

INSPECTION REPORT

Inspection Entry Date/Time	4/24/2025 09:30 AM (CT)	Announced: No (tenants and related facilities)
Inspection Exit Date/Time	4/24/2025 10:48 AM (CT)	Access: Granted
Regulatory Program	RCRA	
Type of Inspection	Compliance Evaluation Inspection (CEI)	
Facility or Site Name	BWC Harvey, LLC	
Facility/Site Identifier	LAD043426006	
Facility/Site Physical Address	1805 4 th St.	
City, State, Zip Code	Harvey, LA 70058	
County/Borough	Jefferson	
Generator Status	Large Quantity Generator (LQG)	
NAICS	493190	
Type of Operation	BWC Harvey, LLC (BWC) is a bulk liquid storage terminal where barges, vessels, trucks, and railcars transport products in and out of the facility.	
Geographic Coordinates	29.9089, -90.0786	

Additional Persons Participating in Inspection:			
Name	Title	Organization	Email
Sandesh Thapa	Inspector	EPA REGION 6	Thapa.Sandesh@epa.gov
Joseph Watson	Contractor	Eastern Research Group (ERG)	Joe.Watson@erg.com
Lead Inspector:			
Vince Damiano		Vincent Damiano	Digitally signed by Vincent Damiano Date: 2025.06.06 15:26:30 -04'00'
	ERG	Vince.Damiano@erg.com	

SECTION I – INTRODUCTION**Site Entry and Purpose of the Inspection**

The Port of New Orleans and surrounding facilities were selected for inspection based on a Regional initiative to evaluate facilities at ports receiving or transporting Resource Conservation and Recovery Act (RCRA)--regulated hazardous wastes, and/or have an International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V Certificate of Adequacy (COA) issued by the U.S. Coast Guard (USCG).

This report is based on information supplied by the facility representatives, inspector observations, port-related facilities, and other records, including photographs taken, verbal or written statements made during or after the on-site inspection, and/or materials shown, demonstrated, or submitted to the Environmental Protection Agency (EPA) during or after the on-site inspection. In addition, information gathered prior to or after the inspection from a review of EPA, State, and public records may be included in this report.

Attendees

Title/Organization	Name	Email	Opening Conf.	Closing Conf.
Lead Inspector/ Contractor/ERG	Vince Damiano	Vince.Damiano@erg.com	Yes	Yes
Inspector/Enforcement Officer/EPA Region 6	Sandesh Thapa	Thapa.Sandesh@epa.gov	Yes	Yes
RCRA Inspector/ Contractor/ERG	Joseph Watson	Joe.Watson@erg.com	Yes	Yes
HSEQ Manager/BWC	Walter Pertuit	Wpertuit@bwcterminals.com	Yes	Yes
Operations Manager/BWC	Josh Chapman	Jchapman@bwcterminals.com	Yes	Yes

Facility General Description

Tenant/Area	Inspection Date	Process Description	Area of Concern
BWC Harvey, LLC	4/24/25	BWC is a bulk liquid storage terminal where barges, vessels, trucks, and railcars transport products in and out of the facility.	Yes

SECTION II – OBSERVATIONS

Facility: BWC Harvey, LLC			
Section: 2.1	Date: 4/24/25, 09:30 AM	Contains AOC: Yes	Contains CBI: No
Lead Inspector: Vince Damiano	Attendees: Walter Pertuit (HSEQ Manager) and Josh Chapman (Operations Manager)		
BWC is located in Harvey, LA, and operates as a bulk liquid storage terminal on the Mississippi River. The facility stores and handles products such as asphalt, caustic soda, vacuum gas oil, vegetable oils, specialty chemicals, and distillates. BWC has 53 storage tanks ranging in capacity from 1,500 barrels to 100,000 barrels. BWC can load and unload products via trucks, railcars, and marine barges at its two dock berths. The facility also performs tank-to-tank transfers as needed. Tank cleaning and maintenance activities, such as painting, are conducted by third-party contractors who are responsible for managing any waste generated from those operations. According to Mr. Chapman, no waste is allowed to be transferred across the dock space. BWC is registered with the EPA as a LQG of hazardous waste under EPA ID LAD043426006. After the opening conference, the inspection team observed BWC’s hazardous waste accumulation area and the dock space. In the hazardous waste accumulation area, the inspection team observed a ¼ full 55-gallon drum labeled as EDTA Tetrasodium (see Appendix 1 – Photo 1). The facility representatives were not sure if this was considered a waste or a product at the time of the inspection [AOC #1 – <i>BWC did not make a waste determination – 40 CFR 262.11</i>]. Next, the inspection team observed a half-full 55-gallon drum of waste paint, simply labeled as “PAINT” with a facility identification number. At the time of the inspection, the facility representatives did not know if the waste was classified as hazardous or non-hazardous (see Appendix 1 – Photo 2) [AOC #1]. The inspection team also observed two full 55-gallon drums labeled as caustic, but the facility representatives were uncertain if these drums were considered waste or product at the time of the inspection (see Appendix 1 – Photos 3 and 4) [AOC #1]. The inspection team observed a half-full 55-gallon drum labeled as Morlife 5000, an amine product. The facility representatives were uncertain on the status of the material in the drum (see Appendix 1 – Photo 5) [AOC #1]. Next, the inspection team observed two full 55-gallon drums storing non-hazardous asphalt from a cleanup (see Appendix 1 – Photos 6 and 7). The inspection team then observed the dock space. No areas of concern (AOCs) were noted at the dock. The inspection team did not observe other AOCs at the time of the inspection. However, further EPA review may change or add to their potential AOCs. A closing conference was conducted at approximately 11:30 AM with BWC personnel. The AOCs were communicated during the closing. Following the inspection on 4/29/2025, Mr. Dustin Scheidt sent a follow-up email in response to the AOCs observed during the inspection, including: • An SDS of the latex paint and a waste determination of non-hazardous for the paint drum (Appendix			

2).

- The tetrasodium drum will be picked up for reuse by the chemical supplier; see the SDS in Appendix 3.
- The Morlife 5000 drum is non-hazardous and is 99% water; an SDS of the raw material was included (Appendix 4).
- The drums labeled as caustic will be reused as a product in the process and added back into caustic storage tanks once sampled for quality (Appendix 5).
- Photos of updated labels and organization were included in the full email response (Appendix 6).

SECTION III – RECORDS REVIEW

No RCRA-regulated records were reviewed during this focused onsite inspection.

SECTION IV – AREAS OF CONCERN

The presentation of Area(s) of Concern does not constitute a formal compliance determination or violation.

Facility: BWC Harvey, LLC

AOC #1 – BWC did not make a waste determination.

Citation: 40 CFR 262.11

Section: 2.1

SECTION V – FOLLOW UP

Any facility follow-up items are as discussed in the observations in Section II. Documents or files provided by the facility were transmitted via email and included responses to AOCs or provision of documents requested.

Communication Log

During and after the inspection, additional information was emailed to EPA including:

1. 4/29/25 BWC email – Mr. Dustin Scheidt provided the inspection team with photos and waste determinations.

SECTION VI – LIST OF APPENDICES

Appendix 1. Photograph Log

Appendix 2. Latex Paint SDS

Appendix 3. Tetrasodium SDS

Appendix 4. Morlife 5000 SDS

Appendix 5. Caustic SDS

Appendix 6. BWC Harvey 4/29/2025 Response

APPENDIX 1.
PHOTOGRAPH LOG



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 1

Photo File Name: DSCN7974

Date of Photo: 4/24/2025

Time of Photo: 1005 hrs.

Photographer: Vince Damiano

Description: View of ¼ full 55-gallon drum of tetrasodium found in the hazardous waste storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 2

Photo File Name: DSCN7975

Date of Photo: 4/24/2025

Time of Photo: 1007 hrs.

Photographer: Vince Damiano

Description: View of a half-full 55-gallon drum of waste paint found in the hazardous waste storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 3

Photo File Name: DSCN7976

Date of Photo: 4/24/2025

Time of Photo: 1008 hrs.

