY DATA SHEET

1. Identification

Product identifier **P835E**

Other means of identification

Product code P835E

Recommended use Water Clarification/Solids Conditioning Agent

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ChemTreat, Inc.

Address 5640 Cox Road
Glen Allen, VA 23060
United States

Telephone 800-648-4579

Website chemtreat.com

E-mail productcompliance@chemtreat.com

Emergency phone number 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Not available.

Response Not available.

Storage Not available.

Disposal Not available.

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

Supplemental information None.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

Composition comments Occupational Exposure Limits for residuals are listed in Section 8.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Headache. Nausea, vomiting. Diarrhea.

Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Powder. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Cool containers exposed to heat with water spray and remove container, if no risk is involved.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Will burn if involved in a fire. No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas.
Conditions for safe storage, including any incompatibilities	Keep away from heat and sources of ignition. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

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

Exposure guidelines

US - California OELs: Skin designation

Acrylamide (CAS 79-06-1)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Acrylamide (CAS 79-06-1)	Skin designation applies.

US - Tennessee OELs: Skin designation

Acrylamide (CAS 79-06-1)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Acrylamide (CAS 79-06-1)	Danger of cutaneous absorption

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Acrylamide (CAS 79-06-1)	Can be absorbed through the skin.

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

Acrylamide (CAS 79-06-1)	Can be absorbed through the skin.

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

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid. Emulsion
Color	White
Odor	Mild
Odor threshold	Not available.
pH	3-7 @ 5 g/L
Melting point/freezing point	32.00 °F (0 °C) =
Initial boiling point and boiling range	Not available.
Flash point	>200.0 °F (>93.3 °C) >
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	0.7 % estimated
Explosive limit - upper (%)	5 % estimated
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	> 400 - < 3000 cps
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pounds per gallon	8.71
Specific gravity	≥ 0.98 - ≤ 1.06 @ 20C
VOC	10 %w/w

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Toxic gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. Nausea, vomiting. Diarrhea.

Information on toxicological effects

Acute toxicity Not known.

Toxicological data

Residuals	Species	Test Results
Acrylamide (CAS 79-06-1)		
Acute		
Dermal		
LD50	Rat	400 mg/kg
Oral		
LD50	Rat	124 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

ACGIH sensitization

Acrylamide, inhalable fraction and vapor (CAS 79-06-1) Dermal sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Acrylamide (CAS 79-06-1) 2A Probably carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Acrylamide (CAS 79-06-1) Reasonably Anticipated to be a Human Carcinogen.

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

12. Ecological information

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

Product		Species	Test Results
P835E			
Aquatic			
Crustacea	LC50	Ceriodaphnia dubia	1.233 mg/l, 48 hours
		Daphnia pulex	1.3 mg/l, 48 hours
		Opossum shrimp order (Mysida)	33.2 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	5.815 mg/l, 96 hours
			3.4 mg/l, 48 hours
		Sheepshead minnow (Cyprinodon variegatus)	117.5 mg/l, 96 hours
Chronic			
Crustacea	IC25	Water flea (Ceriodaphnia dubia)	0.36 mg/l, 7 day
	LOEC	Water flea (Ceriodaphnia dubia)	0.5 mg/l, 7 day
	NOEC	Water flea (Ceriodaphnia dubia)	0.25 mg/l, 7 day
Fish	IC25	Fathead minnow (Pimephales promelas)	4.7 mg/l, 7 day
	LOEC	Fathead minnow (Pimephales promelas)	8 mg/l, 7 day
	NOEC	Fathead minnow (Pimephales promelas)	4 mg/l, 7 day

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

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

Acrylamide (CAS 79-06-1) U007

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

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

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acrylamide (CAS 79-06-1) Listed.

SARA 304 Emergency release notification

Acrylamide (CAS 79-06-1) 5000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Acrylamide	79-06-1	5000		1000	10000

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Acrylamide (CAS 79-06-1)

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

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

Acrylamide (CAS 79-06-1)

California Proposition 65

WARNING: This product can expose you to Acrylamide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Acrylamide (CAS 79-06-1) Listed: January 1, 1990

California Proposition 65 - CRT: Listed date/Developmental toxin

Acrylamide (CAS 79-06-1) Listed: February 25, 2011

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Acrylamide (CAS 79-06-1) Listed: February 25, 2011

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

Compliance Information: NSF Standard 60

This product is certified to NSF/ANSI Standard 60 for the following approved function:Coagulate/Flocculate. Maximum use rate for potable water - 3. This product ships as NSF from:

6 USA

Certified to NSF/ANSI/CAN 60

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

Issue date 03-15-2021

Revision date 06-29-2023

Version # 04

HMIS® ratings
Health: 0
Flammability: 1
Physical hazard: 0
Personal protection: X

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Revision information This document has undergone significant changes and should be reviewed in its entirety.

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

Safety Data Sheet

1. Identification

Product Name: P8007L

Recommended Use: Metal Precipitant

Supplied by:
ChemTreat, Inc.
5640 Cox Road
Glen Allen, Virginia 23060
E-Mail: productcompliance@chemtreat.com
www.chemtreat.com
(800) 648-4579

Emergency Telephone: (800) 424-9300

2. Hazards Identification

This substance or mixture does not meet the classification criteria as defined by 29 CFR 1910.1200.

Hazard Pictogram(s)

None

Signal Word

None

3. Composition/Information on Ingredients

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

4. First-aid Measures

First Aid - General Advice: Provide general supportive measures and treat symptomatically. If any symptoms persist or in all cases of doubt, seek medical advice.

First Aid - Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

First Aid - Ingestion: Rinse mouth. Get medical attention if symptoms occur.

First Aid - Skin Contact: Wash off with soap and water. Remove contaminated clothing. Seek medical attention if skin irritation occurs.

First Aid - Eye Contact: Rinse thoroughly with water. Remove eye contact lenses. Get medical attention if irritation develops and persists.

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms.

Notes to Physician: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Treat symptomatically.

5. Fire-fighting Measures

Fire and Explosion Hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Special Firefighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

6. Accidental Release Measures

Methods and Materials for Containment and Cleanup: Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean

surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if possible without risk. Absorb in vermiculite, sand, or earth and place into containers. Flush area with water.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental Precautions: Avoid release to the environment. Do not allow discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological information.

Advice for Emergency Responders: Keep unnecessary personnel away. Ventilate area. Observe and follow emergency procedures.

Personal Precautions: Refer to protective measures listed in sections 7 and 8.

7. Handling and Storage

Handling: Keep container tightly closed. Wear personal protection equipment. Avoid contact with eyes, skin or clothing. Wash hands after handling.

Storage: Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store above Freeze Point.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING

No substance(s) with occupational exposure limit values

MEL = Maximum Exposure Limit OES = Occupational Exposure Standard N.E. = Not Established

Personal Protection

Respiratory Protection: If engineering controls do not maintain airborne concentrations below applicable exposure limits, an appropriate certified respirator must be worn.

