SAFETY DATA SHEET

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

1. Identification

Product identifier	**Sodium Hydroxide Solution**
Other means of identification	Liquid caustic (solution of 18-70% Sodium hydroxide in water), Soda lye solution, Caustic soda solution, Aqueous alkali metal hydroxide, NaOH
Product family	Alkali metal hydroxide
Recommended use	Acid neutralization, petroleum refining, manufacture of paper, cellulose, textiles, plastics, explosives and dyestuffs. Metal cleaning, etching and electroplating. Regeneration of ion exchange resins.
Recommended restrictions	None known

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	ERCO Worldwide
Address	101 Highway 73 South Nekoosa, WI 54457 USA
Telephone	(715)-887-4000
Website	http://www.ercoworldwide.com
E-mail	productinfo@ercoworldwide.com
Emergency phone number	Canada & USA: 1-800-424-9300 (CHEMTREC)

Supplier Refer to Manufacturer

2. Hazard(s) Identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion	Category 1A
	Serious eye damage	Category 1
	Acute Toxicity, Oral	Category 3
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

Environmental hazards Not currently regulated by OSHA, refer to Section 12 for additional information.

OSHA defined hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Label elements

Signal word Danger

Hazard statement
May be corrosive to metals.
Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary statement

Prevention Keep only in original container. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dusts or mist. Wear protective gloves, protective clothing, eye protection, face protection. Avoid breathing fume, gas, vapors, spray. Use only outdoors or in a well-ventilated area.

Response **IF SWALLOWED**: Immediately call a POISON CENTER or doctor, 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.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
If exposed or concerned: Call a POISON CENTER or doctor.

Absorb spillage to prevent material damage.

Storage Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container with a resistant inner liner.

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

Hazard(s) not otherwise classified (HNOC)
No OSHA defined hazard classes.
Other hazards which do not result in classification: Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides. Chronic skin contact with low concentrations may cause dermatitis.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Chemical name	Common name and synonyms	CAS number	Conc. % By Weight
Sodium Hydroxide	Caustic Soda, Lye (Sodium), Sodium Hydrate, Soda Lye	1310-73-2	18 - < 70 w/w%
Dihydrogen oxide	Water	7732-18-5	Balance

Chemical name of impurities, stabilizing solvents and/or additives: None

4. First-Aid Measures

Inhalation

Move to fresh air. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediately call a POISON CENTER or doctor/physician.

Skin Contact

Take off immediately all contaminated clothing. Immediately flush skin with running water for at least 20 minutes, or until the feeling of slipperiness disappears. Cover wound with sterile dressing. Do not rub area of contact. Wash contaminated clothing before reuse. Leather and shoes that have been contaminated with the solution may need to be destroyed. Immediately call a POISON CENTER or doctor/physician.

Eye Contact

Immediately flush eyes with plenty of water for at least 20 minutes, holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor/physician.

Ingestion

Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. If victim can swallow, have him/her drink one cup of water to dilute material in stomach. If vomiting occurs naturally, repeat administration of water. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms/effects, acute and delayed

Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing.

Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring.

Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause severe irritation and corrosive damage in the mouth, throat

and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Indication of immediate medical attention and special treatment needed

Immediate medical attention is required. Causes chemical burns. Symptoms may be delayed.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-Fighting Measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use as appropriate: Water Spray or Fog. Alcohol resistant foam. Dry chemical powder. Use water with caution. Contact with water will generate considerable heat. Do not apply water directly to sodium hydroxide since it can generate significant heat and cause spattering.

Unsuitable extinguishing media

Carbon dioxide (CO_2). Use chemical extinguishing agents with caution. Some chemical extinguishing agents may react with this material.

Specific hazards arising from the chemical

Not considered flammable. Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. The heat that is generated may be sufficient enough to ignite nearby combustible materials. Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides. Toxic fumes, gases or vapours may evolve on burning.

Special protective equipment and precautions for firefighters

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.