Photographer: Vince Damiano

Description: View of two full 55-gallon drums of caustic material found inside the hazardous waste storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 4

Photo File Name: DSCN7977

Date of Photo: 4/24/2025

Time of Photo: 1008 hrs.

Photographer: Vince Damiano

Description: View of two full 55-gallon drums of caustic material found inside the hazardous waste storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 5

Photo File Name: DSCN7978

Date of Photo: 4/24/2025

Time of Photo: 1010 hrs.

Photographer: Vince Damiano

Description: View of a half-full 55-gallon drum of an amine product, Morlife 5000, inside the hazardous waste storage area.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 6

Photo File Name: DSCN7979

Date of Photo: 4/24/2025

Time of Photo: 1011 hrs.

Photographer: Vince Damiano

Description: View of two full 55-gallon drums, which were unlabeled, but determined to be non-hazardous waste asphalt.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Location: BWC Harvey, LLC		
City: Harvey	County/Parish: Jefferson	State: Louisiana



Photo No. 7

Photo File Name: DSCN7980

Date of Photo: 4/24/2025

Time of Photo: 1014 hrs.

Photographer: Vince Damiano

Description: View inside of one of the 55-gallon drums storing waste asphalt in the hazardous waste storage area.

APPENDIX 2.
LATEX PAINT SDS



SAFETY DATA SHEET

Revision Date: 24-May-2019

Revision Number: 4

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name ben PREMIUM INTERIOR LATEX PAINT & PRIMER,
SEMI-GLOSS FINISH BASE 3
Product Code W6273X
Alternate Product Code W6273X
Product Class Water thinned paint
Color All
Recommended use Paint
Restrictions on use No information available

Manufacturer
Benjamin Moore & Co.
101 Paragon Drive
Montvale, NJ 07645
Phone: 1-866-708-9180
www.benjaminmoore.com

Emergency Telephone
CHEMTREC (US): 800-424-9300
CHEMTREC (outside US): (703)-527-3887

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Appearance liquid

Odor little or no odor

Hazards not otherwise classified (HNOC)

Not applicable

Other information

No information available

3. COMPOSITION INFORMATION ON COMPONENTS

Chemical name	CAS No.	Weight-%
Kaolin	1332-58-7	5 - 10
Titanium dioxide	13463-67-7	1 - 5

4. FIRST AID MEASURES

General Advice	No hazards which require special first aid measures.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary.
Most Important Symptoms/Effects	None known.
Notes To Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Specific Hazards Arising From The Chemical	Closed containers may rupture if exposed to fire or extreme heat.
Sensitivity to mechanical impact	No
Sensitivity to static discharge	No
Flash Point Data	
Flash point (°F)	Not applicable
Flash Point (°C)	Not applicable
Method	Not applicable
Flammability Limits In Air	
Lower flammability limit:	Not applicable
Upper flammability limit:	Not applicable

NFPA **Health:** 1 **Flammability:** 0 **Instability:** 0 **Special:** Not Applicable

NFPA Legend

0 - Not Hazardous
1 - Slightly
2 - Moderate
3 - High
4 - Severe

The ratings assigned are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.

Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at www.nfpa.org.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

Other Information Prevent further leakage or spillage if safe to do so.

Environmental precautions See Section 12 for additional Ecological Information.

Methods for Cleaning Up Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage Keep container tightly closed. Keep out of the reach of children.

Incompatible Materials No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL
Kaolin	2 mg/m ³ - TWA	15 mg/m ³ - TWA 5 mg/m ³ - TWA
Titanium dioxide	10 mg/m ³ - TWA	15 mg/m ³ - TWA

Legend

ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits
OSHA - Occupational Safety & Health Administration Exposure Limits
N/E - Not Established

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.

Skin Protection
Respiratory Protection

Protective gloves and impervious clothing.
In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene Measures

Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	liquid
Odor	little or no odor
Odor Threshold	No information available
Density (lbs/gal)	9.55 - 9.65
Specific Gravity	1.15 - 1.17
pH	No information available
Viscosity (cps)	No information available
Solubility(ies)	No information available
Water solubility	No information available
Evaporation Rate	No information available
Vapor pressure	No information available
Vapor density	No information available
Wt. % Solids	40 - 50
Vol. % Solids	35 - 45
Wt. % Volatiles	50 - 60
Vol. % Volatiles	55 - 65
VOC Regulatory Limit (g/L)	0
Boiling Point (°F)	212
Boiling Point (°C)	100
Freezing point (°F)	32
Freezing Point (°C)	0
Flash point (°F)	Not applicable
Flash Point (°C)	Not applicable
Method	Not applicable
Flammability (solid, gas)	Not applicable
Upper flammability limit:	Not applicable
Lower flammability limit:	Not applicable
Autoignition Temperature (°F)	No information available
Autoignition Temperature (°C)	No information available
Decomposition Temperature (°F)	No information available
Decomposition Temperature (°C)	No information available
Partition coefficient	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not Applicable
Chemical Stability	Stable under normal conditions.
Conditions to avoid	Prevent from freezing.
Incompatible Materials	No materials to be especially mentioned.
Hazardous Decomposition Products	None under normal use.

Possibility of hazardous reactions

None under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Product Information

Information on likely routes of exposure

Principal Routes of Exposure Eye contact, skin contact and inhalation.

Acute Toxicity

Product Information No information available

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Eye contact	May cause slight irritation.
Skin contact	Substance may cause slight skin irritation. Prolonged or repeated contact may dry skin and cause irritation.
Inhalation	May cause irritation of respiratory tract.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sensitization	No information available
Neurological Effects	No information available.
Mutagenic Effects	No information available.
Reproductive Effects	No information available.
Developmental Effects	No information available.
Target organ effects	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Other adverse effects	No information available.
Aspiration Hazard	No information available

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 218537 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-

Carcinogenicity

The information below indicates whether each agency has listed any ingredient as a carcinogen:.

Chemical name	IARC	NTP	OSHA
Titanium dioxide	2B - Possible Human Carcinogen		Listed

- Although IARC has classified titanium dioxide as possibly carcinogenic to humans (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."

Legend

IARC - International Agency for Research on Cancer

NTP - National Toxicity Program

OSHA - Occupational Safety & Health Administration

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

The environmental impact of this product has not been fully investigated.

Product Information

Acute Toxicity to Fish

No information available

Acute Toxicity to Aquatic Invertebrates

No information available

Acute Toxicity to Aquatic Plants

No information available

Persistence / Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

No information available.

Ozone

No information available

Component Information

Acute Toxicity to Fish

Titanium dioxide

LC50: > 1000 mg/L (Fathead Minnow - 96 hr.)

Acute Toxicity to Aquatic Invertebrates

No information available

Acute Toxicity to Aquatic Plants

No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with federal, state, and local regulations. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO / IATA Not regulated

IMDG / IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA: United States Yes - All components are listed or exempt.

DSL: Canada Yes - All components are listed or exempt.

Federal Regulations

SARA 311/312 hazardous categorization

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

None

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

None

US State Regulations

California Proposition 65



WARNING: Cancer and Reproductive Harm— www.P65warnings.ca.gov

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania
Kaolin	X	X	X
Titanium dioxide	X	X	X

Legend

X - Listed

16. OTHER INFORMATION

HMIS - **Health:** 1 **Flammability:** 0 **Reactivity:** 0 **PPE:** -

HMIS Legend

0 - Minimal Hazard

1 - Slight Hazard

2 - Moderate Hazard

3 - Serious Hazard

4 - Severe Hazard

* - Chronic Hazard

X - Consult your supervisor or S.O.P. for "Special" handling instructions.

Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer, has chosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Prepared By Product Stewardship Department
Benjamin Moore & Co.
101 Paragon Drive
Montvale, NJ 07645
800-225-5554

Revision Date: 24-May-2019
Revision Summary Not available

Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, provincial, and local laws and regulations.

