

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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: +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**

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
Eye irritation, Category 2B

Labeling

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

Symbol(s)

:



Signal Word

:

Danger

Hazard Statements

:

H227: Combustible liquid.
 H301: Toxic if swallowed.
 H312: Harmful in contact with skin.
 H320: Causes eye irritation.
 H330: Fatal if inhaled.

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.
 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.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off
 immediately all contaminated clothing. Rinse skin with
 water/shower.
 P304 + P340 + P310 IF INHALED: Remove person to fresh
 air and keep comfortable for breathing. 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.
 P337 + P313 If eye irritation persists: 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 + 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.

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: Composition/information on ingredients

Synonyms : MMP
Methyl beta-Mercaptopropionate
Methyl-3 Mercaptopropionate

Molecular formula : C₄H₈O₂S

Component	CAS-No.	Weight %
Methyl 3-Mercaptopropionate	2935-90-2	99 - 100

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

Unsuitable extinguishing : High volume water jet.

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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. 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.

Hazardous decomposition products : Sulfur oxides.

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).

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. 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. Take necessary action to avoid static electricity

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

discharge (which might cause ignition of organic vapors).
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.

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:. 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:. Footwear protecting against chemicals.

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

Percent volatile : > 99 %

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, flames and sparks.
Hazardous decomposition products : 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

Methyl 3-Mercaptopropionate

Skin irritation : May cause skin irritation in susceptible persons.

Methyl 3-Mercaptopropionate

Eye irritation : Irritating to eyes.
Vapors may cause irritation to the eyes, respiratory system and the skin.

Sensitization

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

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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

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 : 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: No toxicity to reproduction

Methyl 3-Mercaptopropionate

Further information : Solvents may degrease the skin.

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

Methyl 3-Mercaptopropionate : LC50: 1.7 mg/l
Exposure time: 96 h

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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 : 1

Bioaccumulation

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

Biodegradability

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

Ecotoxicology Assessment

Acute aquatic toxicity
Methyl 3-Mercaptopropionate : Very toxic to aquatic life.

Chronic aquatic toxicity
Methyl 3-Mercaptopropionate : Very toxic to aquatic life with long lasting effects.

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

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.

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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

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

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (METHYL 3-MERCAPTOPROPIONATE), 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (METHYL 3-MERCAPTOPROPIONATE)

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

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (METHYL 3-MERCAPTOPROPIONATE), 6.1, II, ENVIRONMENTALLY HAZARDOUS, (METHYL 3-MERCAPTOPROPIONATE)

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

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (METHYL 3-MERCAPTOPROPIONATE), 6.1, II, ENVIRONMENTALLY HAZARDOUS, (METHYL 3-MERCAPTOPROPIONATE)

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

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 : Fire Hazard
Acute Health Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

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

SARA 313 Ingredients : 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).

California Prop. 65 Ingredients : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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	:	Not in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory

Methyl 3-Mercaptopropionate

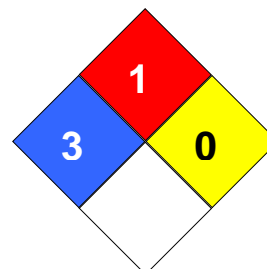
Version 1.7

Revision Date 2016-12-06

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: 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

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	TLV	Threshold Limit Value

Methyl 3-Mercaptopropionate

Version 1.7

Revision Date 2016-12-06

	on Cancer		
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%		