Skin Protection: Wear appropriate chemical resistant gloves.

Eye Protection: Safety glasses with side-shields.

Other Protective Equipment: Wear suitable protective clothing.

Hygienic Practices: Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls: Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

9. Physical and Chemical Properties

Appearance:	Clear	**Color:**	Amber
Physical State:	Liquid	**Odor:**	Strong
Density, lb/gal:	9.33	**Specific gravity, 20°C**	1.119
Freeze Point, °C:	-2	**pH:**	0.00
Solubility in Water:	Soluble	**Viscosity:**	No Information
Boiling Range, °C:	No Information	**Flash Point, °C:**	No Information
Volatile Organic Compounds, gr/ltr:	0.00	**Combustibility:**	Does Not Sustain Combustion

10. Stability and Reactivity

Reactivity: No reactivity hazards known under recommended storage and use conditions.

Stability: Stable under normal conditions.

Conditions to Avoid: Contact with incompatible materials.

Incompatibility: Strong oxidizing agents.

Hazardous Decomposition Products: None known under recommended use and conditions.

11. Toxicological Information

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms.

Effect of Overexposure - Inhalation: Under normal use conditions, this product is not expected to cause adverse health effects.

Effect Of Overexposure - Ingestion: May be harmful if swallowed. Rinse mouth. Call a physician or poison center if symptoms occur.

Effect of Overexposure - Skin Contact: No adverse effects due to skin contact are expected.

Effect Of Overexposure - Eye Contact: No adverse effects due to eye contact are expected.

Effect Of Overexposure - Chronic Hazards: No persistent or cumulative effects were observed. Under normal use conditions, this product is not expected to cause chronic health effects.

Carcinogenicity: Not classifiable as to carcinogenicity to humans.

Acute Toxicity Values

No data available

12. Ecological Information

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

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

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

Ecotoxicity

Species	Duration and Type	Test Results
Fathead minnow (Pimephales promelas)	LC50 for 96 hours	138 mg/L
Ceriodaphnia dubia	LC50 for 48 hours	191 mg/L

13. Disposal Information

Disposal Instructions: Do not dispose or allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Hazardous Waste Code: None

14. Transport Information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Special Transport Precautions: No Information

15. Regulatory Information

Federal Regulations:

This saftey data sheet was prepared in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated

CERCLA Hazardous Substance List (40 CFR 302.4)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely Hazardous Substances
Not regulated

SARA 304 Emergency Release Notification
Not regulated

SARA Section 311/312

Classified Hazard Categories	None Known

SARA 313 (TRI reporting)

Not regulated

OSHA Specifically Regulated Substances List (40 CFR 1910.1001-1053)

Not regulated

Clean Air Act (CAA)

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

California Proposition 65

Not regulated

International Regulations:

International Inventories:

Country(s) or region	Inventory name	On inventory (yes/no)*
TSCA	United States Toxic Substances Control Act Inventory	Yes
DSL	Canadian Domestic Substances List	No
NDSL	Canadian Non-Domestic Substances List	No
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	No
ENCS	Japan Existing and New Chemical Substances	No
IECSC	China Inventory of Existing Chemical Substances	Yes
KECI	Korean Existing and Evaluated Chemical Substances	No
PICCS	Philippines Inventory of Chemicals and Chemical Substances	Yes
AICS	Australian Inventory of Chemical Substances	No
NZIoC	New Zealand Inventory of Chemicals	Yes
TCSI	Taiwan Chemical Substance Inventory	Yes

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

16. Other Information

Revision Date: 4/2/2025

Reason for revision: No Information

Datasheet produced by: productcompliance@chemtreat.com

HMIS Ratings:

Health:	0	**Flammability:**	0	**Reactivity:**	0	**Personal Protection:**	X

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Safety Data Sheet

1. Identification

Product Name: P8916L

Recommended Use: Water Clarification Agent

Supplied by:
ChemTreat, Inc.
5640 Cox Road
Glen Allen, Virginia 23060
E-Mail: productcompliance@chemtreat.com
www.chemtreat.com
(800) 648-4579

Emergency Telephone: (800) 424-9300

2. Hazards Identification

This substance or mixture does not meet the classification criteria as defined by 29 CFR 1910.1200.

Hazard Pictogram(s)

None

Signal Word

None

3. Composition/Information on Ingredients

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

4. First-aid Measures

First Aid - General Advice: Provide general supportive measures and treat symptomatically. If any symptoms persist or in all cases of doubt, seek medical advice.

First Aid - Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

First Aid - Ingestion: Rinse mouth. Get medical attention if symptoms occur.

First Aid - Skin Contact: Wash off with soap and water. Remove contaminated clothing. Seek medical attention if skin irritation occurs.

First Aid - Eye Contact: Rinse thoroughly with water. Remove eye contact lenses. Get medical attention if irritation develops and persists.

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms.

Notes to Physician: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Treat symptomatically.

5. Fire-fighting Measures

Fire and Explosion Hazards: Use standard firefighting procedures and consider the hazards of other involved materials.

Special Firefighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable Extinguishing Media: Use extinguishing media suitable to surrounding fire.

6. Accidental Release Measures

Methods and Materials for Containment and Cleanup: Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean

surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if possible without risk. Absorb in vermiculite, sand, or earth and place into containers. Flush area with water.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental Precautions: Avoid release to the environment. Do not allow discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological information.

Advice for Emergency Responders: Keep unnecessary personnel away. Ventilate area. Observe and follow emergency procedures.

Personal Precautions: Refer to protective measures listed in sections 7 and 8.

7. Handling and Storage

Handling: Do not get in eyes, on skin or clothing. Keep container tightly closed. Wear personal protection equipment. Do not breath vapors. Wash throughly after handling.

Storage: Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store above Freeze Point.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING

No substance(s) with occupational exposure limit values

MEL = Maximum Exposure Limit OES = Occupational Exposure Standard N.E. = Not Established

Personal Protection

Respiratory Protection: If engineering controls do not maintain airborne concentrations below applicable exposure limits, an appropriate certified respirator must be worn.

Skin Protection: Wear appropriate chemical resistant gloves.

Eye Protection: Safety glasses with side-shields.

Other Protective Equipment: Wear suitable protective clothing.

Hygienic Practices: Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls: Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

9. Physical and Chemical Properties

Appearance:	Clear	**Color:**	Colorless
Physical State:	Liquid	**Odor:**	Mild
Density, lb/gal:	11.14	**Specific gravity, 20°C**	1.336
Freeze Point, °C:	-7.2	**pH:**	4.2
Solubility in Water:	Soluble	**Viscosity:**	0 - 200 cps
Boiling Range, °C:	No Information	**Flash Point, °C:**	No Information
Volatile Organic Compounds, gr/ltr:	0	**Combustibility:**	Does Not Sustain Combustion

10. Stability and Reactivity

Reactivity: No reactivity hazards known under recommended storage and use conditions.

