

**2-Hydroxyethyl-n-Octyl Sulfide**

Version 1.5

Revision Date 2016-06-07

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

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

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
2-Hydroxyethyl-n-Octyl Sulfide	3547-33-9 222-598-4 603-088-00-4	Chevron Phillips Chemicals International NV 01-2119971073-40-0000

Relevant Identified Uses Supported : Intermediate: The substance is registered as a Transported Isolated Intermediate with Strictly Controlled Conditions (SCC) defined in Article 18(4) of Regulation EC No. 1907/2006 and must therefore be handled as such.

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

Local : Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Technical Information: (832) 813-4862
Responsible Party: Product Safety Group
Email:sds@cpchem.com

Emergency telephone:

Health:
866.442.9628 (North America)

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1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: +800 CHEMCALL (+800 2436 2255) China: +86-21-22157316

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

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

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****REGULATION (EC) No 1272/2008**

Skin irritation, Category 2

H315:

Causes skin irritation.

Serious eye damage, Category 1

H318:

Causes serious eye damage.

Acute aquatic toxicity, Category 1

H400:

Very toxic to aquatic life.

Label elements**Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word : Danger

Hazard Statements :

H315

Causes skin irritation.

H318

Causes serious eye damage.

H400

Very toxic to aquatic life.

Precautionary Statements :

Prevention:

P273

Avoid release to the environment.

P280

Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER/doctor.

P331

Do NOT induce vomiting.

Hazardous ingredients which must be listed on the label:

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SECTION 3: Composition/information on ingredients

Synonyms : R-874

Molecular formula : C₁₀H₂₂OS

Mixtures**Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
2-Hydroxyethyl-n-Octyl Sulfide	3547-33-9 222-598-4 603-088-00-4	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Acute 1; H400	90 - 100

For the full text of the H-Statements mentioned in this Section, see Section 16.

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.

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

Unsuitable extinguishing : High volume water jet.

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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.

SECTION 7: Handling and storage**Handling**

Advice on safe handling : In case of an accident, this substance must be handled under Strictly Controlled Conditions (SCC) in accordance with REACH regulation Article 18(4) for transported isolated intermediates. 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.

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

The substance is registered as a Transported Isolated Intermediate with Strictly Controlled Conditions (SCC) defined in Article 18(4) of Regulation EC No. 1907/2006 and must therefore be handled as such.

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:. Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, 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 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. Wear face-shield and protective suit for abnormal processing problems. |
| 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. 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 |

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Color : Clear to light amber

Odor : Mild

Safety dataFlash 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 : C₁₀H₂₂OS

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/cm³
at 20 °C (68 °F)Water solubility : 38,13 MG/L
at 25 °C (77 °F)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

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

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Possibility of hazardous reactions

- Conditions to avoid : Heat, sparks, fire, and oxidizing agents.
No data available.
- 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
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

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- Skin irritation** : May irritate skin.
Extremely corrosive and destructive to tissue.

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- Eye irritation** : Risk of serious damage to eyes.

May cause irreversible eye damage.

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

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Exposure time: 13 wks
NOEL: > 1842 mg/kg/day

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

Reproductive toxicity

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.
Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

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

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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 Sulfide : EC50: 0,38 mg/l
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 : 1

Bioaccumulation

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

Biodegradability

2-Hydroxyethyl-n-Octyl Sulfide : aerobic
Result: Readily biodegradable.
99,8 %
Testing period: 28 d
Method: OECD Test Guideline 301B

Ecotoxicology Assessment

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

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

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life.

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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.

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, (E)

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

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OF DANGEROUS GOODS BY INLAND WATERWAYS)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information**National legislation**

Major Accident Hazard Legislation : 96/82/EC Update: 2003
 Dangerous for the environment
 9b
 Quantity 1: 200 t
 Quantity 2: 500 t

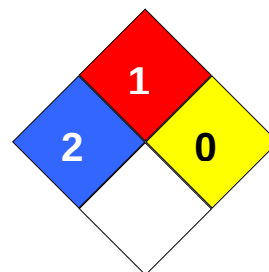
Water contaminating class (Germany) : WGK 3 highly water endangering

Notification status

Europe REACH	:	On the inventory, or in compliance with the inventory
United States of America TSCA	:	On the inventory, or in compliance with the inventory
Canada DSL	:	On the inventory, or in compliance with the inventory
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	:	On the inventory, or in compliance with the inventory
Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
 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.

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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 New Chemical Substances	TSCA	Toxic Substance Control Act
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%		

Full text of H-Statements referred to under sections 2 and 3.

H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.