End of Safety Data Sheet

APPENDIX 3.
TETRASODIUM SDS

Section 1. Product and Company Identification

Product Name Tetrasodium EDTA
CAS Number 194491-31-1

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
☎ (914) 654-6800 ☎ (914) 654-6899
🌐 parchem.com ✉ info@parchem.com

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302
Serious eye damage (Category 1), H318

GHS Label Elements
Pictograms:



Signal word: DANGER

Hazard and precautionary statements
Hazard Statements

H302 Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary Statements

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear eye protection/face protection.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P501 Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition / Information on Ingredients

Common Name Tetrasodium EDTA
Synonym(s) Ethylenediaminetetraacetic acid tetrasodium salt hydrate; Tetrasodium ethylenediaminetetraacetatehydrate; EDTA tetrasodium salt; Edathamil
Formula $C_{10}H_{12}N_2Na_4O_8 \cdot xH_2O$
CAS Number 194491-31-1

COMPONENT	CAS NUMBER	CONCENTRATION
Tetrasodium EDTA	194491-31-1	<= 100%

Section 4. First Aid Measures

Description of first-aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.
Consult a physician.

Skin contact: Wash off with soap and plenty of water. Consult a physician.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.
Consult a physician.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed: No data available

Section 5. Firefighting Measures

Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Special hazards arising from the substance or mixture: Carbon oxides, Nitrogen oxides (NO_x), Sodium oxides

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: No data available

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions: Do not let product enter drains.

Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections: For disposal see section 13.

Section 7. Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non Combustible Solids

Section 8. Exposure Controls / Personal Protection

Control parameters

Components with workplace control parameters: Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Do not let product enter drains.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance: Solid

Odor: No data available

Odor Threshold: No data available

pH: No data available

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor pressure: No data available

Vapor density: No data available

Relative density: No data available

Water solubility: 38 g/l at 20°C (68°F) - soluble, clear

Partition coefficient (n-Octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Other safety information: No data available

Section 10. Stability and Reactivity

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No data available

Conditions to avoid: No data available

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products

Other decomposition products: No data available

In the event of fire: see section 5

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat: 630 - 1,260 mg/kg

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation: No data available

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity

IARC: No component of this product, present at levels greater than or equal to 0.1%, is identified as probable, possible or confirmed human carcinogen by IARC.

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

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.

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.

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12. Ecological Information

Toxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: No data available



Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

Section 15. Regulatory Information

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: 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.

SARA 311/312 Hazards: Acute Health Hazard

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

Ethylenediaminetetraacetic acid tetrasodium salt hydrate (CAS-No. 194491-31-1)

New Jersey Right to Know Components

Ethylenediaminetetraacetic acid tetrasodium salt hydrate (CAS-No. 194491-31-1)

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

HMIS Rating

Health: 1

Flammability: 0

Reactivity: 0

NFPA Rating

Health: 1

Flammability: 0

Reactivity: 0

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 4/18/2017



APPENDIX 4.
MORLIFE 5000 SDS

Section 1. Identification

GHS product identifier : MORLIFE 5000
Other means of identification : Not available.
Material uses : Chemical intermediate.
Supplier's details : **Ingevity Corporation**
 5255 Virginia Avenue
 North Charleston
 South Carolina USA
 29406-3615

 www.ingevity.com
 email: sds@ingevity.com

 Tel: +1 843 740 2300, +1 800 458 4034
 (0800 - 1700 EST)



In case of emergency : +1 800 424 9300 (USA) CHEMTREC

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : ACUTE TOXICITY (inhalation) - Category 3
 SKIN CORROSION - Category 1B
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Toxic if inhaled.
 Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 May cause respiratory irritation.
 May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

Precautionary statements

Prevention

: Wear protective gloves: > 8 hours (breakthrough time): PVC. Wear eye or face protection: Recommended: Safety glasses with side shields, goggles and/or face shield. Wear protective clothing: Recommended: Lab coat, apron or coveralls. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Section 2. Hazards identification

- Response** : Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. 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 physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Substance

Ingredient name	%	CAS number
Polyethylene polyamines	100	Proprietary

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled. May cause respiratory irritation.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Work upwind of fire.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

- : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: Safety glasses with side shields, goggles and/or face shield

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): PVC
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat, apron or coveralls
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Brown. [Dark]
- Odor** : Fishy
- Odor threshold** : Not available.
- pH** : 11.9 [Conc. (% w/w): 15%]
- Melting point** : -72°C (-97.6°F)
- Boiling point** : 199.7°C (391.5°F)
- Flash point** : Closed cup: 130°C (266°F) [Pensky-Martens.]
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : <0.01 (ether (anhydrous) = 1)
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : 0.61 kPa (4.58 mm Hg) [room temperature]
2.8 kPa (20.78 mm Hg) [50°C]
- Vapor density** : 4.6 [Air = 1]
- Relative density** : 1.09 [Water = 1]
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : -3.16 to -1.46
- Auto-ignition temperature** : 357°C (674.6°F)
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Kinematic (room temperature): 0.4 cm²/s (40 cSt)
Kinematic (40°C (104°F)): 0.4 cm²/s (40 cSt)

Section 9. Physical and chemical properties

Aerosol product

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and acids.
Incompatibility: Aldehyde., Ketone., halides, Acrylates, Alkali metal, epoxides.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Polyethylene polyamines	LC50 Inhalation Dusts and mists	Rat - Male,	2.48 to 4.56 mg/l	1 hours
		Female		
	LC50 Inhalation Dusts and mists	Rat - Male,	0.62 to 1.14 mg/l	4 hours
		Female		
	LD50 Dermal	Rat	16000 mg/kg	-
	LD50 Oral	Rat	2810 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Polyethylene polyamines	Eyes - Cornea opacity	Rabbit	2.55	72 hours 0.1ml / 100%	72 hours

Sensitization

Not available.

Conclusion/Summary

Skin : The sensitization expected is based on similar products. Product specific data not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Polyethylene polyamines	OECD 471 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Positive

Carcinogenicity

Not available.

Reproductive toxicity

Section 11. Toxicological information

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Polyethylene polyamines	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Polyethylene polyamines	Category 2	Not determined	central nervous system (CNS)

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Toxic if inhaled. May cause respiratory irritation.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness
Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Polyethylene polyamines	Acute EC50 <100 mg/l Acute EC50 64 mg/l Acute LC50 >100 mg/l Chronic NOEC 2 mg/l	Algae Daphnia Fish Fish	72 hours 48 hours 96 hours 96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Polyethylene polyamines	-	50 to 70 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Polyethylene polyamines	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Polyethylene polyamines	-3.16 to -1.46	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN2735	UN2735	UN2735
UN proper shipping name	Amines, liquid, corrosive, n.o.s. (Polyethylene polyamines). Marine pollutant (Polyethylene polyamines)	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyethylene polyamines). Marine pollutant (Polyethylene polyamines)	Amines, liquid, corrosive, n.o.s. (Polyethylene polyamines)
Transport hazard class(es)	8  	8  	8 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. Limited quantity Yes. Packaging instruction Exceptions: 154. Non-bulk: 203. Bulk: 241. Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L. Special provisions IB3, T7, TP1, TP28	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-A, S-B Special provisions 223, 274	The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852. Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841. Special provisions A3, A803

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : ACUTE TOXICITY (inhalation) - Category 3
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2

Composition/information on ingredients

Name	%	Classification
Polyethylene polyamines	Proprietary	ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2

State regulations

Section 15. Regulatory information

Massachusetts : This material is not listed.

New York : This material is not listed.

New Jersey : This material is not listed.

Pennsylvania : This material is not listed.

California Prop. 65

Not listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is not listed in DSL but is listed in NDSL.

China : This material is listed or exempted.

Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : This material is listed or exempted.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : This material is listed or exempted.