Stability: Stable under normal conditions.

Conditions to Avoid: Contact with incompatible materials.

Incompatibility: Strong oxidizing agents.

Hazardous Decomposition Products: None known under recommended use and conditions.

11. Toxicological Information

Most Important Symptoms and Effects: See Section 2 and Section 11, Toxicological effects for description of potential symptoms.

Effect of Overexposure - Inhalation: Under normal use conditions, this product is not expected to cause adverse health effects.

Effect Of Overexposure - Ingestion: May be harmful if swallowed. Rinse mouth. Call a physician or poison center if symptoms occur.

Effect of Overexposure - Skin Contact: No adverse effects due to skin contact are expected.

Effect Of Overexposure - Eye Contact: Direct contact with eyes may cause temporary irritation.

Effect Of Overexposure - Chronic Hazards: No persistent or cumulative effects were observed. Under normal use conditions, this product is not expected to cause chronic health effects.

Carcinogenicity: Not classifiable as to carcinogenicity to humans.

Acute Toxicity Values

No data available

12. Ecological Information

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

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

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

13. Disposal Information

Disposal Instructions: Do not dispose or allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Hazardous Waste Code: None

14. Transport Information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Special Transport Precautions: No Information

15. Regulatory Information

Federal Regulations:

This saftey data sheet was prepared in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated

CERCLA Hazardous Substance List (40 CFR 302.4)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely Hazardous Substances
Not regulated

SARA 304 Emergency Release Notification
Not regulated

SARA Section 311/312

Classified Hazard Categories	None Known

SARA 313 (TRI reporting)

Not regulated

OSHA Specifically Regulated Substances List (40 CFR 1910.1001-1053)

Not regulated

Clean Air Act (CAA)

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

California Proposition 65

Not regulated

International Regulations:

International Inventories:

Country(s) or region	Inventory name	On inventory (yes/no)*
TSCA	United States Toxic Substances Control Act Inventory	Yes
DSL	Canadian Domestic Substances List	Yes
NDSL	Canadian Non-Domestic Substances List	No
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	Yes
ENCS	Japan Existing and New Chemical Substances	Yes
IECSC	China Inventory of Existing Chemical Substances	Yes
KECI	Korean Existing and Evaluated Chemical Substances	Yes
PICCS	Philippines Inventory of Chemicals and Chemical Substances	Yes
AICS	Australian Inventory of Chemical Substances	Yes
NZIoC	New Zealand Inventory of Chemicals	Yes
TCSI	Taiwan Chemical Substance Inventory	Yes

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

16. Other Information

Revision Date: 7/25/2024

Reason for revision: No Information

Datasheet produced by: productcompliance@chemtreat.com

HMIS Ratings:

Health:	0	**Flammability:**	0	**Reactivity:**	0	**Personal Protection:**	B

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Safety Data Sheet

RoCide™ IS2

Revision: 2023-10-30

SECTION 1: Identification

1.1 Product identifier

Trade name **RoCide™ IS2**

CAS number none

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Water treatment chemical
RO Reverse Osmosis

1.3 Details of the supplier of the safety data sheet

Avista Technologies, Inc.
140 Bosstick Blvd.
92069 San Marcos
United States

Telephone: +1 (760) 744 0536
e-mail: regulatory@avistatech.com
Website: AvistaMembraneSolutions.com

1.4	**Emergency telephone number**	Emergency Number (USA, Canada): 1 (800) 424-9300 (ChemTrec) Emergency Number (International): 1 (703) 527-3887 (International Collect)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class	*Category*	*Hazard statement*
skin corrosion/irritation	1B	H314
serious eye damage/eye irritation	1	H318
skin sensitization	1B	H317

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Signal word danger

Pictograms

GHS05, GHS07

Hazard statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements

P260	Do not breathe dusts or mists.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear eye protection/face protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P302+P352	If on skin: Wash with plenty of water.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Hazards not otherwise classified

Toxic to aquatic life (GHS category 2: aquatic toxicity - acute).

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Hazardous ingredients

Name of substance	*Identifier*	*Wt%*	*Classification acc. to GHS*
Water	CAS No 7732-18-5	≥ 90	
Magnesium salt B	CAS No Proprietary EC No Proprietary	1 – < 5	Ox. Sol. 3 / H272
Isothiazolin compound B	CAS No 26172-55-4	1 – < 5	Acute Tox. 3 / H301 Skin Corr. 1 / H314 Eye Dam. 1 / H318
Magnesium salt A	CAS No Proprietary EC No Proprietary	1 – < 5	

For full text of abbreviations: see SECTION 16.
Specific chemical identity and concentration of some ingredients are protected as Trade Secret information.

Canada HMIRA Registration Number: 03331705 Registration date: 30 May 2019.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

In case of respiratory tract irritation, consult a physician.

Following skin contact

Rinse skin with water/shower. Take off contaminated clothing. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Immediately call a doctor. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Immediately call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. Splashes cause strong tearing, pain, may cause permanent visual impairment. Prolonged contact may cause dryness, redness, burns, blistering and ulceration. Can be partially absorbed by the skin. Ingestion causes pain, burns, abdominal pain, possible general impact (shock).

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote is known. Treatment of the symptoms.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Non-combustible. Coordinate firefighting measures to the fire surroundings. Water spray, Alcohol resistant foam, Fire extinguishing powder, Carbon dioxide (CO_2)

Unsuitable extinguishing media

None

5.2 Special hazards arising from the substance or mixture

none

5.3 Advice for firefighters

Keep containers cool with water spray. In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Chemical protection suit, Use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Aqueous solutions or powders that become wet produce extremely slippery conditions.

For non-emergency personnel

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety. Prevent skin contact. Avoid inhaling sprayed product. Aqueous solutions or powders that become wet produce extremely slippery conditions.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection. Aqueous solutions or powders that become wet produce extremely slippery conditions. Special danger of slipping by leaking/spilling product.

Suitable fabric for personal protective clothing

PE: polyethylene, NR: natural rubber, latex, CR: chloroprene (chlorobutadiene) rubber

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority. Disposal considerations: see section 13. Chemicals generally shouldn't reach surface water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.)

Appropriate containment techniques

Neutralization techniques. Decontamination techniques. Use of adsorbent materials. Vacuuming techniques.

Equipment required for containment/clean-up

Approved industrial vacuum cleaner, Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Sweeping compounds (oil absorbing), Shovel, Drain seal, Collecting container, Protective gloves, Eye protection (e.g. protective goggles), Personal protective equipment: see section 8

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Section 7: Handling and storage. See also to sections 8 and 13 of the safety data sheet.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Handling of incompatible substances or mixtures

Do not mix with other chemicals.

