

**n-Dodecyl Mercaptan**

Version 3.13

Revision Date 2017-05-31

according to GB/T 16483 and GB/T 17519

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

Product Name : n-Dodecyl Mercaptan  
Material : 1111421, 1021557, 1086421, 1071323, 1086420, 1086419,  
1021569, 1024819, 1024820, 1021558, 1021567, 1021568,  
1021571, 1021572, 1021573, 1021574, 1021575, 1033862,  
1032614, 1021566, 1021570

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

**Local** : Chevron Phillips Chemicals (Shanghai) Corporation  
Room 1810-1812, Shanghai Mart,  
2299 Yan An Road (W),  
Shanghai, PRC 200336

local emergency contact number : 0532-83889090

**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)

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

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****GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)**

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**Emergency Overview****Danger****Physical state:** Liquid    **Color:** Colorless    **Odor:** Repulsive

**Hazards** : Causes severe skin burns and eye damage. Causes serious eye damage. May be harmful if swallowed and enters airways. May cause an allergic skin reaction. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

**Classification**

: Skin corrosion, Category 1C  
 Serious eye damage, Category 1  
 Aspiration hazard, Category 2  
 Skin sensitization, Category 1  
 Acute aquatic toxicity, Category 1  
 Chronic aquatic toxicity, Category 1

**Labeling**

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H305: May be harmful if swallowed and enters airways.  
 H314: Causes severe skin burns and eye damage.  
 H317: May cause an allergic skin reaction.  
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**  
 P264: Wash skin thoroughly after handling.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
 P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 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.  
 P321: Specific treatment (see supplemental first aid instructions on this label).  
 P363: Wash contaminated clothing before reuse.  
 P391: Collect spillage.  
**Storage:**  
 P405: Store locked up.  
**Disposal:**

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P501: Dispose of contents/ container to an approved waste disposal plant.

**SECTION 3: Composition/information on ingredients**

Synonyms : Normal Dodecyl Mercaptan  
1-dodecanethiol  
NDDM  
dodecanethiol

Molecular formula : C<sub>12</sub>H<sub>26</sub>S

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
n-Dodecyl Mercaptan	112-55-0	98.5

**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. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

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. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

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. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

**SECTION 5: Firefighting measures**

Flash point : 133 °C (271 °F)

Autoignition temperature : 230 °C (446 °F)

Unsuitable extinguishing media : 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 : To avoid spills during handling keep bottle on a metal tray. 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. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- 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. Electrical installations / working materials must comply with the technological safety standards.

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**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 NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: 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. Air-Purifying Respirator for Organic Vapors. 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. Tightly fitting safety goggles.
- 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: Complete head face and neck protection. Rubber apron. Footwear protecting against chemicals.
- Hygiene measures : Remove contaminated clothing and protective equipment before entering eating areas. Wash hands before eating, drinking, or smoking.

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

- Physical state : Liquid  
 Color : Colorless  
 Odor : Repulsive

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**Safety data**

Flash point	: 133 °C (271 °F)
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: no
Autoignition temperature	: 230 °C (446 °F)
Molecular formula	: C <sub>12</sub> H <sub>26</sub> S
Molecular weight	: 202.44 g/mol
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: 270 °C (518 °F)
Vapor pressure	: 0.00 mbar at 25 °C (77 °F)
Relative density	: No data available
Water solubility	: 0.0054 mg/l Method: OECD Test Guideline 105
Partition coefficient: n-octanol/water	: No data available
Viscosity, dynamic	: 2.98 cP at 25 °C (77 °F)
Relative vapor density	: 1 (Air = 1.0)
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.

**Possibility of hazardous reactions**

Conditions to avoid : Heat, sparks, fire, and oxidizing agents.

