SAFETY DATA SHEET

EXXON DIGESTOR LIQUOR

ExxonMobil

Section 1. Identification

Product name : EXXON DIGESTOR LIQUOR

Product description : Hydroxide

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Chemical feedstock

Uses advised against : This product is not recommended for any industrial, professional or consumer use other than the identified uses above.

Supplier : CIOL - EXXONMOBIL CHEMICAL CANADA
Division of Canada Imperial Oil Limited, an Affiliate of Exxon Mobil Corporation
P.O. Box 2480, Station M

CALGARY, ALBERTA T2P 3M9 Canada

24-Hour emergency telephone number : 1-800-424-9300 / +1 703-741-5970 / +1-703-527-3887 (CHEMTREC)

Product Technical Information : 1-800-663-4109

SDS Internet Address : www.sds.exxonmobil.com

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 (oral) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 + H332 - Harmful if swallowed or if inhaled.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H340 - May cause genetic defects.
H350 - May cause cancer.
H372 - Causes damage to organs through prolonged or repeated exposure. (blood)

Precautionary statements

Section 2. Hazards identification

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe vapor.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing and eye or face protection.

Response : P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P310, P361, P353 - IF ON SKIN (or hair): Immediately call a POISON CENTER or doctor. Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P310, P340 - IF INHALED: Immediately call a POISON CENTER or doctor. Remove person to fresh air and keep comfortable for breathing.
P305 + P310, P351, P338 - IF IN EYES: Immediately call a POISON CENTER or doctor. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P363 - Wash contaminated clothing before reuse.

Storage : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Contains : sodium hydroxide; ethanolamine; sodium sulfide; methyl mercaptan and benzene

Hazards not otherwise classified : None known.

Note : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% by weight	Identifiers
sodium hydroxide	≥7 - ≤13	CAS: 1310-73-2
ethanolamine	≥1 - ≤5	CAS: 141-43-5
sodium sulfide	≥1 - ≤5	CAS: 1313-82-2
methyl mercaptan	≥1 - ≤5	CAS: 74-93-1
sodium carbonate	≥0.5 - ≤1.5	CAS: 497-19-8
benzene	≥0.1 - ≤1	CAS: 71-43-2

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 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 : 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 10 minutes. Get medical attention immediately. 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 : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Get medical attention immediately. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Call a poison center or physician.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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 : Harmful if inhaled. May cause respiratory irritation.

Skin contact : Causes severe burns.

Ingestion : Harmful if swallowed.

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.

Section 4. First aid measures

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 dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Flammable hydrocarbons

Special protective actions for fire-fighters : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent re-ignition. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. 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.

Section 6. Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

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. Put on appropriate personal protective equipment. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not breathe vapor or mist.

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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

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. Material will sink. Remove material, as much as possible, using mechanical equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. 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.

Static Accumulator : This material is not a static accumulator.

Loading/Unloading Temperature : Ambient

Transport Temperature : Ambient

Transport Pressure : Ambient

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.