Keep away from

Bases, Caustic solutions, Alkalis, Strong oxidizers, Other chemicals

Measures to protect the environment

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Consideration of other advice Store between 5°C and 40°C. Avoid freezing.

Specific designs for storage rooms or vessels

No special measures are necessary. Keep container tightly closed.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

Water treatment chemical. RO Reverse Osmosis.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational Exposure Limits: PELs, TLVs, etc

These information are not available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Guarantee that the eye flushing systems and safety showers are closely located to the working place.

Eye/face protection

Wear eye/face protection.

Skin protection

Chemical resistant protective clothing.

Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.4 mm
In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.7 mm.

Type of material

PVC: polyvinyl chloride, PE: polyethylene, CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber, IIR: isobutene-isoprene (butyl) rubber, FKM: fluoro-elastomer

Breakthrough times of the glove material

Breakthrough times and swelling properties of the material must be taken into consideration

Other protection measures

Wash hands thoroughly after handling.

Respiratory protection

Not necessary under normal conditions and provided good general ventilation. In case of inadequate ventilation wear respiratory protection. Type : E (against acidic gases like sulfur dioxide or hydrogen chloride, color code: Yellow).

Environmental exposure controls

Disposal considerations: see section 13.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	colorless - pale green liquid
Odor	characteristic
Odor threshold	no data available

Other safety parameters

pH (value)	ca. 2 – 4 (25 °C)
Melting point/freezing point	ca. -3 °C at 1 atm
Initial boiling point and boiling range	ca. >100 °C at 1 atm
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	not applicable
Upper/lower flammability or explosive limits	not determined
Vapor pressure	ca. 21 mmHg at 20 °C
Vapor density	this information is not available
Density	not determined

Relative density	1 – 1.04 at 25 °C (water = 1)

Solubility(ies)

Water solubility	miscible in any proportion

Partition coefficient

-n-Octanol/water (log KOW)	0.401

Auto-ignition temperature	not determined not applicable
Decomposition temperature	not determined
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Incompatible materials.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

Data are not available.

Remarks

Do not empty into drains or surface water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point. Dispose of waste according to applicable legislation.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Avoid release to the environment.

SECTION 14: Transport information

14.1 UN number	3265
14.2 UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s.
Technical name (hazardous ingredients)	contains: (5-Chloro-2-methyl-4-isothiazolin-3-one)
14.3 Transport hazard class(es)	
Class	8
14.4 Packing group	II
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Index number	3265
Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.
Particulars in the shipper's declaration	UN3265, Corrosive liquid, acidic, organic, n.o.s., (5-Chloro-2-methyl-4-isothiazolin-3-one), 8, II
Class	8
Packing group	II
Danger label(s)	8

Special provisions (SP)	148, B2, IB2, T11, TP2, TP27
ERG No	153

International Maritime Dangerous Goods Code (IMDG)

UN number	3265
Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Particulars in the shipper's declaration	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (5-Chloro-2-methyl-4-isothiazolin-3-one), 8, II
Class	8
Marine pollutant	-
Packing group	II
Danger label(s)	8

EmS	F-A, S-B
Segregation group	1 - Acids
Segregation codes	SG36, SG49

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	3265
Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.
Particulars in the shipper's declaration	UN3265, Corrosive liquid, acidic, organic, n.o.s., (5-Chloro-2-methyl-4-isothiazolin-3-one), 8, II
Class	8
Environmental hazards	no
Packing group	II
Danger label(s)	8

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed or exempt from listing

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

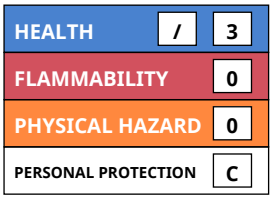
California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

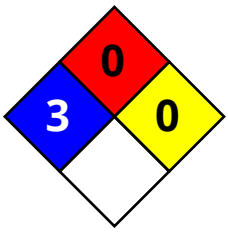
Hazardous Materials Identification System. American Coatings Association.



A "*" on the health line indicates a chronic health hazard is present.

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).



Additional information

Substance is listed in the following national inventories:
The contained substances are listed in the following national inventories:
AICS (Australia)
ASIA-PAC (Asia-Pacific Region)
DSL (Canada)
NDSL (Canada)
DSL/NDSL (Canada)
IECSC (China)
EINECS/ELINCS/NLP (Europe)
EINECS (European Union)
REACH (Europe)
ENCS, class 1 and 2 (MITI-inventory, Japan)
CSCL-ENCS (Japan)
ISHA-ENCS (Japan)
KECL (Republic of Korea)
INSQ (Mexico)
NZIoC (New Zealand)
PICCS (Philippines)
CICR (Turkey)
TCSI (Taiwan)
TSCA (United States)

15.2 Chemical Safety Assessment

Chemical Safety Assessment: No.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	*Descriptions of used abbreviations*
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
Ox. Sol.	Oxidizing solid
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

ECHA: European Chemicals Agency, http://echa.europa.eu/.

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	*Text*
H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Safety Data Sheet

SW-2503-MSBC

Revision: 2023-10-30

SECTION 1: Identification

1.1 Product identifier

Trade name **SW-2503-MSBC**

CAS number none

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Water treatment chemical
RO Reverse Osmosis

1.3 Details of the supplier of the safety data sheet

Sage Water, LTD.
642 Cantwell Ln.
Corpus Christi, TX. 78408
United States

1.4 **Emergency telephone number**	Emergency Number (USA, Canada): 1 (800) 424-9300 (ChemTrec) Emergency Number (International): 1 (703) 527-3887 (International Collect)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class	*Category*	*Hazard statement*
skin corrosion/irritation	1C	H314
serious eye damage/eye irritation	1	H318
substance or mixture corrosive to metals	1	H290

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Signal word danger

Pictograms

GHS05

Hazard statements

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

Precautionary statements

P234	Keep only in original container.
P260	Do not breathe dusts or mists.
P280	Wear eye protection/face protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Hazards not otherwise classified

Contact with acids liberates toxic gas.
Very toxic to aquatic life (GHS category 1: aquatic toxicity - acute).
Very toxic to aquatic life with long lasting effects (GHS category 1: aquatic toxicity - acute and/or chronic).
Toxic to aquatic life with long lasting effects (GHS category 2: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Hazardous ingredients

Name of substance	*Identifier*	*Wt%*	*Classification acc. to GHS*
Bromide salt	CAS No 7647-15-6 EC No 231-599-9	1 – < 5	
Water	7732-18-5	≥ 90	Not established
Hypochlorite salt	Proprietary	5 – < 10	Acute Tox. 4 / H302 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Met. Corr. 1 / H290

For full text of abbreviations: see SECTION 16.
Specific chemical identity and concentration of some ingredients are protected as Trade Secret information.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

In case of respiratory tract irritation, consult a physician.