United States : This material is listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Section 16. Other information

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing	: 2018-09-07 .
Date of issue/Date of revision	: 2018-09-07
Date of previous issue	: 2018-08-30 .
Version	: 2.06
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

APPENDIX 5.
CAUSTIC SDS

SAFETY DATA SHEET



CAUSTIC SODA LIQUID (ALL GRADES)

North America EN
SDS No.: M32415

Rev. Date: 21-Jun-2024
Rev. Num. 12

SECTION 1. CHEMICAL PRODUCT / COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 14555 Dallas Parkway, Suite 400 Dallas, Texas 75254-4300
24-Hour Emergency Telephone Number:	1-800-733-3665 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Product Identifier:	CAUSTIC SODA LIQUID (ALL GRADES)
Trade Name:	Caustic Soda Diaphragm Grade 7%, 10%, 15%, 18%, 18.5%, 20%, 25%, 30%, 35%, 40%, 50%, Caustic Soda Membrane 6%, 7%, 18%, 20%, 25%, 30%, 48%, 50%, 50% Caustic Soda Membrane OS, 50% Caustic Soda Diaphragm OS, Membrane Blended, Membrane Cell Liquor, Diaphragm Cell Liquor, Caustic Soda Food Grade
Synonyms:	Sodium hydroxide solution; Liquid Caustic; Lye Solution; Caustic; Lye; Soda Lye; Secondary Caustic Soda Liquids
Product Use:	Caustic soda has a wide variety of applications in many industries, including pulp and paper, aluminum, soaps and detergents, textiles, petrochemicals and chemical processing, food processing
Uses Advised Against:	Produced in a non-mercury cell process. Meets ANSI/AWWA B511-10 and Food Chemical Codex (FCC) test requirements; however, Caustic Soda is not produced under all cGMP requirements as defined by the FDA. Customers should evaluate food grade requirements for cGMP based upon their particular requirements.
Other Global Restrictions on Use:	Other restrictions on use based on local, regional, state, or national regulations may exist and must be determined on a case-by-case basis.

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

Chemical Family: Alkali Metal Hydroxide Solutions

Note: All OxyChem's caustic soda meets the test requirements specified in the Food Chemicals Codex (FCC). Not all OxyChem's caustic soda is produced following all cGMP (current Good Manufacturing Practices) requirements as defined by the FDA (Food and Drug Administration). OxyChem does produce a food grade caustic soda, which is produced following cGMP requirements as defined by the FDA. OxyChem does not represent or warrant general compliance of this product for food use. Each prospective use of a product in a food or food related application must be carefully assessed against appropriate regulations by the user and it cannot be assumed that products meeting FCC test requirements are satisfactory for all uses without such assessment.

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

HEALTH CANADA HPR REGULATORY STATUS: This material is considered hazardous by the Health Canada Hazardous Products Act's Hazardous Products Regulations (HPR) (SOR/2015-17).

EMERGENCY OVERVIEW:

Color: Colorless to slightly colored
Physical State: Liquid
Appearance: Clear to opaque
Odor: Odorless

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. Toxicity may be delayed and may not be readily visible.

PHYSICAL HAZARDS: MAY BE CORROSIVE TO METALS. Mixing with water, acid or incompatible materials may cause splattering and release of heat. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated.

ECOLOGICAL HAZARDS: Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters.

PRECAUTIONARY STATEMENTS: Do not breathe mist, vapors, or spray. Wash skin and contaminated clothing

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

thoroughly after handling. Wash thoroughly after handling- exposure can cause burns which are not immediately painful or visible. Wear protective gloves, protective clothing, eye, and face protection. Keep only in original container or container compatible with product (see Section 7 - Safe Storage Conditions). Avoid release to the environment.

ADDITIONAL HAZARD INFORMATION: This material is corrosive. It may cause severe burns and permanent damage to any tissue with which it comes into contact. Toxicity may be delayed and may not be readily visible. To treat contacted tissue, flush with water to dilute. There is no specific antidote. Significant exposures must be referred for medical attention immediately.

HAZARD CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	Category 1 - May be corrosive to metals
GHS: CONTACT HAZARD - SKIN:	Category 1A - Causes severe skin burns and eye damage
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
HAZARDS NOT OTHERWISE CLASSIFIED (HNO):	- Aquatic Acute: Category 3 (Harmful to aquatic life)

UNKNOWN ACUTE TOXICITY: Not applicable.

GHS SYMBOL: Corrosive



GHS SIGNAL WORD: **DANGER**

GHS HAZARD STATEMENTS:**GHS - Physical Hazard Statement(s)**

- May be corrosive to metals

GHS - Health Hazard Statement(s)

- Causes severe skin burns and eye damage

Additional Hazards - GHS Hazards Not Otherwise Classified (HNO):

- ACUTE AQUATIC HAZARD - CATEGORY 3: Harmful to aquatic life

GHS - Precautionary Statement(s) - Prevention

- Keep only in original container or container compatible with product (see Section 7 - Safe Storage Conditions)
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes
- Wear protective gloves, protective clothing, eye, and face protection
- Avoid release to the environment

GHS - Precautionary Statement(s) - Response

- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes
- Wash contaminated clothing before reuse
- IF ON SKIN: Get medical help immediately
- Specific treatment (see "Notes to Physician" in Section 4 of the SDS)
- IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- IF IN EYES: Get medical help
- Absorb spillage to prevent material damage

GHS - Precautionary Statement(s) - Storage

- Store locked up
- Store in corrosive resistant and NON-ALUMINUM container with a resistant inner liner (NOTE: flammable hydrogen gas may be generated if aluminum container and/or aluminum fittings are used)

GHS - Precautionary Statement(s) - Disposal

- Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Physical Hazards of Significance Not Mentioned in GHS Classification

- Mixing with water may cause splattering and release of heat
- MAY BE CORROSIVE TO METALS

Health Hazards of Significance Not Mentioned in GHS Classification

- Acute exposure may cause delayed chemical burns

Additional Hazard Information

Contact may cause delayed chemical burns

PBT and vPvB assessment:

This product does not fulfill the criteria for persistence, bioaccumulation, and toxicity. Therefore, this substance is not considered a PBT or a vPvB substance

Component	U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing	EU - PBT / vPvB Status
Sodium Hydroxide	Not listed	PBT/PvBT assessment does not apply Considered NOT to be an EU PBT
Sodium Chloride	Not listed	PBT/PvBT assessment does not apply Considered NOT to be an EU PBT

Endocrine Disruptor Assessment:

This product nor any of its ingredients which may be present at a concentration equal to or greater than 0.1 wt.% by weight are included in the lists established in accordance with Article 59(1) of Regulation (EU) 2020/878 [as having endocrine disrupting properties]; therefore, this substance shall not be identified as having endocrine disrupting properties.

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Systematic Chemical Name	Common name	CAS Number	Percent [%]
Water 7732-18-5	Dihydrogen monoxide (H ₂ O)	Water	7732-18-5	48.5 - 94.5
Sodium Hydroxide 1310-73-2	Sodium hydroxide	Sodium hydroxide	1310-73-2	5.5 - 51.5
Sodium Chloride 7647-14-5	Sodium Chloride (NaCl)	Sodium Chloride (Salt)	7647-14-5	0 - 15

Notes: All hazardous and non-hazardous components of product composition are listed.

SECTION 4. FIRST AID MEASURES

General Advice: Corrosive. This material may be corrosive to any tissue it comes in contact with. It can cause serious burns and extensive tissue destruction resulting in liquefaction, necrosis, and/or perforation. Immediate medical attention is required.

EYE CONTACT: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF IN EYES: Get medical help. Washing eyes within several seconds of exposure is essential to achieve maximum effectiveness. Immediate decontamination of the eyes is essential. Irrigate for at least 30 minutes, continuing until the pH is between 7 and 8. Examine the eye with fluorescein stain and slit-lamp microscope. All patients should be reviewed the following day. Any evidence of injury requires specialist ophthalmological assessment. Follow standard protocols for the management of corrosive eye injury.

SKIN CONTACT: IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. Wash contaminated clothing before reuse. IF ON SKIN: Get medical help immediately. Specific treatment (see "Notes to Physician" in Section 4 of the SDS below). Treat skin burns following standard protocols for thermal burns. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

INHALATION: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: Get medical help. There is no specific antidote, treat symptomatically. Monitor symptomatic patients for increasing upper airway obstruction. Administer humidified oxygen to all patients with respiratory symptoms and manage bronchospasm and chemical pneumonitis according to standard recommendations. In severe cases, early intubation and positive end expiratory pressure ventilation or other mechanical support can be required, or tracheostomy if intubation is unsuccessful or delayed.

INGESTION: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Get medical help. For definite or probable ingestion, do not administer oral fluids. If vomiting occurs spontaneously, keep airway clear. Monitor airway. Volume resuscitation (IV fluids) and circulatory support (CPR) may be required. Never give anything

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

by mouth to an unconscious or convulsive person.

