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

Product information
Product Name: Isopropyl Mercaptan
Material: 1083608, 1029885, 1021450, 1028387, 1021451, 1027451, 1021448, 1031054, 1021449

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: Flammable liquids, Category 2
Skin sensitization, Category 1

Labeling

SDS Number: 100000068542 1/14
Isopropyl Mercaptan

Version 3.1

Revision Date 2018-09-04

Symbol(s): 

Signal Word: Danger


Precautionary Statements:

Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/eye protection/face protection.

Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.

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

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: 2-propanethiol
IPM
IC3SH

Molecular formula: C3H8S
Isopropyl Mercaptan

Section 4: First aid measures

General advice: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled: Move to fresh air. 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: Immediately flush eye(s) with plenty of water. 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. Take victim immediately to hospital.

Section 5: Firefighting measures

Flash point: -34 °C (-29 °F) estimated

Autoignition temperature: No data available

Suitable extinguishing media: Dry chemical. Carbon dioxide (CO2). Alcohol-resistant foam.

Unsuitable extinguishing media: High volume water jet.

Specific hazards during firefighting: 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. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection: Do not spray on an open flame or any other incandescent material. Use only explosion-proof equipment. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open...
**Isopropyl Mercaptan**

**SAFETY DATA SHEET**

**Version 3.1**

**Revision Date** 2018-09-04

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**Hazardous decomposition products**: Sulfur.

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**SECTION 6: Accidental release measures**

**Personal precautions**: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**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**: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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**SECTION 7: Handling and storage**

**Handling**

**Advice on safe handling**: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

**Advice on protection against fire and explosion**: Do not spray on an open flame or any other incandescent material. Use only explosion-proof equipment. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

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**Storage**

**Requirements for storage areas and containers**: No smoking. 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**: Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

**SDS Number**: 100000068542
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace 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 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. Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection**: Choose body protection according to the amount and concentration of the dangerous substance at the workplace. Wear as appropriate: Flame retardant antistatic protective clothing. Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.

**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
- **Odor**: Repulsive

**Safety data**
- **Flash point**: -34 °C (-29 °F)

**SDS Number**:100000068542
## Isopropyl Mercaptan

**Version 3.1**  
**Revision Date** 2018-09-04

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<tr>
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</table>

### 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.
### Isopropyl Mercaptan

#### Further information:
No decomposition if stored and applied as directed.

Hazardous reactions: Vapors may form explosive mixture with air.

**Conditions to avoid**: No data available.

**Hazardous decomposition products**:
- Sulfur

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

### SECTION 11: Toxicological information

#### Acute oral toxicity
- **Isopropyl Mercaptan**
  - LD50: > 2,000 - < 5,000 mg/kg
  - Species: Rat
  - Sex: male

- **n-Propyl Mercaptan**
  - LD50: 1,790 mg/kg
  - Species: Rat
  - Sex: male
  - Method: OECD Test Guideline 420

#### Acute inhalation toxicity
- **Isopropyl Mercaptan**
  - LC50: > 32.24 mg/l
  - Exposure time: 4 h
  - Species: Rat
  - Sex: male and female
  - Test atmosphere: vapor
  - Method: OECD Test Guideline 403
  - Test substance: yes
  - An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

- **n-Propyl Mercaptan**
  - LC50: > 5.67 mg/l
  - Exposure time: 4 h
  - Species: Rat
  - Sex: male and female
  - Test atmosphere: vapor
  - Method: OECD Test Guideline 403
  - An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

#### Acute dermal toxicity
- **Isopropyl Mercaptan**
  - LD50: > 2,000 mg/kg
  - Species: Rat

- **n-Propyl Mercaptan**
  - LD50: > 2,000 mg/kg
  - Species: Rabbit
  - Sex: male and female
Isopropyl Mercaptan

Skin irritation: No skin irritation

Eye irritation: Slight irritation.

Sensitization: The product is a skin sensitizer, sub-category 1B, largely based on animal evidence.

Repeated dose toxicity

Species: Rat, male and female
Sex: male and female
Application Route: Inhalation
Exposure time: 13 wks
Number of exposures: 6 hrs/d, 5 d/wk
NOEL: 0.367 mg/l 99.6 ppm
Lowest observable effect level: 1.488 mg/l 403.4 ppm
Method: OECD Test Guideline 413
Target Organs: Blood, Liver, Kidney, Upper respiratory tract
Information given is based on data obtained from similar substances.

