# SAFETY DATA SHEET

## Methyl 3-mercaptopropionate

**Version 1.12**

according to GB/T 16483 and GB/T 17519

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

**Product information**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Methyl 3-mercaptopropionate</th>
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<tbody>
<tr>
<td>Material</td>
<td>1113892, 1086430, 1093790, 1086431, 1086432, 1086433, 1066661, 1025300, 1024824, 1027475, 1024823</td>
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<tr>
<td>Use</td>
<td>Chemical intermediate</td>
</tr>
<tr>
<td>Company</td>
<td>Chevron Phillips Chemical Company LP Specialty Chemicals 10001 Six Pines Drive The Woodlands, TX 77380</td>
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<tr>
<td>Local</td>
<td>Chevron Phillips Chemicals (Shanghai) Corporation Room 1810-1812, Shanghai Mart, 2299 Yan An Road (W), Shanghai, PRC 200336</td>
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</table>

**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**

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

SDS Number:100000013277
**Emergency Overview**

<table>
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<tr>
<th>Danger</th>
<th>Physical state: Liquid</th>
<th>Color: Colorless</th>
<th>Odor: Repulsive</th>
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<tr>
<td>Form</td>
<td>Liquid</td>
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**Hazards:** Combustible liquid. Toxic if swallowed. Fatal if inhaled. Harmful in contact with skin. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

**Classification:**
- Flammable liquids, Category 4
- Acute toxicity, Category 3, Oral
- Acute toxicity, Category 2, Inhalation
- Acute toxicity, Category 4, Dermal
- Short-term (acute) aquatic hazard, Category 1
- Long-term (chronic) aquatic hazard, Category 1

**Labeling:**

<table>
<thead>
<tr>
<th>Symbol(s)</th>
<th>Signal Word</th>
<th>Hazard Statements</th>
<th>Precautionary Statements</th>
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<tr>
<td></td>
<td>Danger</td>
<td>H227: Combustible liquid.</td>
<td>Prevention:</td>
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<td>H301: Toxic if swallowed.</td>
<td>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</td>
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<td></td>
<td>H410: Very toxic to aquatic life with long lasting effects.</td>
<td>P270: Do not eat, drink or smoke when using this product.</td>
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**Response:**
- P302 + P352 + P312: IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.
- P304 + P340 + P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- P362 + P364: Take off contaminated clothing and wash it before reuse.
- P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- P391: Collect spillage.

**Storage:**
- P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P403 + P235: Store in a well-ventilated place. Keep cool. 
P405: Store locked up.

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

SECTION 3: Composition/information on ingredients

Synonyms: 
MMP
Methyl beta-Mercaptopropionate
Methyl-3 Mercaptopropionate

Molecular formula: C4H8O2S

<table>
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<tr>
<th>Chemical name</th>
<th>CAS-No. / EINECS-No.</th>
<th>Concentration [wt%]</th>
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<tbody>
<tr>
<td>Methyl 3-Mercaptopropionate</td>
<td>2935-90-2</td>
<td>99 - 100</td>
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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.

If inhaled: Call a physician or poison control center immediately. If unconscious, place in recovery position and seek medical advice.

In case of skin contact: Take victim immediately to hospital. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: Flush eyes with water as a precaution. 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. Do not give milk or alcoholic beverages. 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: 67 °C (153 °F)
Method: closed cup

Autoignition temperature: No data available

Suitable extinguishing media: Carbon dioxide (CO2).

Unsuitable extinguishing: High volume water jet.
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media

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. 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. Keep away from open flames, hot surfaces and sources of ignition.
Hazardous decomposition products : Sulfur oxides.

SECTION 6: Accidental release measures

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe 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). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Handling

Advice on safe handling : Avoid formation of aerosol. 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. Provide sufficient air exchange and/or exhaust in work rooms. 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. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage : Prevent unauthorized access. No smoking. Keep container.
**Methyl 3-mercaptopropionate**

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<table>
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<tr>
<th>Use:</th>
<th>Chemical intermediate</th>
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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 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, 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. |
| 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: Flame retardant protective clothing. Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus. Footwear protecting against chemicals. |
| Hygiene measures | Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product. |
SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

**Appearance**
- Form: Liquid
- Physical state: Liquid
- Color: Colorless
- Odor: Repulsive

**Safety data**
- Flash point: 67 °C (153 °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: C4H8O2S
- Molecular weight: 120.18 g/mol
- pH: Not applicable
- Freezing point: No data available
- Pour point: No data available
- Boiling point/boiling range: 166 - 169 °C (331 - 336 °F)
- Vapor pressure: 2.00 MMHG  
  at 21 °C (70 °F)
- Relative density: 1.11  
  at 15 °C (59 °F), estimated
- Water solubility: Negligible
- Partition coefficient: n-octanol/water: No data available
- Viscosity, kinematic: No data available
- Relative vapor density: 4.1  
  (Air = 1.0)
- Evaporation rate: No data available
- Percent volatile: > 99 %
Methyl 3-mercaptopropionate

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.

Hazardous reactions: Vapors may form explosive mixture with air.

Conditions to avoid

Hazards decomposition products : Heat, flames and sparks.