Firefighting equipment/instructions

Fight fire with normal precautions from a reasonable distance. Evacuate the area promptly. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

When moist, sodium hydroxide can react with metals, such as aluminum, tin and zinc, to form flammable and explosive hydrogen gas. Toxic sodium oxide

	fumes can be generated by thermal decomposition at elevated temperatures.
Hazardous combustion products	Fight fire with normal precautions from a reasonable distance. Evacuate the area promptly. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Ventilate the area. Remove sources of ignition. Stop leak if you can do so without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. Small Spills: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Dilute alkali with water and neutralize with acids (e.g. acetic acid / vinegar). Large Spills: Prevent entry into waterways, sewer, basements or confined areas. If not recoverable, dilute with water or flush to holding area and neutralize. Remove with vacuum trucks or pump to storage/salvage vessels. Contact the proper local authorities. Never return spills to original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and Storage

Precautions for safe handling	Wear chemically resistant protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe mist. Do not taste or swallow. Avoid contact with eyes, skin and clothing. Keep away from heat. Keep away from metals and other incompatibles. When preparing or diluting solution, always add to water, slowly and with stirring. Use cold water to prevent excessive heat generation. Never add water to the product. Label containers appropriately. Wash thoroughly

after handling. When using, do not eat, drink or smoke. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS). Store in original tightly closed container. May be corrosive to Aluminum, stainless steels, carbon steel, copper, bronze, etc. Store in corrosive resistant container with a resistant inner liner. Suitable container and packaging materials for safe storage: Nickel. Polyvinyl chloride (PVC). Polytetrafluoroethylene (PTFE). Polypropylene.

8. Exposure Controls/Personal Protection

Occupational exposure limits

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

Components	Type	Value
Sodium Hydroxide (CAS 1310-73-2)	PEL	2 mg/m^3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m^3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m^3

Biological limit values

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

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Chemical goggles and face shield are recommended.

Skin protection

Hand protection

Wear appropriate chemical resistant impervious gloves.

Other

Wear as appropriate: Butyl rubber. Neoprene. Nitrile. Polyvinyl chloride (PVC). VitonTM rubber (fluor rubber).

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.
Thermal Hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Do not breathe mist. Avoid contact with eyes, skin and clothing. When using, do not eat, drink or smoke. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Appearance	Clear to slightly turbid, viscous liquid
Physical state	Liquid
Form	Viscous liquid
Colour	Clear water-white
Odor	Odorless
Odor threshold	Not Available
pH	> 14 (at high alkali concentration in water, pH scale is not applicable)
Melting point/freezing point	57.2 °F (14 °C) / 57.2 °F (14 °C) (approximately)
Initial boiling point and boiling range	284 °F (140 °C) @ 760 mmHg
Flash point	Not Applicable
Evaporation rate	Not Applicable (the only evaporation that occurs is water)
Flammability (solid, gas)	Not Available
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not Applicable
Flammability limit – upper (%)	Not Applicable
Explosive limit – lower (%)	Not Applicable
Explosive limit – upper (%)	Not Applicable
Vapor pressure	0.2 kPa 1.5 mm Hg
Vapor pressure temp.	77 °F (25 °C)
Vapor density	Not Available
Relative density	1.52 g/cm³
Solubility (ies)	

Solubility (water)	Soluble in all proportions
Solubility (other)	Soluble in absolute alcohol, methanol and glycerol. Moderately soluble in ethanol. Insoluble in acetone and diethyl ether.
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not Applicable
Decomposition temperature	Not Available
Viscosity	25.39 cSt (40% solution)
Viscosity temperature	68 °F (20 °C)
Other information	
Specific gravity	1.52 at 20 °C

10. Stability and Reactivity

Reactivity

Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. May be corrosive to Aluminum, stainless steels, carbon steel, copper, bronze, etc. Sodium hydroxide does not polymerize itself, but will violently polymerize certain other substances including: acetaldehyde, acrolein, acrylonitrile.

Chemical stability

Material is stable under normal conditions. Rapidly absorbs moisture and carbon dioxide from the air forming sodium carbonate. Water, when added to sodium hydroxide may cause localized overheating and possible spattering.

Possibility of hazardous reactions

Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides.