Most Important Symptoms/Effects (Acute and Chronic [Delayed]):

Corrosive. This material may be corrosive to any tissue it comes in contact with. It can cause serious burns and extensive tissue destruction resulting in liquefaction, necrosis, and/or perforation.

Acute Symptoms/Effects:

Eye: Serious Eye Damage. Eye exposures may cause eyelid burns, conjunctivitis, corneal edema, corneal burn, corneal perforation, damage to internal contents of the eye, permanent visual defects, and blindness and/or loss of the eye.

Skin: Skin Corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns (first, second, or third degree), liquefaction of skin, and damage to underlying tissues (deep and painful wounds).

Inhalation (Breathing): Respiratory System Effects: Exposure to airborne material may cause irritation, redness of upper and lower airways, coughing, laryngospasm, shortness of breath, bronchoconstriction, and possible pulmonary edema. Severe and permanent scarring may occur. Pulmonary edema may develop several hours after a severe acute exposure. Aspiration of this material may cause the same conditions.

Ingestion (Swallowing): Gastrointestinal System Effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

Chronic (Delayed) Symptoms/Effects:

Skin: Repeated and prolonged skin contact may cause a chronic dermatitis.

Target Organ Effects: Eyes. Skin.

Protection of First-Aid Responders: Protect yourself by avoiding contact with this material. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Do not ingest. Use personal protective equipment (PPE). Refer to Section 8 for specific PPE recommendations. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician:

Medical observation and assessment is recommended for all ingestions, all eye exposures, and symptomatic inhalation and dermal exposures. For symptomatic ingestion, do not administer oral fluids and consider investigation by endoscopy, X-ray, or CT scan. Esophageal perforation, airway compromise, hypotension, and shock are possible. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no antidote. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation. Surgical intervention may be required.

Interaction with Other Chemicals Which Enhance Toxicity: No interaction with other chemicals which enhance toxicity are known.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions such as eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin; and respiratory conditions including asthma and other breathing disorders.

SECTION 5. FIRE FIGHTING MEASURES

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

Explosive properties: This product is not combustible or explosive.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire. Use "alcohol" foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media: Do not use water, will create an exothermic reaction. Water may create an alkaline solution which could impact waterways and aquatic species.

Specific Hazards: Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures in air.

Unusual Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Fire Fighting: Move container from fire area if it can be done without risk. Cool containers with water. Do not apply water directly on this product. Heat is generated when mixed with water. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Avoid contact with skin. Keep water runoff out of water supplies and sewers (see Section 6 of the SDS).

Advice for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid contact with skin and eyes.

Component	Immediately Dangerous to Life/ Health (IDLH)
Sodium Hydroxide 1310-73-2	10 mg/m ³ IDLH

Above are IDLHs (immediately dangerous to life or health concentrations) for those substances designated by United States (US) National Institute of Occupational Safety and Health (NIOSH). The IDLH is considered a maximum concentration above which only a highly reliable breathing apparatus providing maximum worker protection should be permitted.

Hazardous Combustion Products: Sodium hydroxide fumes can be generated by thermal decomposition at elevated temperatures

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not flammable

Auto-ignition Temperature: Not applicable

GHS: PHYSICAL HAZARDS:

- Category 1 - May be corrosive to metals

Physical Hazards of Significance Not Mentioned in GHS Classification

- Mixing with water may cause splattering and release of heat
- MAY BE CORROSIVE TO METALS

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with skin, eyes and clothing. Do not breathe vapors, mist, or spray. Wash skin and contaminated clothing thoroughly after handling. Wash thoroughly after handling- exposure can cause burns which are not immediately painful or visible. Isolate area. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures. Take any precaution to avoid mixing with combustibles or incompatible materials. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment: Wear protective gloves, footwear, clothing, eye, and face protection.

Emergency Procedures: All transfer facilities should have a documented spill prevention and containment program for all hazardous materials. Consideration must be given to the containment of caustic spills and leaks to comply with applicable federal, state, and local regulations.

Environmental Precautions: Keep out of water supplies and sewers. Do not flush into surface water or sanitary sewer system. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

Methods and Materials for Containment, Confinement, and/or Abatement: Ventilate and contain spill to prevent spread. Completely contain spilled materials with dikes, sandbags, etc. After containment, collect the spilled material and transfer to a chemical waste area. Take any precaution to avoid mixing with combustibles or incompatible materials.

Methods and Materials for Clean-up

Recovery: In case of spill or leak, stop the leak as soon as possible. Small and large spills: Contain spilled material if possible. After containment, collect the spilled material and transfer to a chemical waste area. Liquid material may be removed with a properly rated vacuum truck. The recovered product must be transferred to an appropriate and compatible container (carbon steel, stainless steel, PVC, Fiberglass or similar). Seal and label container.

Neutralization: Neutralize residue with dilute acid and follow with a liberal covering of sodium bicarbonate or other acceptable drying agent. See Section 13, Disposal considerations, for additional information.

Final Disposal: Shovel dry material into suitable container. Recycle or dispose according to regulations.

Additional Disaster Prevention Measures: Use caution when selecting spill absorbents. Liquids with this reactive group classification have been known to react with the absorbents such as cellulose-based absorbents and mineral-based and clay-based absorbents. All storage tanks should be diked to contain the tank contents in the event of a spill or tank rupture. They should be large enough to contain the tank's volume, and an additional appropriate volume as a safety factor. Review regulations prior to construction.

SECTION 7. HANDLING AND STORAGE

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

Handling:

Precautions for Safe Handling: In handling caustic soda solutions, care must be taken to avoid solidification which will plug pipelines and equipment. Refer to manufacturer's Caustic Soda Handbook for more information on freezing points for solutions of caustic soda at various concentrations. Should a caustic soda solution become frozen in process equipment or piping, care must be taken when thawing the material. The use of atmospheric pressure steam is suggested. Accelerated corrosion can occur in areas where equipment is subjected to extremely high temperatures. Running steam through unlined steel piping systems can result in increased corrosion and iron pickup in the product. Never put water or steam directly into the product.

Technical measures/precautions: Weld pipelines where practical. Use flanged joints with gaskets made of caustic soda resistant material such as rubber, PTFE, or EPDM rubber. If a screwed fitting is used, apply Teflon® tape to the threads. Shield the seal area of pumps to prevent spraying of caustic solutions in the event of a leak. Unloading lines should be insulated and heated when used to transfer liquid caustic soda to storage in cold climates. The preferred method of heating is to provide electric or steam heat tracing around the unloading line, under the insulation.

Other precautions: When disconnecting equipment for repairs, first verify that there is no internal pressure on the equipment and the equipment has been drained and washed. When releasing air pressure from a pressurized system, take every precaution to avoid spurts or sprays of caustic solution.

Prevention of contact: Residues that dry on equipment can cause irritation. Keep equipment clean by washing off any accumulation. NEVER add water to product. When mixing, slowly add to water to minimize heat generation and spattering. Do not breathe mist, vapor, or spray. Wash skin and contaminated clothing thoroughly after handling. Wear protective gloves, footwear, clothing, eye, and face protection. See Section 8, Exposure Controls and Personal Protection, for additional information.

Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container, or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Technical measures: Provide storage tanks with suitable overflow pipes. Overflow pipes should be directed to a protected overflow area away from operations. Prior to unloading shipment of caustic soda, make certain the storage tank has sufficient room available for the contents of the entire rail or tank car.

Incompatible Substances: Acids and halogenated compounds, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys, Releases heat when diluted in water or other solvents.

Packaging or Materials of Construction: Recommended: High density polyethylene; fiberglass, steel lined internally with PVC, FRP or other similar and supported. Other corrosion resistant materials are titanium, tantalum and FRP. In addition, container should be equipped with adequate pressure release device. Materials not recommended: low density polyethylene; Brass, zinc, bronze, copper, aluminum, iron, and alloys of these metals.