Following skin contact

Rinse skin with water/shower. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Immediately call a doctor. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Immediately call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. Splashes cause strong tearing, pain, may cause permanent visual impairment. Prolonged contact may cause dryness, redness, burns, blistering and ulceration. Can be partially absorbed by the skin. Ingestion causes pain, burns, abdominal pain, possible general impact (shock).

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote is known. Treatment of the symptoms.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Non-combustible. Coordinate firefighting measures to the fire surroundings. Water spray, Fire extinguishing powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

None

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

5.3 Advice for firefighters

Keep containers cool with water spray. In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Chemical protection suit, Use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Aqueous solutions or powders that become wet produce extremely slippery conditions.

For non-emergency personnel

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety. Prevent skin contact. Avoid inhaling sprayed product. Aqueous solutions or powders that become wet produce extremely slippery conditions.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection. Aqueous solutions or powders that become wet produce extremely slippery conditions. Special danger of slipping by leaking/spilling product.

Suitable fabric for personal protective clothing

PE: polyethylene, NR: natural rubber, latex, CR: chloroprene (chlorobutadiene) rubber

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority. Disposal considerations: see section 13. Chemicals generally shouldn't reach surface water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Material for neutralising like diluted acetic acid.

Appropriate containment techniques

Neutralization techniques. Decontamination techniques. Use of adsorbent materials. Vacuuming techniques.

Equipment required for containment/clean-up

Approved industrial vacuum cleaner, Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Sweeping compounds (oil absorbing), Shovel, Drain seal, Collecting container, Protective gloves, Eye protection (e.g. protective goggles), Personal protective equipment: see section 8

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Section 7: Handling and storage. See also to sections 8 and 13 of the safety data sheet.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Handling of incompatible substances or mixtures

Do not mix with acids. Do not mix with other chemicals.

Keep away from

Acids, Strong oxidizers, Other chemicals

Measures to protect the environment

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Consideration of other advice

Store between 5°C and 40°C. Avoid freezing.

Specific designs for storage rooms or vessels

No special measures are necessary. Keep container tightly closed.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

Water treatment chemical. RO Reverse Osmosis.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational Exposure Limits: PELs, TLVs, etc

These information are not available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Guarantee that the eye flushing systems and safety showers are closely located to the working place.

Eye/face protection

Wear eye/face protection.

Skin protection

Chemical resistant protective clothing.

Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.4 mm
In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.7 mm.

Type of material

PE: polyethylene, NBR: acrylonitrile-butadiene rubber, IIR: isobutene-isoprene (butyl) rubber

Breakthrough times of the glove material

Breakthrough times and swelling properties of the material must be taken into consideration

Other protection measures

Wash hands thoroughly after handling.

Respiratory protection

Not necessary under normal conditions and provided good general ventilation. In case of inadequate ventilation wear respiratory protection. Type : E (against acidic gases like sulfur dioxide or hydrogen chloride, color code: Yellow).

Environmental exposure controls

Disposal considerations: see section 13.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	pale yellow - brown

Odor	Chlorinated
Odor threshold	no data available

Other safety parameters

pH (value)	ca. 12 – 13 (25 °C) (base)
Melting point/freezing point	ca. 5 – 25 °C at 1 atm
Initial boiling point and boiling range	ca. >100 °C at 1 atm
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	not applicable
Upper/lower flammability or explosive limits	not determined

Vapor pressure	ca. 21 mmHg at 20 °C
Vapor density	this information is not available
Density	ca. 1.23 – 1.27 $^{g}/_{cm^3}$ at 25 °C
Solubility(ies)	not determined

Partition coefficient

-n-Octanol/water (log KOW)	this information is not available

Auto-ignition temperature	not determined not applicable
Decomposition temperature	not determined
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Dangerous/dangerous reactions with Acids.

10.4 Conditions to avoid

Incompatible materials.

10.5 Incompatible materials

Acids

Release of flammable materials with:

Light metals (due to the release of hydrogen in an acid/alkaline medium)

Release of toxic materials with:

Acids

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture

Name of substance	*Exposure route*	*Endpoint*	*Value*	*Species*
Hypochlorite salt	oral	LD50	1,100 $^{mg}/_{kg}$	rat
Hypochlorite salt	dermal	LD50	>20,000 $^{mg}/_{kg}$	rabbit

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	*Endpoint*	*Exposure time*	*Value*	*Species*	*Source*
Hypochlorite salt	EC50	48 h	141 $^{\mu g}/_{l}$	aquatic invertebrates	European Chemicals Agency, http://echa.europa.eu/
Hypochlorite salt	ErC50	72 h	0.036 $^{mg}/_{l}$	algae	European Chemicals Agency, http://echa.europa.eu/

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

Data are not available.

Remarks

Do not empty into drains or surface water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point. Dispose of waste according to applicable legislation.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Avoid release to the environment.

SECTION 14: Transport information

14.1 UN number	1791
14.2 UN proper shipping name	Hypochlorite solutions
Technical name (hazardous ingredients)	contains:
14.3 Transport hazard class(es)	
Class	8
14.4 Packing group	III
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Index number	1791
Proper shipping name	Hypochlorite solutions
Particulars in the shipper's declaration	UN1791, Hypochlorite solutions, 8, III
Class	8
Packing group	III
Danger label(s)	8

Special provisions (SP)	386, IB3, N34, T4, TP2, TP24
ERG No	154

International Maritime Dangerous Goods Code (IMDG)

UN number	1791
Proper shipping name	HYPOCHLORITE SOLUTIONS
Particulars in the shipper's declaration	UN1791, HYPOCHLORITE SOLUTIONS, 8, III
Class	8
Marine pollutant	-
Packing group	III
Danger label(s)	8

EmS	F-A, S-B

Segregation group	8 - Hypochlorites
Segregation codes	SG20

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1791
Proper shipping name	Hypochlorite solutions
Particulars in the shipper's declaration	UN1791, Hypochlorite solutions, 8, III
Class	8
Environmental hazards	no
Packing group	III
Danger label(s)	8

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed or exempt from listing

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

Specific Toxic Chemical Listings (EPCRA Section 313)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	*Statutory code*	*Final RQ pounds (Kg)*
Hypochlorite salt	1	100 (45,4)

Legend
1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Clean Air Act

none of the ingredients are listed

New Jersey Worker and Community Right to Know Act

NJ-RTK List
Name of substance
Hypochlorite salt

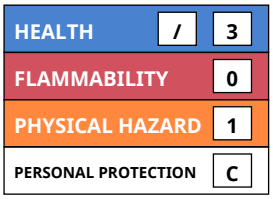
California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

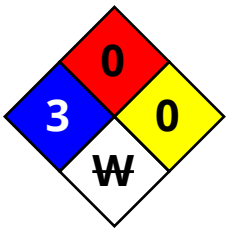
Hazardous Materials Identification System. American Coatings Association.