Conditions to Avoid

Contact with incompatible materials. Avoid high temperatures. Do not use in areas without adequate ventilation.

Incompatible materials

Metals. Water, moisture. Acids. Flammable liquids. Organo halogen compounds. Nitromethane. Nitrous compounds. Sodium borohydride. Tetrahydrofuran. Chlorinated compounds. Maleic anhydride. Cyanogen azide. Nitroalkanes. Silver nitrate. Ammonia. Zirconium. Acetaldehyde. Acrolein. Acrylonitrile. Allyl alcohol. Zinc Dust. 1,2- Dichloroethylene, Trichloroethylene or Tetrachloroethane. Phosphorus. Hydroquinone. Cinnamaldehyde. Sugars. Chlorine trifluoride, Phosphorus pentoxide or Trichloronitromethane. Chloroform. Methanol.

Sodium hydroxide solutions attack plastics, such as polyamide-imide (Torlon) (10-100% solutions), polybutylene terephthalate and polyethylene terephthalate (20-100%), thermoset polyester isophthalic acid (10-100%), polyvinylidene fluoride (Kynar; PVDF) (70-100% solutions), polyurethane (riged) (80-100%), and polyvinylidene chloride (Saran) (100%); elastomers, such as polysulfide and butadiene-styrene (SBR) (10-100%) and soft rubber

(30-100%) (52,55); and coatings, such as polyester and vinyls (10-100%), coal tar epoxy, general purpose epoxy, epoxy polyamide and phenolic (70-100%).

Hazardous decomposition products

Contact with metals (aluminum, zinc, tin) and sodium tetrahydroborate liberates hydrogen gas.

In the event of fire the following can be released: Sodium oxides.

11.Toxicological Information

Information on likely routes of exposure

Inhalation May cause severe irritation and burning of the mouth, throat and esophagus; vomiting; diarrhea; edema (swelling) of larynx and a subsequent suffocation. Perforation of gastro-intestinal tract can occur.

Skin contact Causes severe skin burns and eye damage. Not expected to be absorbed through the skin. Frequently deep ulcerations and ultimate scarring. Destructive effect on tissues.

Eye contact Causes serious eye damage. Instantaneous painful irritation of the eyes. Can penetrate deeply causing irritation or severe burns depending on the concentration and duration of exposure. In severe cases, ulceration and permanent blindness may occur.

Ingestion Toxic if swallowed. Causes digestive tract burns. Irritation of respiratory tract, inflammation of lungs, difficulty breathing. May cause pulmonary edema.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

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

Effects of short-term (acute) exposure

Direct contact can cause severe burns with deep ulceration, permanent scarring, and baldness. It can penetrate to deeper layers of the skin and corrosion will continue until removed. With dilute solution, the sensation of irritation may be delayed for hours. Eye damage can range from severe irritation and mild scarring to blistering, disintegration, ulceration, severe scarring and clouding. Ingestion can produced severe corrosive burns to mouth, throat, and esophagus. Symptoms include severe pain, vomiting, diarrhea, collapse and possible death. Small amounts of caustic which enter the lungs during ingestion or vomiting (aspiration) can cause serious lung injury and death. Sodium

hydroxide does not readily form a vapor, so inhalation is only likely to occur if aerosol is formed. Severe irritation of the respiratory tract, and possible permanent damage and pulmonary edema may result from aerosol exposure. Symptoms of pulmonary edema may be delayed for up to 48 hours.

Effects of long-term (chronic) exposure Repeated or prolonged exposure of the skin to low concentrations of liquid can cause dermatitis. There are a few reports of chronic respiratory disease from repeated and prolonged exposure to mists. There is no evidence of carcinogenicity in humans from occupational exposures. Sodium hydroxide does not accumulate in the body. Glaucoma and cataracts are possible late developments. In severe cases, permanent blindness results.