Additional Information:

GHS: PHYSICAL HAZARDS:

- Category 1 - May be corrosive to metals

Physical Hazards of Significance Not Mentioned in GHS Classification

- Mixing with water may cause splattering and release of heat
- MAY BE CORROSIVE TO METALS

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**REGULATORY EXPOSURE LIMIT(S):**

Listed below for the product components that have regulatory occupational exposure limits (OEL's).

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PEL Ceiling
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	2 mg/m ³ (TWA) mg/m ³	-----	-----

OEL: Occupational Exposure Limit; **OSHA:** United States Occupational Safety and Health Administration;
PEL: Permissible Exposure Limit; **TWA:** Time Weighted Average; **STEL:** Short Term Exposure Limit

Component	Canada - TWAs	Canada - STELs	Canada - Ceilings
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	-----	-----	Ontario - 2 mg/m ³ (Ceiling)

NON-REGULATORY EXPOSURE LIMIT(S):

One component of this product has ACGIH TLV value(s) recommended as advisory exposure limit(s).

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	Skin Absorption - ACGIH	NIOSH RELs	AIHA WEELs	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	-----	-----	2 mg/m ³ (Ceiling)	-----	2 mg/m ³ (Ceiling)	-----	-----	-----	2 mg/m ³

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993). OSHA Ceiling values indicate the exposure limit, which at no time shall be exceeded. Instantaneous monitoring is the preferred method to determine compliance with OSHA Ceiling values. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day [29CFR1910.1000(a)(1)]

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices. ACGIH TLV Ceiling (C) limits are airborne concentrations that should not be exceeded in the workplace under any circumstances. Ceiling limits can supplement other limits or stand alone.

ENGINEERING CONTROLS: Use closed systems when possible. Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

Eye Protection: Wear chemical safety goggles with a face shield to protect against eye and skin contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear protective clothing to minimize skin contact. Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Always place pants legs over boots. Contaminated clothing should be removed, then discarded or laundered. Discard contaminated leather goods.

Hand Protection: Wear appropriate chemical resistant gloves. If contact with forearms is likely, wear gauntlet style gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Natural rubber, Neoprene, Nitrile, Polyvinyl chloride (PVC), Tyvek®, Tychem®.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate, use a NIOSH approved full-facepiece respirator with an N100, R100, or P100 filter. For an emergency or planned entry into unknown concentrations or IDLH conditions, use any self-contained breathing apparatus (SCBA) that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode OR any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus (e.g. airline with auxiliary escape pack). A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Component	Immediately Dangerous to Life/ Health (IDLH)
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	10 mg/m ³ IDLH

Above are IDLHs (immediately dangerous to life or health concentrations) for those substances designated by United States (US) National Institute of Occupational Safety and Health (NIOSH). The IDLH is considered a maximum concentration above which only a highly reliable breathing apparatus providing maximum worker protection should be permitted.

Other Protective Equipment: Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

HYGIENE MEASURES: Do not breathe mist, vapors, or spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves, protective clothing, eye, and face protection. For environmental protection remove and wash all contaminated protective equipment before re-use. Use outdoors or in a well-ventilated area. Keep separated from incompatible substances.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to opaque
Physical State:	Liquid
Color:	Colorless to slightly colored
Odor:	Odorless
Odor Threshold [ppm]:	No data available
Melting Point/Range:	No data available
Freezing Point/Range:	-32 to 15°C (-26 to 59°F) [50% solution]
Boiling point / boiling range	102 - 144°C (215 - 291°F) [50% solution]

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

Evaporation Rate (ether=1):	No information available.
Flammability (solid, gas):	Not applicable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Explosion limits:	Not applicable
Flash point:	Not flammable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	No information available.
pH:	14.0 (7.5% solution)
Viscosity:	About 24cp for 50% solution at 40 °C (104 °F)
Kinematic viscosity	No data available
Water Solubility:	Water: 100%
Partition Coefficient (n-octanol/water):	No information available.
Vapor Pressure:	13 - 135 mmHg @ 60 °C
Density:	8.8 - 13.0 lbs/gal @ 15.6 °C
Relative Density/Specific Gravity (water=1):	1.05 – 1.56 @ 15.6 °C
Vapor Density (air=1):	No data available
Particle Size Distribution:	Not applicable
<u>Other Information</u>	
Molecular Formula:	NaOH
Chemical Family:	Alkali Metal Hydroxide Solutions
Molecular Weight:	40.01
Explosive properties:	Not applicable.
Oxidizing properties:	Not applicable.
VOC Content (%):	0%
Volatility:	Not available

Refer to manufacturer's Caustic Soda Handbook for more information on physical and chemical properties for solutions of caustic soda at various concentrations and temperatures.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and pressures.

Reactivity: Soluble in water, releasing heat sufficient to ignite combustibles. Reacts with metals and may form hydrogen gas. Reacts with acids, giving off heat.

Possibility of Hazardous Reactions: May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures in air. Mixing with water, acid, or incompatible materials may cause splattering and release of large amounts of heat. Will react with some metals forming flammable hydrogen gas. Carbon monoxide gas may form upon contact with reducing sugars, food and beverage products in enclosed spaces. Accidental contact of 50% sodium hydroxide solution with residual trichloroethanol in a pump caused an explosion. This was confirmed in laboratory experiments. Chlorohydroxyacetylene, the isomeric chloroketene or chlorooxirene, may have been formed by elimination of hydrogen chloride. In addition, reacts to form explosive products with ammonia + silver nitrate (forms silver nitride); N,N'-bis(trinitroethyl)urea (in storage).

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

Conditions to Avoid (e.g., static discharge, shock, or vibration): No information available.

Incompatible Substances: Acids and halogenated compounds, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys, Releases heat when diluted in water or other solvents.

Hazardous Decomposition Products: Toxic fumes of sodium oxide.

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

TOXICITY:

When in solution, this material will affect all tissues with which it comes in contact. The severity of the tissue damage is a function of its concentration, the length of tissue contact time, and local tissue conditions. After exposure, there may be a time delay before irritation and other effects occur. This material is a strong irritant and is corrosive to the skin, eyes, and mucus membranes. This material may cause severe burns and permanent damage to any tissue with which it comes into contact.

ACUTE TOXICITY:

Eye contact: This material is corrosive to the eye. Causes serious eye damage, which can result in severe irritation, pain and burns, and permanent damage including blindness.

Skin contact: This material is corrosive to the skin. Causes severe skin burns. Prolonged or repeat skin exposures can result in dermatitis.

Inhalation: This material can be extremely destructive to the tissue of the mucus membranes and respiratory system. Inhalation injury may result from ingestion and/or aspiration of this material. May cause severe irritation of the respiratory tract with potential airway compromise, coughing, choking, pain, and burns of the mucous membrane and respiratory system. Aspiration may cause chemical pneumonitis, pulmonary edema, damage to lung tissue, death.

Ingestion: Following ingestion, onset of gastrointestinal symptoms is usually rapid and related to local mucosal irritation and development of corrosive injury. If swallowed, may cause severe oral and esophageal, mucus membrane, and gastrointestinal burns and possible perforation. If swallowed, may pose a lung aspiration hazard during vomiting.

CHRONIC TOXICITY:

Chronic Effects: Repeated or prolonged skin contact may result in dermatitis.

SIGNS AND SYMPTOMS OF EXPOSURE:

This material may cause severe burns and permanent damage to any tissue with which it comes into contact. It can cause serious burns and extensive tissue destruction resulting in liquefaction, necrosis and/or perforation. Signs and symptoms of exposure vary, and are dependent on the route of exposure, degree of exposure, and duration of exposure.

Inhalation (Breathing): Respiratory System Effects: Exposure to airborne material may cause irritation, redness

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

of upper and lower airways, coughing, laryngeospasm, shortness of breath, bronchoconstriction, and possible pulmonary edema. Severe and permanent scarring may occur. Pulmonary edema may develop several hours after a severe acute exposure. Aspiration of this material may cause the same conditions.

Skin: Skin Corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns (first, second, or third degree), liquefaction of skin, and damage to underlying tissues (deep and painful wounds).

Eye: Serious Eye Damage. Eye exposures may cause eyelid burns, conjunctivitis, corneal edema, corneal burn, corneal perforation, damage to internal contents of the eye, permanent visual defects, and blindness and/or loss of the eye.