A "*" on the health line indicates a chronic health hazard is present.

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).



Additional information

Substance is listed in the following national inventories:
The contained substances are listed in the following national inventories:
AICS (Australia)
ASIA-PAC (Asia-Pacific Region)
DSL (Canada)
NDSL (Canada)
DSL/NDSL (Canada)
IECSC (China)
EINECS/ELINCS/NLP (Europe)
EINECS (European Union)
REACH (Europe)
ENCS, class 1 and 2 (MITI-inventory, Japan)
CSCL-ENCS (Japan)
ISHA-ENCS (Japan)
KECL (Republic of Korea)
INSQ (Mexico)
NZIoC (New Zealand)
PICCS (Philippines)
CICR (Turkey)
TCSI (Taiwan)
TSCA (United States)

15.2 Chemical Safety Assessment

Chemical Safety Assessment: No.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	*Descriptions of used abbreviations*
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
NJ-RTK List	Hazardous Substance List (NJ-RTK)
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Skin Corr.	Corrosive to skin

Abbr.	*Descriptions of used abbreviations*
Skin Irrit.	Irritant to skin
STOT SE	Specific target organ toxicity - single exposure
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

ECHA: European Chemicals Agency, http://echa.europa.eu/.

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	*Text*
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Safety Data Sheet

SW-4000-MF

Revision: 2023-10-30

SECTION 1: Identification

1.1 Product identifier

Trade name **SW-4000-MF**

CAS number none

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Water treatment chemical
MMF Multimedia Fitration

1.3 Details of the supplier of the safety data sheet

Sage Water, LTD.
642 Cantwell Ln.
Corpus Christi, TX. 78408

Telephone: +1 (760) 744 0536
e-mail: regulatory@avistatech.com
Website: AvistaMembraneSolutions.com

1.4 **Emergency telephone number**	Emergency Number (USA, Canada): 1 (800) 424-9300 (ChemTrec) Emergency Number (International): 1 (703) 527-3887 (International Collect)

1.5 Registration

CERTIFIED BY NSF INTERNATIONAL TO NSF/ANSI 60 AS A STANDARD DRINKING WATER TREATMENT CHEMICAL FOR USE IN REVERSE OSMOSIS SYSTEMS AT A MAXIMUM LEVEL OF 285 mg/L.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class	*Category*	*Hazard statement*
skin corrosion/irritation	1C	H314
serious eye damage/eye irritation	1	H318
substance or mixture corrosive to metals	1	H290

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Signal word danger

Pictograms

GHS05

Hazard statements

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

Precautionary statements

P234	Keep only in original container.
P260	Do not breathe dusts or mists.
P280	Wear eye protection/face protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Hazards not otherwise classified

May be harmful if swallowed (GHS category 5: acutely toxic - oral).
May be harmful in contact with skin (GHS category 5: acutely toxic - dermal).
Toxic to aquatic life with long lasting effects (GHS category 2: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Hazardous ingredients

Name of substance	*Identifier*	*Wt%*	*Classification acc. to GHS*
Coagulent B	CAS No Proprietary	10 – < 20	
Coagulant A	CAS No Proprietary	5 – < 10	
Water	7732-18-5	40 – < 50	Not established
Iron salt A	Proprietary	40 – < 50	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Met. Corr. 1 / H290

For full text of abbreviations: see SECTION 16.
Specific chemical identity and concentration of some ingredients are protected as Trade Secret information.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

In case of respiratory tract irritation, consult a physician.

Following skin contact

Rinse skin with water/shower. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Immediately call a doctor. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Immediately call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. Splashes cause strong tearing, pain, may cause permanent visual impairment. Prolonged contact may cause dryness, redness, burns, blistering and ulceration. Can be partially absorbed by the skin. Ingestion causes pain, burns, abdominal pain, possible general impact (shock).

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote is known. Treatment of the symptoms.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Non-combustible. Coordinate firefighting measures to the fire surroundings. Water spray, Alcohol resistant foam, Fire extinguishing powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

None

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

Keep containers cool with water spray. In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Chemical protection suit, Use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Aqueous solutions or powders that become wet produce extremely slippery conditions.

For non-emergency personnel

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety. Prevent skin contact. Avoid inhaling sprayed product. Aqueous solutions or powders that become wet produce extremely slippery conditions.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection. Aqueous solutions or powders that become wet produce extremely slippery conditions. Special danger of slipping by leaking/spilling product.

Suitable fabric for personal protective clothing

PE: polyethylene, NR: natural rubber, latex, CR: chloroprene (chlorobutadiene) rubber

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority. Disposal considerations: see section 13. Chemicals generally shouldn't reach surface water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.)

Appropriate containment techniques

Neutralization techniques. Decontamination techniques. Use of adsorbent materials. Vacuuming techniques.

Equipment required for containment/clean-up

Approved industrial vacuum cleaner, Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Sweeping compounds (oil absorbing), Shovel, Drain seal, Collecting container, Protective gloves, Eye protection (e.g. protective goggles), Personal protective equipment: see section 8

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Section 7: Handling and storage. See also to sections 8 and 13 of the safety data sheet.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Handling of incompatible substances or mixtures

Do not mix with other chemicals.

Keep away from

Bases, Caustic solutions, Alkalis, Strong oxidizers, Other chemicals

Measures to protect the environment

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Consideration of other advice Store between 5°C and 40°C. Avoid freezing.

Specific designs for storage rooms or vessels

No special measures are necessary. Keep container tightly closed.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

Water treatment chemical. MMF Multimedia Fitration.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational Exposure Limits: PELs, TLVs, etc

These information are not available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Guarantee that the eye flushing systems and safety showers are closely located to the working place.

Eye/face protection

Wear eye/face protection.

Skin protection

Chemical resistant protective clothing.

Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.4 mm
In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).
Layer thickness of gloves at least: 0.7 mm.

Type of material

PVC: polyvinyl chloride, PE: polyethylene, CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber, IIR: isobutene-isoprene (butyl) rubber, FKM: fluoro-elastomer

Breakthrough times of the glove material

Breakthrough times and swelling properties of the material must be taken into consideration

Other protection measures

Wash hands thoroughly after handling.

Respiratory protection

Not necessary under normal conditions and provided good general ventilation. In case of inadequate ventilation wear respiratory protection. Type : E (against acidic gases like sulfur dioxide or hydrogen chloride, color code: Yellow).

Environmental exposure controls

Disposal considerations: see section 13.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	clear , amber liquid - dark brown
Odor	characteristic
Odor threshold	no data available

Other safety parameters

pH (value)	ca. 2 – 3 (in aqueous solution: 1 wt%, 25 °C)
Melting point/freezing point	ca. <0 °C at 1 atm
Initial boiling point and boiling range	ca. >100 °C at 1 atm

Flash point	not applicable
Evaporation rate	<1 (water = 1)
Flammability (solid, gas)	not applicable
Upper/lower flammability or explosive limits	not determined
Vapor pressure	ca. 18 – 21 Pa at 20 °C
Vapor density	this information is not available
Density	not determined
Relative density	1.3 – 1.4 at 25 °C (water = 1)

Solubility(ies)

Water solubility	miscible in any proportion

Partition coefficient

-n-Octanol/water (log KOW)	this information is not available

Auto-ignition temperature	not determined not applicable
Decomposition temperature	not determined
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Incompatible materials.