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous decomposition : Carbon oxides

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products Sulfur oxides

Other data : No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information****Acute oral toxicity**

n-Dodecyl Mercaptan : LD50: > 5,000 mg/kg  
 Species: Rat  
 Sex: male

**n-Dodecyl Mercaptan  
Skin irritation**

: Extremely corrosive and destructive to tissue.

**n-Dodecyl Mercaptan  
Eye irritation**

: May cause irreversible eye damage.

**Sensitization**

n-Dodecyl Mercaptan : May cause sensitization by skin contact.

**n-Dodecyl Mercaptan  
Repeated dose toxicity**

: Species: Rat  
 Application Route: Inhalation  
 Dose: 0, 0.43, 1.6, 7.3 ppm  
 Exposure time: 4 wk  
 NOEL: 0.01 mg/l 1.7 ppm  
 Lowest observable effect level: 0.06 mg/l 7.3 ppm  
 Target Organs: Skin

**n-Dodecyl Mercaptan  
Aspiration toxicity**

: May be harmful if swallowed and enters airways.

**CMR effects**

n-Dodecyl Mercaptan : 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.

**n-Dodecyl Mercaptan  
Further information**

: Solvents may degrease the skin.

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

n-Dodecyl Mercaptan : LC50: > 100 mg/l  
 Exposure time: 96 h

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Species: *Oncorhynchus mykiss* (rainbow trout)**Toxicity to daphnia and other aquatic invertebrates**

n-Dodecyl Mercaptan : EC50: 1 - 10 mg/l  
 Exposure time: 48 h  
 Species: *Daphnia magna* (Water flea)  
 Method: OECD Test Guideline 202

**Toxicity to algae**

n-Dodecyl Mercaptan : EC50: 0.0145 mg/l  
 Exposure time: 72 h  
 Species: *Pseudokirchneriella subcapitata* (green algae)  
 Growth inhibition Method: OECD Test Guideline 201

**Bioaccumulation**

n-Dodecyl Mercaptan : Bioconcentration factor (BCF): 234  
 Method: Estimated based on individual component values.

**Biodegradability**

n-Dodecyl Mercaptan : Result: Not readily biodegradable.  
 Method: OECD Test Guideline 301  
 Information given is based on data obtained from similar substances.

**Ecotoxicology Assessment**

Acute aquatic toxicity  
 n-Dodecyl Mercaptan : Very toxic to aquatic life.

Chronic aquatic toxicity  
 n-Dodecyl Mercaptan : Very toxic to aquatic life with long lasting effects.

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

**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

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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)**

UN1760, CORROSIVE LIQUIDS, N.O.S., (N-DODECYL MERCAPTAN), 8, III

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, (133 °C), MARINE POLLUTANT, (N-DODECYL MERCAPTAN)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III

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

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, (E), ENVIRONMENTALLY HAZARDOUS, (N-DODECYL MERCAPTAN)

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

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, ENVIRONMENTALLY HAZARDOUS, (N-DODECYL MERCAPTAN)

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

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, ENVIRONMENTALLY HAZARDOUS, (N-DODECYL MERCAPTAN)

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

**Other information** : n- Dodecyl Mercaptan, S.T. 1, Cat. X

**SECTION 15: Regulatory information**

SDS Number:100000068622

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Classification and Labeling of Commonly Used Dangerous Chemical Substances : Primary label: Corrosive Material.

**Notification status**

Europe REACH : On the inventory, or in compliance with the inventory  
 United States of America (USA) TSCA : On TSCA 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 : On the inventory, or in compliance with the inventory  
 Philippines PICCS : On the inventory, or in compliance with the inventory  
 China IECSC : On the inventory, or in compliance with the inventory

**Other regulations** : Law on Prevention and Control of Environment Pollution by Solid Waste, Provisions on the Safe Use of Chemicals at Workplace

**SECTION 16: Other information****Further information**

Legacy SDS Number : 460130

Local emergency contact number: 0532-83889090

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	PICCS	Philippines Inventory of

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	Chemical Substances		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%		