Storage Temperature : Ambient

Storage Pressure : Ambient

Unsuitable Materials and Coatings : aluminum, Bronze, copper, lead, zinc, brass

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
sodium hydroxide	**NIOSH REL (United States, 10/2020)** CEIL: 2 mg/m³. **CAL OSHA PEL (United States, 5/2018)** C: 2 mg/m³. **OSHA PEL (United States, 5/2018)** TWA 8 hours: 2 mg/m³. **OSHA PEL 1989 (United States, 3/1989)** CEIL: 2 mg/m³. **ACGIH TLV (United States, 1/2024)** C: 2 mg/m³.
ethanolamine	**NIOSH REL (United States, 10/2020)** TWA 10 hours: 3 ppm. TWA 10 hours: 8 mg/m³. STEL 15 minutes: 6 ppm. STEL 15 minutes: 15 mg/m³. **CAL OSHA PEL (United States, 5/2018)** STEL 15 minutes: 15 mg/m³. STEL 15 minutes: 6 ppm. TWA 8 hours: 8 mg/m³. TWA 8 hours: 3 ppm. **OSHA PEL (United States, 5/2018)** TWA 8 hours: 3 ppm. TWA 8 hours: 6 mg/m³. **OSHA PEL 1989 (United States, 3/1989)** TWA 8 hours: 3 ppm. TWA 8 hours: 8 mg/m³. STEL 15 minutes: 6 ppm. STEL 15 minutes: 15 mg/m³. **ACGIH TLV (United States, 1/2024)** TWA 8 hours: 3 ppm. TWA 8 hours: 7.5 mg/m³. STEL 15 minutes: 6 ppm. STEL 15 minutes: 15 mg/m³.
sodium sulfide	None.
methyl mercaptan	**NIOSH REL (United States, 10/2020)** CEIL 15 minutes: 0.5 ppm. CEIL 15 minutes: 1 mg/m³. **CAL OSHA PEL (United States, 5/2018)** TWA 8 hours: 1 mg/m³. TWA 8 hours: 0.5 ppm. **OSHA PEL (United States, 5/2018)** CEIL: 10 ppm. CEIL: 20 mg/m³. **OSHA PEL 1989 (United States, 3/1989)** TWA 8 hours: 0.5 ppm. TWA 8 hours: 1 mg/m³. **ACGIH TLV (United States, 1/2024)** TWA 8 hours: 0.5 ppm. TWA 8 hours: 0.98 mg/m³.
sodium carbonate	None.
benzene	**NIOSH REL (United States, 10/2020)** TWA 10 hours: 0.1 ppm. STEL 15 minutes: 1 ppm. **OSHA PEL Z2 (United States, 2/2013)** TWA 8 hours: 10 ppm. CEIL: 25 ppm.

Section 8. Exposure controls/personal protection

	AMP 10 minutes: 50 ppm. **CAL OSHA PEL (United States, 5/2018)** Absorbed through skin. STEL 15 minutes: 5 ppm. TWA 8 hours: 1 ppm. **OSHA PEL (United States, 5/2018)** TWA 8 hours: 1 ppm. STEL 15 minutes: 5 ppm. **OSHA PEL 1989 (United States, 3/1989)** TWA 8 hours: 1 ppm. STEL 15 minutes: 5 ppm. **ACGIH TLV (United States, 1/2024)** Absorbed through skin. TWA 8 hours: 0.02 ppm. **ExxonMobil (COMPANY)** Absorbed through skin. STEL 15 minutes: 1 ppm. TWA 8 hours: 0.2 ppm.
hydrogen sulfide	[***Air contaminant - Decomposition product(s)***] **NIOSH REL (United States, 10/2020)** CEIL 10 minutes: 10 ppm. CEIL 10 minutes: 15 mg/m³. **OSHA PEL Z2 (United States, 2/2013)** CEIL: 20 ppm. AMP 10 minutes: 50 ppm. **CAL OSHA PEL (United States, 5/2018)** STEL 15 minutes: 21 mg/m³. STEL 15 minutes: 15 ppm. C: 50 ppm. TWA 8 hours: 14 mg/m³. TWA 8 hours: 10 ppm. **OSHA PEL 1989 (United States, 3/1989)** TWA 8 hours: 10 ppm. TWA 8 hours: 14 mg/m³. STEL 15 minutes: 15 ppm. STEL 15 minutes: 21 mg/m³. **ACGIH TLV (United States, 1/2024)** TWA 8 hours: 1 ppm. STEL 15 minutes: 5 ppm. **ExxonMobil (COMPANY)** STEL 15 minutes: 10 ppm. STEL 15 minutes: 14 mg/m³. TWA 8 hours: 5 ppm. TWA 8 hours: 7 mg/m³.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological exposure indices

Ingredient name	Exposure indices
benzene	**ACGIH BEI (United States, 1/2024)** BEI: 25 µg/g creatinine, S-phenylmercapturic acid [in urine]. Sampling time: end of shift. BEI: 500 µg/g creatinine, t,t-muconic acid [in urine]. Sampling time: end of shift.