Ingestion (Swallowing): Gastrointestinal System Effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

Interaction with Other Chemicals Which Enhance Toxicity: No interaction with other chemicals which enhance toxicity are known.

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - SKIN: Category 1A - Causes severe skin burns and eye damage

GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage

TOXICITY DATA:

PRODUCT TOXICITY DATA: There is no product level data available at this time

LD50 Oral: No reliable data available	LD50 Dermal: No reliable data available	LC50 Inhalation: No data available
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COMPONENT TOXICITY DATA: The data are from public databases sources

Component	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Hydroxide 1310-73-2	325 mg/kg (Rat)	1350 mg/kg (Rabbit)	No data available
Sodium Chloride 7647-14-5	3 g/kg (Rat)	>10000 mg/kg (Rabbit)	>42 mg/L (1-h Rat)

EYE IRRITATION/CORROSION: Corrosive to the eyes and may cause severe damage including blindness.

Standard Draize (Eye): PRIMARY EYE IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr).

SKIN IRRITATION/CORROSION: This product is classified as causing severe skin burns (Category 1, H314), according to GHS classification criteria.

Standard Draize (Skin): PRIMARY SKIN IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)

SKIN ABSORBENT/DERMAL ROUTE: NO.

Material is corrosive to the skin and will produce damage to the skin prior to systemic effects being observed.

RESPIRATORY OR SKIN SENSITIZATION: Not Known. No evidence of skin sensitization was seen in either human or laboratory animal exposure studies to sodium hydroxide.

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

CARCINOGENICITY: This product is not classified as a carcinogen by NTP, IARC or OSHA. Systemic carcinogenicity is not expected to occur because in water and other biological matrices, sodium hydroxide (NaOH) will hydrolyze to the sodium and hydrogen ions. NaOH is not systemically available under normal conditions.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): Although there is a case report of a worker who developed irreversible obstructive lung disease after exposure to 5% sodium hydroxide (NaOH) aerosols in a poorly ventilated room, this is a single case report. The effects observed are related to the corrosivity and not specifically to an effect of NaOH.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Sodium hydroxide may cause irreversible obstructive airway disease after long term (for 20 years) regular unprotected exposure (no respiratory protective equipment); however, this outcome is due to a bronchial inflammatory reaction caused by the corrosive effects of sodium hydroxide and is not considered a systemic health outcome. Systemic health effects are not expected under normal handling and use conditions (non-irritating) because the concentration of sodium in the blood nor the pH of the blood will be increased.

INHALATION HAZARD: Exposure to airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeal spasm and edema, shortness of breath, bronchio-constriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

INGESTION HAZARD: The existing animal and human data on acute toxicity show that NaOH has a local effect and that systemic effects are not to be expected. The corrosivity classification represents sufficient warning. If humans are exposed to a low concentration (e.g., one that is non-irritating, or non-corrosive), via the oral route it is expected that the hydroxide will be neutralized in the stomach by gastric juice, which already has a very low pH.

GERM CELL/IN-VITRO MUTAGENICITY: Sodium hydroxide was negative in an in vitro Ames reversion assay without metabolic activation. In another in vitro study, exposure of Chinese hamster ovary cells to Sodium hydroxide with metabolic activation resulted in chromosomal aberrations in 7.8% of the 400 cells scored. The chromosome aberration frequency increased to 17% along the S9 concentration, but excessive cell toxicity was not seen, and the authors concluded that the mutagenic response was due to the combined effects of pH and metabolic activation, and not to the mutagenicity of Sodium hydroxide. The available data do not meet the classification criteria for Germ Cell Mutagenicity.

REPRODUCTIVE TOXICITY: Sodium Hydroxide is not expected to be systematically available in the body under normal handling and use conditions and for this reason it can be stated that the substance will not reach the fetus nor male or female reproductive organs.

DEVELOPMENTAL TOXICITY: Not classified as a developmental or reproductive toxin per GHS criteria.

ASPIRATION HAZARD: The product is not classified as an inhalation hazard, according to criteria of the GHS.

TOXICOKINETICS: Not available.

METABOLISM: Not available.

BIOLOGICAL DISTRIBUTION: No information available.

PATHOGENICITY AND ACUTE INFECTIOUSNESS (ORAL, DERMAL, AND INHALATION): Not applicable.

ENDOCRINE DISRUPTOR: This product does not contain any known or suspected endocrine disruptors.

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

NEUROTOXICITY: Not Available.**IMMUNOTOXICITY:** Not available.**Health Hazards of Significance Not Mentioned in GHS Classification**

- Acute exposure may cause delayed chemical burns

SECTION 12. ECOLOGICAL INFORMATION**ECOTOXICITY (EC, IC, and LC):**

Component:	Freshwater Fish:	Invertebrate Toxicity:	Algae Toxicity:	Other Toxicity:
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	*LC50 Oncorhynchus mykiss: 45.4 mg/L 96h static	No data available	No data available	No data available
Sodium Chloride 7647-14-5 (0 - 15 %)	*LC50 Oncorhynchus mykiss: 4747 - 7824 mg/L 96h flow-through *LC50 Lepomis macrochirus: 5560 - 6080 mg/L 96h flow-through *LC50 Pimephales promelas: 6020 - 7070 mg/L 96h static *LC50 Pimephales promelas: 6420 - 6700 mg/L 96h static *LC50 Lepomis macrochirus: 12946 mg/L 96h static *LC50 Pimephales promelas: 7050 mg/L 96h semi-static	*EC50 Daphnia magna: 340.7 - 469.2 mg/L 48h *EC50 Daphnia magna: 1000 mg/L 48h	No data available	*LC50 Eisenia foetida (48 h filter paper) 0.1 - 1 mg/cm2

Aquatic Toxicity:

In water, Sodium Hydroxide (NaOH) will hydrolyze to the sodium and hydrogen ions and do not represent a specific hazard. The buffering capability of the environmental compartment will determine the extent of the toxicological response

Data provided are for sodium hydroxide

Fish Toxicity:

LC50 Brook trout: 25 ppm/24 hr

LC50 King salmon: 48 ppm

Invertebrate Toxicity:

EC50 Daphnia magna: 100 ppm

EC50 Shrimp: 33 - 100 ppm/48 hr.

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415
Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024
Rev. Num. 12

EC50 Cockle: 330 - 1000 ppm/48 hr.

FATE AND TRANSPORT:

PERSISTENCE: This material is alkaline and may raise the pH of surface waters with low buffering capacity. This material is believed to exist in the disassociated state in the environment.

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

BIOCONCENTRATION: This material is not expected to bioconcentrate in organisms.

BIOACCUMULATIVE POTENTIAL: Does not bioaccumulate.

MOBILITY IN SOIL: NaOH is a strong alkaline substance that dissociates completely in water to Na⁺ and OH⁻. High water solubility and low vapor pressure indicate that NaOH will be found predominantly in aquatic environment. This implies that it will not adsorb on particulate matter or surfaces. Atmospheric emissions as aerosols are rapidly neutralized by carbon dioxide and the salts will be washed out by rain.

ADDITIONAL ECOLOGICAL INFORMATION: This material has exhibited slight toxicity to terrestrial organisms. This material has exhibited moderate toxicity to aquatic organisms.

PBT and vPvB assessment: This product does not fulfill the criteria for persistence, bioaccumulation, and toxicity. Therefore, this substance is not considered a PBT or a vPvB substance.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:

Reuse or reprocess, if possible. Keep out of water supplies and sewers. May be subject to disposal regulations. Dispose in accordance with all applicable regulations.

