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

Product information
Product Name : Methyl 3-mercaptopropionate
Material : 1113892, 1086430, 1093790, 1086431, 1086432, 1086433, 1066661, 1025300, 1024824, 1027475, 1024823

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 : Flammable liquids, Category 4
                 Acute toxicity, Category 3, Oral
                 Acute toxicity, Category 2, Inhalation
                 Acute toxicity, Category 4, Dermal
Labeling

Symbol(s) :  

Signal Word : Danger

Hazard Statements :  
H227: Combustible liquid.
H301: Toxic if swallowed.
H312: Harmful in contact with skin.
H330: Fatal if inhaled.

Precautionary Statements :  

Prevention:  
P210  Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P260  Do not breathe dust/fume/gas/mist/vapor/spray.
P264  Wash skin thoroughly after handling.
P270  Do not eat, drink or smoke when using this product.
P271  Use only outdoors or in a well-ventilated area.
P280  Wear protective gloves/ eye protection/ face protection.
P284  Wear respiratory protection.

Response:  
P301 + P310 + P330  IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
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.
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 + 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.

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.
SAFETY DATA SHEET

Methyl 3-mercaptopropionate

Version 1.9

Revision Date 2020-03-26

SECTION 3: Composition/information on ingredients

Synonyms : MMP
            Methyl beta-Mercaptopropionate
            Methyl-3 Mercaptopropionate

Molecular formula : C4H8O2S

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</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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</table>

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 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

SDS Number:100000013277

3/14
Methyl 3-mercaptopropionate

SECTION 5: Fire and explosion protection

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 areas and containers:
- Prevent unauthorized access. 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.

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, 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

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<th>Property</th>
<th>Value</th>
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<tr>
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<td>Pour point</td>
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<td>Relative density</td>
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<td>Water solubility</td>
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<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Percent volatile</td>
<td>&gt; 99 %</td>
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</tbody>
</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.
Methyl 3-mercaptopropionate

Possibility of 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:
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
Methyl 3-mercaptopropionate

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.
Methyl 3-mercaptopropionate

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

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

Further information: No data available.
Methyl 3-mercaptopropionate

Version 1.9

Revision Date 2020-03-26

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.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
UN2810, TOXIC, LIQUIDS, ORGANIC, N.O.S., (METHYL 3-MERCAPTOPROPIONATE), 6.1, II

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (METHYL 3-MERCAPTOPROPIONATE), 6.1, II, (67°C), MARINE POLLUTANT, (METHYL 3-MERCAPTOPROPIONATE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (METHYL 3-MERCAPTOPROPIONATE), 6.1, II
Methyl 3-mercaptopropionate

SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards: Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)

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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
**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**: Methyl 3-Mercaptopropionate - 2935-90-2

**California Prop. 65 Components**: This product, as shipped, does not contain any carcinogens or reproductive toxins presently known by the State of California to cause cancer or reproductive toxicity at a level of exposure subject to the requirements of California Proposition 65.

**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: On the inventory, or in compliance with the inventory

Japan ENCS: On the inventory, or in compliance with the inventory

Korea KECI: 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 included on CPChem’s notifications or if the Importer of Record themselves notified the substances.

**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
Methyl 3-mercaptopropionate

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

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.

Key or legend to abbreviations and acronyms used in the safety data sheet:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
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<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
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<td>NFPA</td>
<td>National Fire Protection Agency</td>
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<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
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<td>National Institute for Occupational Safety &amp; Health</td>
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<td>CNS</td>
<td>Central Nervous System</td>
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<td>National Toxicology Program</td>
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<td>CAS</td>
<td>Chemical Abstract Service</td>
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<td>New Zealand Inventory of Chemicals</td>
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<td>EOSCA Generic Exposure Scenario Tool</td>
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<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
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<td>PEL</td>
<td>Permissible Exposure Limit</td>
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<td>Philippines Inventory of Commercial Chemical Substances</td>
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<td>Germany Maximum Concentration Values</td>
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<td>PRNT</td>
<td>Presumed Not Toxic</td>
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<td>GHS</td>
<td>Globally Harmonized System</td>
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<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
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<td>International Agency for Research on Cancer</td>
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<td>Threshold Limit Value</td>
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<td>Japan, Inventory of Existing and</td>
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<td>TSCA</td>
<td>Toxic Substance Control Act</td>
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SDS Number: 100000013277
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<th>UVCB</th>
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