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.

Section 8. Exposure controls/personal protection

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. 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.

Skin 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.

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.

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 and safety characteristics

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear]

Color : Pale yellow

Odor : Pungent

Odor threshold : Not available.

pH : 14

Melting point/freezing point : -18°C (-0.4°F)

Boiling point or initial boiling point and boiling range : 107°C (224.6°F)

Flash point : Closed cup: Not applicable.

Evaporation rate : Not available.

Flammability : Ignitable

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure : 20.25 mm Hg [20 °C]

Relative vapor density : >1 [Air = 1]

Relative density : 1.09

Solubility in water : Complete

Section 9. Physical and chemical properties and safety characteristics

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : 3 cSt [30 °C]

Particle characteristics

Median particle size : Not applicable.

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:,acids,acids, halogenated compounds

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	Test	Species	Result	Duration
ethanolamine	LD50 Oral	Rat	1089 mg/kg	-
sodium sulfide	LD50 Oral	Rat	0.205 g/kg	-
methyl mercaptan	LC50 Inhalation Gas.	Rat	675 ppm_m	4 hours
sodium carbonate	LD50 Oral	Rat	2800 mg/kg	-

Conclusion/Summary

Inhalation : Slightly toxic. No end point data for material.

Dermal : Minimally Toxic. No end point data for material.

Oral : Slightly toxic. No end point data for material.

Irritation/Corrosion

Conclusion/Summary

Skin : Corrosive to eyes and skin. May cause permanent damage. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 435

Eyes : Severely irritating, and may seriously damage eye tissue. No end point data for material. Based on assessment of the components.

Respiratory : May be irritating to the respiratory tract. The effects are irreversible. No end point data for material. Based on assessment of the components.

Respiratory or skin sensitization

Conclusion/Summary

Skin : Not expected to be a skin sensitizer. No end point data for material. Based on assessment of the components.

Respiratory : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

Section 11. Toxicological information

Conclusion/Summary : May cause genetic defects. No end point data for material. Based on assessment of the components.

Carcinogenicity

Conclusion/Summary : May cause cancer. No end point data for material. Based on assessment of the components.

Classification

Product/ingredient name	OSHA	IARC	NTP
benzene	+	1	Known to be a human carcinogen.

Reproductive toxicity

Conclusion/Summary : Not expected to be a reproductive toxicant. No end point data for material. Based on assessment of the components.

Specific target organ toxicity (single exposure)

Conclusion/Summary : May cause respiratory irritation. No end point data for material. Based on assessment of the components.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
EXXON DIGESTOR LIQUOR	Category 1	blood

Conclusion/Summary : May cause damage to organs through prolonged or repeated exposure. No end point data for material. Based on assessment of the components.

Aspiration hazard

Conclusion/Summary : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

Other information

Contains : ETHANOLAMINE: Repeated overexposure to ethanolamine has caused liver and kidney damage in laboratory animals. Sodium hydroxide: Repeated inhalation exposure to high concentrations of sodium hydroxide may lead to ulceration of the nasal passages. Methyl mercaptan: Repeated exposure studies caused mortality, weight loss, blood and liver effects in laboratory animals. BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies. HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

Product : Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Vapor/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects including death.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

Toxicity

Conclusion/Summary

Acute toxicity : Toxic to aquatic life.

Chronic toxicity : Toxic to aquatic life with long lasting effects.

Persistence and degradability

Not determined.

Bioaccumulative potential

Not determined.

Mobility in soil

Not determined.