10.5 Incompatible materials

Bases, Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture

Name of substance	*Exposure route*	*Endpoint*	*Value*	*Species*
Iron salt A	oral	LD50	1,300 $^{mg}/_{kg}$	mouse
Iron salt A	dermal	LD50	>2,000 $^{mg}/_{kg}$	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	*Value*	*Species*	*Exposure time*
LC50	7.3 $^{mg}/_{l}$	rainbow trout (Oncorhynchus mykiss)	96 h
EC50	2.7 $^{mg}/_{l}$	water flea (Daphnia)	48 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

Data are not available.

Remarks

Do not empty into drains or surface water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point. Dispose of waste according to applicable legislation.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Avoid release to the environment.

SECTION 14: Transport information

14.1 UN number	3264
14.2 UN proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Technical name (hazardous ingredients)	contains: (diiron(3+) trisulfate)
14.3 Transport hazard class(es)	
Class	8
14.4 Packing group	III
14.5 Environmental hazards	hazardous to the aquatic environment

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Index number	3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Particulars in the shipper's declaration	UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (diiron(3+) trisulfate), 8, III, environmentally hazardous
Class	8
Packing group	III
Danger label(s)	8, fish and tree

Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	IB3, T7, TP1, TP28
ERG No	154

International Maritime Dangerous Goods Code (IMDG)

UN number	3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Particulars in the shipper's declaration	UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (diiron(3+) trisulfate), 8, III, MARINE POLLUTANT
Class	8
Marine pollutant	yes
Packing group	III
Danger label(s)	8, fish and tree

EmS	F-A, S-B
Segregation group	1 - Acids
Segregation codes	SG36, SG49

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Particulars in the shipper's declaration	UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (diiron(3+) trisulfate), 8, III
Class	8
Environmental hazards	yes
Packing group	III
Danger label(s)	8

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed or exempt from listing

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

Specific Toxic Chemical Listings (EPCRA Section 313)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	*Statutory code*	*Final RQ pounds (Kg)*
Iron salt A	1	1000 (454)

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Clean Air Act

none of the ingredients are listed

New Jersey Worker and Community Right to Know Act

NJ-RTK List
Name of substance
Iron salt A

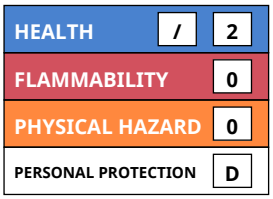
California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

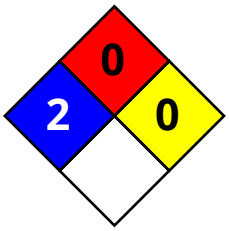
Hazardous Materials Identification System. American Coatings Association.



A "*" on the health line indicates a chronic health hazard is present.

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).



Additional information

Substance is listed in the following national inventories:
The contained substances are listed in the following national inventories:
AICS (Australia)
ASIA-PAC (Asia-Pacific Region)
DSL (Canada)
NDSL (Canada)
DSL/NDSL (Canada)
IECSC (China)
EINECS/ELINCS/NLP (Europe)
EINECS (European Union)
REACH (Europe)
ENCS, class 1 and 2 (MITI-inventory, Japan)
CSCL-ENCS (Japan)
ISHA-ENCS (Japan)
KECL (Republic of Korea)
INSQ (Mexico)
NZIoC (New Zealand)
PICCS (Philippines)
CICR (Turkey)
TCSI (Taiwan)
TSCA (United States)

15.2 Chemical Safety Assessment

Chemical Safety Assessment: No.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	*Descriptions of used abbreviations*
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
NJ-RTK List	Hazardous Substance List (NJ-RTK)
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic

Abbr.	*Descriptions of used abbreviations*
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

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OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

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Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	*Text*
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

1. Product And Company Identification

Product Name: **SW-4556-AS**

Synonyms/ Use: Water Treatment Compound

Manufacturer/Supplier: Sage Water, LTD.
642 Cantwell LN.
Corpus Christi, TX. 78408

Customer Information Number:

For Chemical Emergency Spills, Leaks, Fire, Exposure or Accident, **call Chemtrec: (800) 424-9300** day or night

2. Hazardous Identification

Signal Word: N/a

Pictograms: N/a

Hazard Statement(s): Not classified as hazardous.

Precautionary Statement(s):

Prevention	Do not breathe mist, vapors, or spray	(P260)
	Wash hands thoroughly after handling.	(P264)
	Do not eat, drink or smoke when using this product.	(P270)
	Use only outdoors or in a well-ventilated area.	(P271)
	Wear protective gloves and eye/ face protection.	(P280)

Carcinogenicity:	None of the components in this product at concentrations greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen
Reproductive toxicity:	No reproductive effects reported
Teratogenicity:	No data available
Genotoxicity:	No mutagenic effects reported
Aquatic toxicity:	Not classified as hazardous to the environment.

3. Chemical Composition

Component	CAS Number	Wt%
Not classified as hazardous		

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

4. First Aid Measures

General Advice: Remove contaminated clothing immediately.

Eye Contact: Immediately flush eyes with large amounts of running water for at least 15 minutes, lifting the lower and upper lids. Get medical attention if irritation persists.

Skin Contact: Wash thoroughly with soap and water to remove any chemical from skin. Get medical attention if irritation persists. Contaminated clothing should be removed and laundered.

Inhalation: If difficulties occur after vapor/aerosol has been inhaled, remove to fresh air and get medical attention immediately if difficulty breathing.

Ingestion: Immediately rinse mouth and get medical attention. Do not induce vomiting unless instructed to do so by a physician. Never give anything by mouth to an unconscious person or if person is having convulsions. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration.

Note to Physician: Treat according to symptoms (decontamination, vital functions); no known specific antidote.

5. Fire Fighting Measures

Flash Point and Method: Not applicable

Extinguishing Media: Dry powder, foam, water spray, CO_2- If water is used, restrict pedestrian and vehicular traffic in areas where a slip hazard may exist. Do not use water jet.

General Hazard: Keep upwind. Restrict pedestrian and vehicular traffic. Avoid bodily contact with the material. Containers can build pressure if exposed to heat. Cool containers using water. Caution – Evolution of fumes/ fog can occur during fire.

Fire Fighting Equipment: Wear NIOSH/MSHA approved, pressure-demand self-contained breathing apparatus and full protective gear. The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed in accordance with all federal, state and local regulations.

