

2-Hydroxyethyl-n-Octyl Sulfide

Version 1.5

Revision Date 2021-09-09

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product information**

Product Name : 2-Hydroxyethyl-n-Octyl Sulfide
Material : 1121424, 1103532, 1097789, 1087149, 1027448, 1024825

Use : Chemical intermediate

Company : Chevron Phillips Chemical Company LP
Specialty Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:**Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

Responsible Department : Product Safety and Toxicology Group
E-mail address : SDS@CPChem.com
Website : www.CPChem.com

SECTION 2: Hazards identification**Classification of the substance or mixture**

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Classification


: Skin irritation, Category 2
Serious eye damage, Category 1

Labeling

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Symbol(s) : 

Signal Word : Danger

Hazard Statements : H315: Causes skin irritation.
H318: Causes serious eye damage.

Precautionary Statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Carcinogenicity:**IARC**

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

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3: Composition/information on ingredients

Synonyms : R-874

Molecular formula : C₁₀H₂₂OS

Component	CAS-No.	Weight %
2-Hydroxyethyl-n-Octyl Sulfide	3547-33-9	90 - 100

SECTION 4: First aid measures

General advice : Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

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- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

- Flash point : 109°C (228°F)
Method: closed cup
- Autoignition temperature : No data available
- Suitable extinguishing media : Carbon dioxide (CO2). Foam. Dry chemical.
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Fire and explosion protection : Normal measures for preventive fire protection.
- Hazardous decomposition products : Carbon oxides. Sulfur oxides.

SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment. Ensure adequate ventilation.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

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SECTION 7: Handling and storage**Handling**

Advice on safe handling : Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Use : Chemical intermediate

SECTION 8: Exposure controls/personal protection**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Full-Face Supplied-Air Respirator. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the

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	contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	: Eye wash bottle with pure water.
Skin and body protection	: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Protective suit. Complete head face and neck protection. Rubber apron. Footwear protecting against chemicals. Safety shoes.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Form	: liquid
Physical state	: liquid
Color	: Clear to light amber
Odor	: Mild

Safety data

Flash point	: 109°C (228°F) Method: closed cup
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: No
Autoignition temperature	: No data available
Molecular formula	: C ₁₀ H ₂₂ OS
Molecular weight	: 190.38 g/mol
pH	: No data available
Pour point	: No data available
Boiling point/boiling range	: 283-285°C (541-545°F)
Vapor pressure	: 0.00 MMHG at 25°C (77°F)
Relative density	: 0.93 at 15.6 °C (60.1 °F)
Density	: 0.935 g/cm ³ at 20°C (68°F)
Water solubility	: 38.13 MG/L at 25°C (77°F)

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Partition coefficient: n-octanol/water	: log Pow: 3.64 at 25°C (77°F)
Solubility in other solvents	: slightly soluble
Viscosity, dynamic	: 11 cP
Relative vapor density	: No data available
Evaporation rate	: No data available

SECTION 10: Stability and reactivity

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions	
Hazardous reactions	: Hazardous reactions: Hazardous polymerization does not occur. Further information: No decomposition if stored and applied as directed.
Conditions to avoid	: Heat, sparks, fire, and oxidizing agents.
Materials to avoid	: Avoid oxidizing agents.
Hazardous decomposition products	: Carbon oxides Sulfur oxides
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Acute oral toxicity	
2-Hydroxyethyl-n-Octyl Sulfide	: LD50: > 5,000 mg/kg Species: Rat Sex: male and female Method: OECD Test Guideline 401
Acute inhalation toxicity	
2-Hydroxyethyl-n-Octyl Sulfide	: LC50: >6.12milligram per literExposure time: 4 h Species: Rat Sex: male and female

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Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity

2-Hydroxyethyl-n-Octyl Sulfide : LD50: >2000 milligram per kilogram
Species: Rabbit
Sex: male and female
Method: OECD Test Guideline 402

Skin irritation

2-Hydroxyethyl-n-Octyl Sulfide : Skin irritation

Eye irritation

2-Hydroxyethyl-n-Octyl Sulfide : Irritation to eyes, reversing within 7 days

Sensitization

2-Hydroxyethyl-n-Octyl Sulfide : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

2-Hydroxyethyl-n-Octyl Sulfide : Species: Rat, Male and female
Sex: Male and female
Application Route: Oral
Dose: 0, 74, 368, 1842 mg/kg/day
Exposure time: 13 wks
NOEL: > 1842 mg/kg/day
Method: OECD Test Guideline 408
No adverse effects expected

Species: Rabbit, Male and female
Sex: Male and female
Application Route: Dermal
Dose: 50, 100, 200 mg/kg/day
Exposure time: 21 days
NOEL: > 200 mg/kg/day
Method: OCED Guideline 408

Genotoxicity in vitro

2-Hydroxyethyl-n-Octyl Sulfide : Test Type: Ames test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: Mouse lymphoma assay
Result: negative

Test Type: Sister Chromatid Exchange Assay
Result: negative

Reproductive toxicity

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2-Hydroxyethyl-n-Octyl Sulfide : This information is not available.