Container Management:

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Contaminated Material:

Contaminated packaging should be disposed of as unused product.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

U.S. DOT 49 CFR 172.101:

UN NUMBER:

UN1824

PROPER SHIPPING NAME:

Sodium Hydroxide Solution

HAZARD CLASS/ DIVISION:

8

PACKING GROUP:

II

LABELING REQUIREMENTS:

8

RQ (Lbs.):

RQ 1000 lbs. (Sodium Hydroxide)

Special provisions for transport:

Always transport in closed containers that are upright and secure. Make sure people transporting the product know what to do in case of an accident or spill.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER:

UN1824

SHIPPING NAME:

Sodium hydroxide solution

CLASS OR DIVISION:

8

PACKING/RISK GROUP:

II

LABELING REQUIREMENTS:

8

MARITIME TRANSPORT (IMO / IMDG)

UN NUMBER:

UN1824

PROPER SHIPPING NAME:

Sodium hydroxide solution

HAZARD CLASS / DIVISION:

Class 8: Corrosive Substance

Packing Group:

II

LABELING REQUIREMENTS:

8

AIR TRANSPORT (ICAO / IATA)

UN Number:

UN1824

Proper shipping name:

Sodium hydroxide solution

Hazard Class:

Class 8: Corrosive Substance

Packing group:

II

Special Instructions CAO:

IATA Certificate for shipping personnel is required

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: The substance poses risks from the point of view of safety (S) and contamination (P). Classified as "Y", presents a danger to marine resources or human health.

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	U.S. DOT Hazardous	CERCLA Hazardous	CERCLA Section 302	Section 302 Threshold
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CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

	Substances/ RQs	Substances / RQs	EHS EPCRA RQs	Planning Quantity (TPQ)
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	1000 lbs(RQ)	1000	Not listed	Not Listed

SARA EHS Chemical (40 CFR 355.30)

No components are listed.

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Physical Hazard - Corrosive to Metal

Health Hazard - Skin Corrosion or Irritation

Health Hazard - Serious eye damage or eye irritation

EPCRA SECTION 313 (40 CFR 372.65):

No components are listed.

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):

No components in this material are regulated under DHS

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated.

FDA: This material has Generally Recognized As Safe (GRAS) status under specific U.S. Food and Drug Administration (FDA) regulations. Additional information is available from the Code of Federal Regulations, which is accessible on the FDA's website. Only food grade product is guaranteed to be produced under all current Good Manufacturing Practices (cGMP) requirements as defined by the FDA. Food grade product is produced in a facility that is accredited as a Safe Quality Food (SQF) Level 2 Facility, certified under the Global Food Safety Initiative (GFSI), and meets the Food Chemical Codex (FCC) requirements

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Component(s) not listed on impacted regulatory lists.

NATIONAL INVENTORY STATUS**U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):**

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA/Section 4	TSCA/Section 5	TSCA/Section 6	TSCA/Section 8
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Not listed
Sodium Chloride 7647-14-5 (0 - 15 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Not listed

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

Component	DSL	NDSL
Sodium Hydroxide 1310-73-2 (5.5 - 51.5)	Listed	Not Listed
Sodium Chloride 7647-14-5 (0 - 15)	Listed	Not Listed

STATE REGULATIONS**California Proposition 65:**

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

This product is not listed on the California Governor's current list of Carcinogens, Reproductive Toxicants, and/or Candidate Carcinogens (Proposition 65), but it may contain trace amounts of impurities that are listed. For additional information, contact Occidental Chemical Corporation Customer Service (1-800-752-5151 or 1-972-404-3700).

Component	U.S. - California - Proposition 65 - Carcinogens List	CA. Prop. 65 Teratogen	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	Rhode Island Right to Know Hazardous Substance List
Sodium Hydroxide 1310-73-2 (5.5 - 51.5 %)	Not listed	Not listed	Not Listed	Not Listed	Listed	Listed
Sodium Chloride 7647-14-5 (0 - 15 %)	Not listed	Not listed	Not Listed	Not Listed	Not Listed	Not Listed

Component	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List
Sodium Hydroxide	1706	corrosive	Not Listed	Listed	Not Listed	Present
Sodium Chloride	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Workplace Hazardous Materials Information System (WHMIS 2015) which includes the amended Hazardous Products Act (HPA) and the Hazardous Product Regulations (HPR).

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - Greenhouse Gases (GHG) Subject to Mandatory Reporting	Canadian Chemical Inventory:	NDSL
Sodium Hydroxide 1310-73-2 (5.5 - 51.5)	Not listed	Not Listed	Not Listed	Listed	Not Listed
Sodium Chloride 7647-14-5 (0 - 15)	Not listed	Not Listed	Not Listed	Listed	Not Listed

SECTION 16. OTHER INFORMATION

Prepared by: Occidental Chemical Corporation - HES&S Product Stewardship Department

Rev. Date: 21-Jun-2024

Reason for Revision:

- Corrected GHS by removing "Exclamation Symbol"
- SDS format adopts revisions to the Hazardous Products Regulations (HPR) to include revisions to "Section 9: Physical and chemical properties" and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised edition (Revision 8)

IMPORTANT:

Important: The information presented herein, while not guaranteed, was prepared by technical personnel and is true

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415

Supersedes Date: 2022-14-March

Rev. Date: 21-Jun-2024

Rev. Num. 12

and accurate to the best of our current knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal, and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Occidental Chemical Corporation assumes no liability whatsoever for the use of or reliance upon this information. Appropriate handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws.

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees.

End of Safety Data Sheet

APPENDIX 6.
BWC HARVEY 4/29/2025 RESPONSE

BWC Terminals 1805 4th street Harvey LA Follow up from EPA visit 4/24/2025

From Scheidt, Dustin (Harvey) <dscheidt@bwcterminals.com>

Date Tue 4/29/2025 11:27 AM

To Vince Damiano <Vince.Damiano@erg.com>; Thapa.Sandesh@epa.gov <Thapa.Sandesh@epa.gov>; Joe Watson <Joe.Watson@erg.com>

Cc Pertuit, Walter (Harvey) <WPertuit@bwcterminals.com>; Chapman, Joshua (Harvey) <jchapman@bwcterminals.com>

 19 attachments (12 MB)

SDS Morelife.PDF; SDS Caustic.PDF; ghs tetrasodium edta msds.pdf; W6273X_SDS_EN_05-24-2019.pdf; inside paint drum.jpg; Paint drum.jpg; pro-00vr3Bsw.jpeg; pro-eC6biQGd.jpeg; pro-5n1O7ueY.jpeg; pro-IFCbrUSP.jpeg; pro-R9Y3Qxfk.jpeg; pro-jmbaFMvq.jpeg; pro-yqB1eZrI.jpeg; pro-7tl8bPBX.jpeg; pro-DGRhwwh4.jpeg; IMG_7879.jpg; IMG_7885.jpg; IMG_7882.jpg; IMG_7881.jpg;

CAUTION: Don't open links or attachments unless you recognize the sender and know they are safe.

Good Morning,

My name is Dustin Scheidt, I am the terminal manager at our Harvey location that you visited on 4/24/2025.

I would like to start off by apologizing for missing your visit, I was assisting another terminal that day. After discussing your visit with my operations manager i would like to give you information you requested.

- (Paint) This drum is ½ full of old latex interior paint (See SDS) that was solidified with absorbent to turn into a solid. This paint drum will go out as a Non Haz solid when shipped.
- (Trtrasodium) This product is used for our boiler treatment to help fight rust build up, this drum is empty with salt on the bottom, these drums are usually picked up by the chemical company for drum reuse when they bring new drums of boiler chemical. This one must have been missed since we changed distributors. (this drum will be put with the reclaim drums until it is picked up)
- (Morlife/Amine) this drum is a Non Haz waste that will go out with the Non Haz shipment(drum is 99% water 1% product) (See SDS attached for raw material)
- The 2 drums “not” labeled were Asphalt/sand drums that were taken from the satellite area and put in the building the day before, drums have been labeled and staged appropriately.
- The Sodium Hydroxide (Caustic) drums are reclaim/Reuse drums, they are stored in the building (Reason is for wind and rain purpose we don't keep them in the yard) we add the drippings from truck loading into the drums from 5 gallon buckets, later we put the Caustic back into the system once the drums are sampled for quality and %.
- Please see pictures of updated labels, storage organization and painted lines to prevent future confusion.

Please let me know if there is anything else we can assist with in the future.

Thank You!

DUSTIN SCHEIDT

Terminal Manager

BWC Terminals

1805 4th Street,

Harvey, LA 70058

Office (504)267-1669 Cell (513)504-2998

Dscheidt@Bwcterminals.com | www.Bwcterminals.com



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