6. Accidental Release Measures

Restrict access until clean-up operations are complete. Wear appropriate Personal Protective Equipment and stay upwind. Note that spills pose a slip hazard.

1. Ventilate the spill area and dike around spill to prevent spreading.
2. Spills should be contained, absorbed with inert material, and placed in suitable containers for disposal.
3. Dispose of material in accordance with to all FEDERAL, STATE AND LOCAL REGULATIONS.

NOTE: Do not pour product, as supplied, into ground waters, streams, or directly into sewers.

7. Handling and Storage

Handling: Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Keep away from sources of ignition and heat. Practice good industrial hygiene. Wash after handling and before eating, drinking, or smoking.

Storage: Store in original container. Keep container tightly closed in a dry and well-ventilated secured place. Do not store in direct sunlight. Avoid temperature extremes.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits
Not determined

Exposure Guidelines
Work in well ventilated areas. Do not breathe mists/dust/aerosols. Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls
Use process enclosures, local exhaust ventilation, or other engineering controls to reduce airborne levels below established guidelines. Use local exhaust ventilation in areas where these levels may be exceeded.

Personal Protection

Respirator:	Wear a NIOSH/MSHA approved or equivalent vapor/particulate respirator as necessary if airborne levels exceed established guidelines.
Eye Protection:	Tight fitting safety goggles and face shield where splash hazard.
Gloves:	Chemical resistant gloves and check with glove manufacturers' recommendations, consider all work functions when selecting the best glove
Clothing:	During normal handling when there is a risk of skin contact, wear suitable clothing fully covering arms and legs to prevent such contact.
Other:	Eye wash and safety showers should be in immediate work area; practice good industrial hygiene and safety practices.

9. Physical And Chemical Properties

Appearance	Colorless to amber liquid
Odor	Slight
Freeze Point	-2°C (29°F)
Boiling Point	Not determined
Flash Point	Not applicable
Specific Gravity	~1.05 g/mL
Product pH	~3
Solubility in Water	Miscible

10. Stability And Reactivity

Stability:	The product is stable under normal temperatures and pressures
Hazardous Reactions:	No hazardous reactions when stored and handled according to instructions.
Incompatibilities:	Strong bases, strong oxidizing agents.
Conditions to avoid:	Avoid extreme temperatures
Hazardous Decomposition Products:	Thermal: nitrogen oxides, phosphorus oxides.

11. Toxicological Information

Acute Toxicity:

Information on the product as supplied

Oral: LD50	Rat		> 2,000 mg/kg *calculated*
Irritation/ corrosion:	Eye	Rabbit	Not irritating
	Skin	Rabbit	Not irritating

Aspiration hazard:	Not expected to be an aspiration hazard
Sensitization:	Not expected to be a sensitizer
Carcinogenicity:	None of the components in this product at concentrations greater than 0.1% are listed by IARC, OSHA or ACGIH as a carcinogen.
Reproductive toxicity:	No reproductive effects reported
Teratogenicity:	No teratogenic effects reported
Genotoxicity:	No mutagenic effects reported

12. Ecological Information

Acute Toxicity:

Information on the product as supplied

LC50 (96hr)	Oncorhynchus mykiss	> 100 mg/L *calculated*
EC50 (48hr)	Daphnia magna	> 100 mg/L *calculated*

Bioaccumulation:	Not determined
Degradability:	Not readily biodegradable
Mobility in Soil:	Not determined

13. Disposal Considerations

Product Residues:	Prohibition – Do not discharge to drains, sewer, ground waters or waterways Disposal – Dispose in accordance with all federal, state, and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA
Used Packaging:	Dispose of in a licensed facility and in compliance with local, state, and federal regulations. Recommend means to prevent unauthorized use of used containers.

14. Transport Information

Proper Shipping Name:	Not classified as dangerous goods
Hazard Class:	N/A
Identification Number:	N/A
Packaging Group:	N/A
Label Required:	None

15. Regulatory Information

Federal Regulations

CERCLA/SUPERFUND (40 CFR 117, Section 302)

Component	CAS Number	Concentration	RQ
None listed			

SARA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)

Component	CAS Number
None listed	

SARA HAZARD CATEGORIES (40 CFR 370, Sections 311, 312)

[ ] Acute [ ] Chronic [ ] Fire [ ] Pressure [ ] Reactive [X] None

SARA TOXIC SUBSTANCES (40 CFR 372, Section 313)

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the emergency planning and Right – to – know Act of 1986 and of 40CFR 372.

Component	CAS Number
None listed	

US TOXIC SUBSTANCES CONTROL ACT/INVENTORY STATUS (TSCA)

All components are listed

RCRA STATUS

It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA

NTP, IARC, OSHA, & ACGIH STATUS

None of the components in this product at concentrations greater than 0.1% are listed

DOT REPORTABLE QUANTITY (RQ) (49 CFR, Subchapter C, Section 172.101, Appendix A)

Component	CAS Number	Concentration	RQ
None listed			

CALIFORNIA PROPOSITION 65:

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE HARM.

16. Other Information

This information is given without any warranty or representation and is presented in good faith and believed to be accurate. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

Revision 0 supersedes n/a / bjj

Revisions: n/a

ALLEGIANT FUND I LP
3861 AMBASSADOR CAFFERY PKWY
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BRITTAIN CHESTER TRUST
PO BOX 606
SINTON TX 78387

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LANA FAMILY TRUST
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ULRICH FAMILY HOLDINGS LP
11749 FM 766
CUERO, TX 77954

ZAFIRIOU NIKOLAOS &
ALEXANDRA E
PO BOX 19, SINTON TX 78387

UNKNOWN

Steel Dynamics®
Flat Roll Group
Southwest-Sinton Division

12/09/2025

Sent via Email

Ms. Rachel Ellis

Applications Review and Processing Team (MC148)

Water Quality Division

Texas Commission of Environmental Quality

Re: Application to Amend Permit No.: WQ0005283000 (EPA I.D. No. TX0139629)
Applicant Name: Steel Dynamics Southwest, LLC (CN605646041)
Site Name: Steel Dynamics Southwest (RN110750965)
Type of Application: Major amendment with renewal

Dear Ms. Ellis:

Thank you for confirming TCEQ's receipt of the WQ0005283000 (EPA I.D. No. TX0139629) permit application. In addition to confirming receipt of the permit application, TCEQ requested two items be addressed in the December 1, 2025 Notice of Deficiency letter. Below you will find our responses to the two items.

1. Landowner Labels: The landowner labels are attached in this email as a MS Word document.

2. We have reviewed the attached portion of the NORI and do not see any errors or omissions.

Please let us know if there is anything else needed to finalize our permit renewal application.

Sincerely,

Mariann Hernandez
Environmental Engineer
Steel Dynamics Southwest, LLC
8534 HWY 89
Sinton, TX 78387
Office 361-424-6352

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