: Sulfur oxides

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

SECTION 11: Toxicological information

Acute oral toxicity

Methyl 3-Mercaptopropionate : LD50: 194 mg/kg
Species: Rat
Sex: male and female
Method: OECD Test Guideline 401

Acute inhalation toxicity

Methyl 3-Mercaptopropionate : LC50: 1.8 - 2.11 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: vapor
Method: OECD Test Guideline 403

Acute dermal toxicity

Methyl 3-Mercaptopropionate : LD50: 1,903.7 mg/kg
Species: Rabbit
Sex: male and female
Method: OECD Test Guideline 402

Skin irritation
Methyl 3-mercaptopropionate

No skin irritation

Eye irritation
Methyl 3-Mercaptopropionate: slight irritation.

Sensitization
Methyl 3-Mercaptopropionate: Did not cause sensitization on laboratory animals.

Repeated dose toxicity
Methyl 3-Mercaptopropionate: Species: Rat, Male and female
                                Sex: Male and female
                                Application Route: oral gavage
                                Dose: 25, 50, 100 mg/kg
                                Exposure time: 28 day
                                Number of exposures: daily
                                NOEL: 50 mg/kg
                                Lowest observable effect level: 100 mg/kg
                                Method: OECD Test Guideline 407
                                Target Organs: Stomach

Genotoxicity in vitro
Methyl 3-Mercaptopropionate: Test Type: Ames test
                                Result: negative
                                Test Type: Mouse lymphoma assay
                                Result: negative
                                Test Type: Sister Chromatid Exchange Assay
                                Result: positive

Reproductive toxicity
Methyl 3-Mercaptopropionate: Species: Rat
                                Sex: male and female
                                Application Route: oral gavage
                                Dose: 25, 50, 100 mg/kg
                                Number of exposures: daily
                                Test period: 28 d
                                Method: OECD Guideline 422
                                NOAEL Parent: 100 mg/kg
                                NOAEL F1: 100 mg/kg
                                no abnormalities observed

Developmental Toxicity
Methyl 3-Mercaptopropionate: Species: Rat
                                Application Route: Oral diet
                                Dose: 25, 50, 100 mg/kg
                                Test period: 28 d
                                NOAEL Teratogenicity: 100 mg/kg
                                NOAEL Maternal: 100 mg/kg
                                No adverse effects expected
Methyl 3-mercaptopropionate

**Aspiration toxicity**: No aspiration toxicity classification.

**CMR effects**
- Methyl 3-Mercaptopropionate: Carcinogenicity: Not available
- Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- Reproductive toxicity: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

**Further information**: No data available.

**SECTION 12: Ecological information**

**Toxicity to fish**
- Methyl 3-Mercaptopropionate: LC50: 1.7 mg/l
  - Exposure time: 96 h
  - Species: Oncorhynchus mykiss (rainbow trout)
  - Flow-through test
  - Analytical monitoring: yes
  - Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates**
- Methyl 3-Mercaptopropionate: 0.55 mg/l
  - Exposure time: 48 h
  - Species: Daphnia magna (Water flea)
  - Static test
  - Analytical monitoring: yes
  - Method: OECD Test Guideline 202

**Toxicity to algae**
- Methyl 3-Mercaptopropionate: ErC50: 0.65 mg/l
  - Species: Desmodesmus subspicatus (green algae)
  - Analytical monitoring: yes
  - Method: OECD Test Guideline 201

**M-Factor**
- methyl 3-mercaptopropionate: M-Factor (Acute Aquat. Tox.) 1
  - M-Factor (Chron. Aquat. Tox.) 1

**Biodegradability**
- Methyl 3-Mercaptopropionate: aerobic
  - Result: Not readily biodegradable.
  - 46.0 %
  - Method: OECD Test Guideline 301
Methyl 3-mercaptopropionate

Bioaccumulation

Methyl 3-Mercaptopropionate : Bioconcentration factor (BCF): 3.16
Method: Estimated based on individual component values.

Mobility

Methyl 3-Mercaptopropionate : No data available

Results of PBT assessment
Methyl 3-Mercaptopropionate : Non-classified PBT substance

Additional ecological information

Ecotoxicology Assessment

Short-term (acute) aquatic hazard
Methyl 3-Mercaptopropionate : Very toxic to aquatic life.

Long-term (chronic) aquatic hazard
Methyl 3-Mercaptopropionate : 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.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

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.
Methyl 3-mercaptopropionate

SECTION 15: Regulatory information

| Classification and Labeling of Commonly Used Dangerous Chemical Substances: Primary label | Toxic Material. |
| Notification status | Europe REACH | This product is in full compliance according to REACH regulation 1907/2006/EC. |
| | Switzerland CH INV | On the inventory, or in compliance with the inventory |
| | United States of America (USA) TSCA | On or in compliance with the active portion of the TSCA 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 | Not in compliance with the inventory |
| | Japan ENCS | On the inventory, or in compliance with the inventory |
| | Korea KECl | All substances in this product were registered, notified to be registered, or exempted from registration by CPChem through an Only Representative according to K-REACH regulations. Importation of this product is permitted if the Korean Importer of Record was |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Methyl 3-mercaptopropionate

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Philippines PICCS : On the inventory, or in compliance with the inventory
China IECSC : On the inventory, or in compliance with the inventory
Taiwan TCSI : On the inventory, or in compliance with the inventory

SECTION 16: Other information

Further information

Legacy SDS Number : 75720

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.

<table>
<thead>
<tr>
<th>Key or legend to abbreviations and acronyms used in the safety data sheet</th>
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SDS Number: 100000013277
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