Information on toxicological effects

Acute toxicity There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Components	Species	Test Results
Sodium Hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD_{50}	Rabbit	1,350 mg/kg
Inhalation		
LC_{50}	Rat	No Data in Literature
Oral		
LD_{50}	Rat	140-340 mg/kg
Water (CAS 7732-18-5)		
Acute		
Dermal		
LD_{50}	Rabbit	Not available
Inhalation		
LC_{50}	Rat	Not available
Oral		
LD_{50}	Rat	> 89840 mg/kg

Skin corrosion Hazardous by OSHA criteria.
Category 1A. Causes severe skin burns and eye damage.

Serious eye damage Hazardous by OSHA criteria.
Category 1. Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not expected to be a respiratory sensitizer.

Skin sensitizer This product is not expected to be a skin sensitizer.

Germ cell mutagenicity Not expected to be mutagenic in humans.

Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Hazardous by OSHA criteria. Category 3. May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified as a specific target organ toxicity - repeated exposure.
Aspiration toxicity	This product is not classified as an aspiration hazard.
Chronic effects	Chronic skin contact with low concentrations may cause dermatitis.

12. Ecological Information

Ecotoxicity

May cause shifts in water pH outside the range of pH 5 -10. Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. However, may be neutralized by naturally occurring acidity in the environment. The ingredient ecotoxicity data appearing below is expected to be primarily associated with pH.

Components		Species	Test Results
Sodium Hydroxide (CAS 1310-73-2)			
Aquatic			
Acute			
Crustacea	EC_{50}	Water flea (*Ceriodaphnia dubia*)	40 mg/l, 48 hours

Persistence and degradability	No data is available on the degradability of this product. Biodegradation is not applicable to inorganic substances.
Bioaccumulative potential	No accumulation in living organisms is expected due to high solubility and dissociation properties.
Mobility in soil	High water solubility indicates a high mobility in soil.

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

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and containers in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	None
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. US CERCLA Reportable Quantity (RQ): 1000 lbs / 454 kg
Special provisions	B2; IB2; N34; T7; TP2
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	None
Packing group	II
Environmental hazards	No
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed
Cargo aircraft only	Allowed

IMDG

UN number	UN1824
UN proper shipping name	Sodium hydroxide solution
Transport hazard class(es)	
Class	8
Subsidiary risk	None
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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

DOT

IATA; IMDG

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.	
CERCLA Hazardous Substance List (40 CFR 302.4)	Sodium hydroxide (CAS 1310-73-2)	Listed.
SARA 304 Emergency release notification	Not regulated.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.	

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes
SARA 302 Extremely hazardous substance	Not listed.
SARA 311/312 Hazardous chemical	No
SARA 313 (TRI reporting)	Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List	Sodium hydroxide (CAS 1310-73-2)
US. New Jersey Worker and Community Right-to-Know Act	Sodium hydroxide (CAS 1310-73-2)
US. Pennsylvania Worker and Community Right-to-Know Law	Sodium hydroxide (CAS 1310-73-2)
US. Rhode Island RTK	Sodium hydroxide (CAS 1310-73-2)
US. California Proposition 65	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

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

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

16.Other Information

Issue date	3/30/2022
Revision #	6
Revision Indicator	Clarified precautionary statements and address updated.
List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation and Liability Act of 1980 CFR: Code of Federal Regulations DOT: Department of Transportation DSL: Domestic Substance List EINECS: European Inventory of Existing Commercial chemical Substances EPA: Environmental Protection Agency EPCRA: Emergency Planning and Community Right-to-Know Act HSDB® - Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC: Intermediate Bulk Container ICAO: International Civil Aviation Organization IMDG: International Maritime Dangerous Goods LC: Lethal Concentration LD: Lethal Dose NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organization for Economic Cooperation and Development OSHA: Occupational Safety and Health Administration PPE: Personal Protective Equipment RCRA: Registry of Toxic Effects of Chemical Substances RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet STEL: Short Term Exposure Limit TLV: Threshold Limit Values TWA: Time Weighted Average
References	ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2014) Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014 (Chempendium, RTECs, HSDB, INCHEM) Material Safety Data Sheet from manufacturer. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2014.

Disclaimer

Information presented in this SDS is furnished in accordance with OSHA's Hazard Communication Standard (HCS) 2012.

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