Species: Rat, male and female
Sex: male and female
Application Route: Oral gavage
Dose: 10, 50, 200 mg/kg bw/day
Exposure time: 42-53 days
Number of exposures: Daily
NOEL: 50 mg/kg
Lowest observable effect level: 200 mg/kg
Method: OECD Guideline 422
Information given is based on data obtained from similar substances.

n-Propyl Mercaptan

Species: Rat, male and female
Sex: male and female
Application Route: Inhalation
Dose: 9, 97, 196 ppm
Exposure time: 13 wks
Number of exposures: 6 hrs/d, 5 d/wk
NOEL: 196 ppm
Method: OECD Test Guideline 413
Information given is based on data obtained from similar substances.

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

Further information: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Solvents may degrease the skin.
SECTION 12: Ecological information

Toxicity to fish

Isopropyl Mercaptan: LC50: 34 mg/l
Exposure time: 96 h
semi-static test Analytical monitoring: yes
Method: OECD Test Guideline 203
Information given is based on data obtained from similar substances.

n-Propyl Mercaptan: LC50: 1.3 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
Analytical monitoring: yes
Test substance: yes
Method: OECD Test Guideline 203
Toxic to aquatic organisms.

Toxicity to daphnia and other aquatic invertebrates

Isopropyl Mercaptan: EC50: 0.25 - 0.5 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Test substance: yes
Method: OECD Test Guideline 202

n-Propyl Mercaptan: EC50: 70 µg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
Test substance: yes
Method: OECD Test Guideline 202
Very toxic to aquatic organisms.

Toxicity to algae

Isopropyl Mercaptan: ErC50: 21.9 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
static test Method: OECD Test Guideline 201

n-Propyl Mercaptan: ErC50: 3 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Growth inhibition Method: OECD Test Guideline 201
Information given is based on data obtained from similar substances.

M-Factor
propane-2-thiol: M-Factor (Acute Aquat. Tox.) 1
M-Factor (Chron. Aquat. Tox.) 1
Isopropyl Mercaptan

propane-1-thiol : M-Factor (Acute Aquat. Tox.) 10

Toxicity to bacteria

n-Propyl Mercaptan : EC50: 880.5 mg/l
Exposure time: 3 h
Respiration inhibition
Information given is based on data obtained from similar substances.

Biodegradability

Isopropyl Mercaptan : aerobic
Result: Not readily biodegradable.
0 %
Testing period: 28 Days
Test substance: yes
Method: OECD Test Guideline 301D

n-Propyl Mercaptan : aerobic
Result: Not readily biodegradable.
17 %
Testing period: 28 Days
Method: OECD Test Guideline 301

Results of PBT assessment

Isopropyl Mercaptan : Non-classified PBT substance, Non-classified vPvB substance

n-Propyl Mercaptan : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological information

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Very toxic to aquatic life.
Long-term (chronic) aquatic hazard : 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 courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Isopropyl Mercaptan

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)
UN2402, PROPANETHIOLS, 3, II

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN2402, PROPANETHIOLS, 3, II, (-34 °C), MARINE POLLUTANT, (ISOPROPYL MERCAPTAN, N-PROPYL MERCAPTAN)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
UN2402, PROPANETHIOLS, 3, II

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN2402, PROPANETHIOLS, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (ISOPROPYL MERCAPTAN, N-PROPYL MERCAPTAN)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN2402, PROPANETHIOLS, 3, II, ENVIRONMENTALLY HAZARDOUS, (ISOPROPYL MERCAPTAN, N-PROPYL MERCAPTAN)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN2402, PROPANETHIOLS, 3, II, ENVIRONMENTALLY HAZARDOUS, (ISOPROPYL MERCAPTAN, N-PROPYL MERCAPTAN)

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

SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards: Flammable (gases, aerosols, liquids, or solids)

SDS Number: 100000068542 11/14
Respiratory or skin sensitization

**EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW**

CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

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).

**US State Regulations**

Pennsylvania Right To Know : Isopropyl Mercaptan - 75-33-2
n-Propyl Mercaptan - 107-03-9
Isopropyl Mercaptan

Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

California Prop. 65

Notification status

Europe REACH: 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: 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: On the inventory, or in compliance with the inventory
China IECSC: On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification

Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

Further information

Legacy SDS Number: 38500

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.
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<th>Acronym</th>
<th>Description</th>
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<td>American Conference of Government Industrial Hygienists</td>
<td>LD50</td>
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