Other ecological information

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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Methanethiol (I, T)	74-93-1	Listed	U153
Benzene (I,T)	71-43-2	Listed	U019

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1824	UN1824	UN1824	UN1824
UN proper shipping name	Sodium hydroxide solution	SODIUM HYDROXIDE SOLUTION	SODIUM HYDROXIDE SOLUTION	Sodium hydroxide solution
Transport hazard class(es)	8	8	8	8
Label(s) / Marks				

Section 14. Transport information

Packing group	II	II	II	II
Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

DOT Classification : 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.
Reportable quantity 1000 lbs / 454 kg [110.03 gal / 416.51 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
Limited quantity Yes.
Packaging instruction Exceptions: 154. Non-bulk: 202. Bulk: 242.
Quantity limitation Passenger aircraft/rail: 1 L. Cargo aircraft: 30 L.
Special provisions B2, IB2, N34, T7, TP2

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).
The marine pollutant mark is not required when transported by road or rail.
Explosive Limit and Limited Quantity Index 1
Passenger Carrying Road or Rail Index 1

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A, S-B

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y840.
Special provisions A3, A803

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 IMO instruments : Not applicable.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) final test rules**: methyl mercaptan

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Commerce control list precursor: sodium sulfide

Clean Water Act (CWA) 307: benzene

Clean Water Act (CWA) 311: sodium hydroxide; methyl mercaptan; benzene

Clean Air Act (CAA) 112 regulated toxic substances: methyl mercaptan

TSCA 12(b) - Chemical export notification

Name	One time notification		Annual notification		
	4	5	5(f)	6	7
Methanethiol	Listed	Not listed	Not listed	Not listed	Not listed

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Section 15. Regulatory information

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

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
methyl mercaptan	≥1 - ≤5	Yes.	500	-	100	-

SARA 304 RQ : 2000 lbs / 908 kg [220.1 gal / 833 L]

SARA 311/312

Classification : ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	benzene	71-43-2	≥0.1 - ≤1
Supplier notification	benzene	71-43-2	≥0.1 - ≤1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: SODIUM HYDROXIDE; ETHANOLAMINE; SODIUM SULFIDE; METHYL MERCAPTAN; BENZENE

New York : The following components are listed: Sodium hydroxide; Methyl mercaptan; Benzene

New Jersey : The following components are listed: SODIUM HYDROXIDE; ETHANOLAMINE; SODIUM SULFIDE; METHYL MERCAPTAN; BENZENE

Pennsylvania : The following components are listed: SODIUM HYDROXIDE; ETHANOL, 2-AMINO-; METHANETHIOL; BENZENE

Illinois : None of the components are listed.

California Prop. 65

⚠ **WARNING**: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Inventory list

Australia inventory (AIIC) : All components are listed or exempted.

Canada inventory (DSL-NDSL) : All components are listed or exempted.

China inventory (IECSC) : Not determined.

Japan inventory (CSCL) : Not determined.

Japan inventory (Industrial Safety and Health Act) : Not determined.

Section 15. Regulatory information

New Zealand Inventory of Chemicals (NZIoC) : Not determined.

Philippines inventory (PICCS) : All components are listed or exempted.

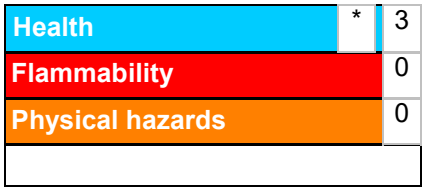
Korea inventory (KECI) : All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI) : Not determined.

United States inventory (TSCA 8b) : All components are active or exempted.

Section 16. Other information

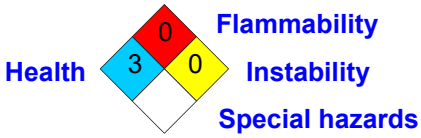
Hazardous Material Information System (U.S.A.)



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.

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.)



Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Calculation method
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN CORROSION - Category 1B	Expert judgment
SERIOUS EYE DAMAGE - Category 1	On basis of test data
GERM CELL MUTAGENICITY - Category 1	Calculation method
CARCINOGENICITY - Category 1A	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method

History

Date of issue/Date of revision : 10 September 2024

Date of previous issue : 22 February 2024

Version : 1.01

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)

Section 16. Other information

N/A = Not available
SGG = Segregation Group
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Product code : 1150612_13604633

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