Developmental Toxicity

2-Hydroxyethyl-n-Octyl Sulfide : Species: Rat
Application Route: oral gavage
Dose: 0, 100, 300, 1000 mg/kg.day
Number of exposures: daily
Test period: GD 6-15
Method: OECD Guideline 414
NOAEL Teratogenicity: 300 mg/kg/day
NOAEL Maternal: 1000 mg/kg/day

Species: Rat
Application Route: oral gavage
Dose: 47, 187. 748 mg/kg/day
Number of exposures: daily
Test period: GD 5-15
Method: OECD Guideline 414
NOAEL Teratogenicity: 748 mg/kg/day
NOAEL Maternal: 748 mg/kg/day

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Aspiration toxicity : May be harmful if swallowed and enters airways.

CMR effects

2-Hydroxyethyl-n-Octyl Sulfide : Carcinogenicity: Not available
Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Teratogenicity: Animal testing did not show any effects on fetal development.
Reproductive toxicity: Animal testing did not show any effects on fertility.

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Further information : Solvents may degrease the skin.

SECTION 12: Ecological information**Toxicity to fish**

2-Hydroxyethyl-n-Octyl Sulfide : LC50: 2.9 mg/l
Exposure time: 96 h
Species: Salmo gairdneri (Rainbow trout)
flow-through test Method: EPA OPP 72-1

LC50: 2.7 mg/l
Exposure time: 96 h
Species: Lepomis macrochirus (Bluegill sunfish)
flow-through test Method: EPA OPP 72-1

Toxicity to daphnia and other aquatic invertebrates

2-Hydroxyethyl-n-Octyl : EC50: 0.38 mg/l

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Sulfide Exposure time: 48 h
Species: Daphnia magna (Water flea)
flow-through test

Toxicity to algae

2-Hydroxyethyl-n-Octyl Sulfide : EC50 (calculated): 5.33 mg/l
Exposure time: 96 h
Species: Chlamydomonas angulosa (Green algae)
Method: QSAR modeled data

M-Factor

2-(octylthio)ethanol : M-Factor (Acute Aquat. Tox.) 1

Biodegradability

2-Hydroxyethyl-n-Octyl Sulfide : aerobic
Result: Readily biodegradable.
99.8 %
Testing period: 28 d
Method: OECD Test Guideline 301B

Bioaccumulation

2-Hydroxyethyl-n-Octyl Sulfide : Bioconcentration factor (BCF): 117
Method: QSAR modeled data
Information refers to the main ingredient.

Mobility

2-Hydroxyethyl-n-Octyl Sulfide : No data available

Results of PBT assessment

2-Hydroxyethyl-n-Octyl Sulfide : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological information : Very toxic to aquatic life.

Ecotoxicology Assessment**Short-term (acute) aquatic hazard**

2-Hydroxyethyl-n-Octyl Sulfide : Very toxic to aquatic life.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

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- Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2-HYDROXYETHYL-N-OCTYL SULFIDE), 9, III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2-HYDROXYETHYL-N-OCTYL SULFIDE), 9, III, (109°C), MARINE POLLUTANT, (2-HYDROXYETHYL-N-OCTYL SULFIDE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2-HYDROXYETHYL-N-OCTYL SULFIDE), 9, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2-HYDROXYETHYL-N-OCTYL SULFIDE), 9, III, (-)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2-HYDROXYETHYL-N-OCTYL SULFIDE), 9, III

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2-HYDROXYETHYL-N-OCTYL SULFIDE), 9, III

Maritime transport in bulk according to IMO instruments

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SECTION 15: Regulatory information**National legislation**

- SARA 311/312 Hazards** : Skin corrosion or irritation
Serious eye damage or eye irritation
- CERCLA Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
Oxirane
- SARA 302 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
Oxirane
- SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.
- SARA 304 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
Oxirane 75-21-8 10 lbs
- 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.

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

US State Regulations

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Pennsylvania Right To Know

: 2-Hydroxyethyl-n-Octyl Sulfide - 3547-33-9
 Methanol - 67-56-1
 Oxirane - 75-21-8

California Prop. 65
Components

: WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov/food.

Oxirane

75-21-8

WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Methanol

67-56-1

Notification status

Europe REACH : On the inventory, or in compliance with the inventory
 Switzerland CH INV : On the inventory, or in compliance with the inventory
 United States of America (USA) TSCA : On the inventory, or in compliance with the inventory
 Canada DSL : All components of this product are on the Canadian DSL
 Australia AICS : On the inventory, or in compliance with the inventory
 New Zealand NZIoC : On the inventory, or in compliance with the inventory
 Japan ENCS : On the inventory, or in compliance with the inventory
 Korea KECI : A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).
 Philippines PICCS : Not in compliance with the inventory
 China IECSC : Not in compliance with the inventory
 Taiwan TCSI : Not in compliance with the inventory

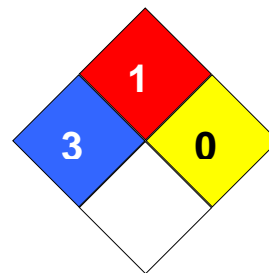
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SECTION 16: Other information

NFPA Classification : Health Hazard: 3
Fire Hazard: 1
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 630460

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act

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	New Chemical Substances		
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		