



Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Dimethyl Sulfide

Product Use: Intermediate

Product Number(s): 0001073702, 0001024530, 0001024532, 0001077804, 0001024533, 0001084190, 0001089246, 0001024536, 0001024534, 0001028766, 0001024531, 0001101535, 0001024535

Synonyms: Dimethyl Sulfide Pure; Methyl sulfide; DMS; Di-Methyl Sulfide

Product CAS No.: 75-18-3

Company Identification:

Chevron Phillips Chemical Company LP
Specialty Chemicals
10001 Six Pines Drive
The WoodlandsTX 77380

Product Information:

MSDS Requests: (800) 852 - 5530
Technical Information: (832) 813 - 4862
Responsible Party: Product Safety Group
Email:msds@cpchem.com

Chevron Phillips Chemicals International N.V.
Brusselsesteenweg 355
B-3090 Overijse
Belgium

24-Hour Emergency Telephone Numbers: HEALTH:Chevron Phillips Emergency Information Center 866.442.9628 (North America) and 1.832.813.4984 (International)

TRANSPORTATION: North America: CHEMTREC 800.424.9300 or 703.527.3887
ASIA: +1.703.527.3887
EUROPE: BIG .32.14.584545 (phone) or .32.14.583516 (telefax)
SOUTH AMERICA SOS-Cotec Inside Brazil: 0800.111.767
Outside Brazil: 55.19.3467.1600

SECTION 2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear liquid, repulsive odor.

NFPA RATINGS: Health: 2 Flammability: 4 Reactivity: 0

EU Classification:

Risk Phrases:

R52: Harmful to aquatic organisms.
 R36/38: Irritating to eyes and skin.
 R11: Highly flammable.
 R65: Harmful: may cause lung damage if swallowed.

Safety Phrases:

S36/37: Wear suitable protective clothing and gloves.
 S62: If swallowed do not induce vomiting: seek medical advice immediately and show this container or label.
 S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S2: Keep out of the reach of children.
 S24/25: Avoid contact with skin and eyes.

IMMEDIATE HEALTH EFFECTS:

Eye: Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision. Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin causes irritation. Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: This material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

Inhalation: May cause respiratory tract irritation. This material has a strong objectionable odor that may cause nausea, dizziness, or headache.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	AMOUNT	EINECS / ELINCS	SYM	R-Phrases
Dimethyl sulfide	75-18-3	99.5 % weight	200-846-2	F Xn	R52, R11, R36, R65
Related Materials		0.5 % weight	NA	NA	NA

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling / Peak	Notation
Dimethyl sulfide	ACGIH	10 ppm	NA	NA	NA
Dimethyl sulfide	CPCHEM	10 ppm	NA	NA	NA

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with running water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.

Skin: To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. Get medical attention if any symptoms develop.

Ingestion: If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:

Classification (29 CFR 1910.1200): Flammable liquid or gas.

NFPA RATINGS: Health: 2 Flammability: 4 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: -37°C (-34.6°F) Estimated

Autoignition: NDA

Flammability (Explosive) Limits (% by volume in air): Lower: 2.2 Upper: 19.7

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: Do not extinguish. Once fuel flow has stopped, small fires may be extinguished with water fog or fine spray, carbon dioxide, dry chemical, foam. Stop flow of fuel and allow fire to burn out.

Combustion Products: Combustion may form: Carbon Oxides, Sulfur Oxides

SECTION 6 ACCIDENTAL RELEASE MEASURES
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Protective Measures: Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8. Eliminate potential sources of ignition. Handling equipment must be bonded and grounded to prevent sparking.

Spill Management: Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section.

Reporting: U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to local authorities and/or the National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL . REFER TO PRODUCT LABEL OR MANUFACTURERS TECHNICAL BULLETINS FOR THE PROPER USE AND HANDLING OF THIS MATERIAL .

Precautionary Measures: Do not get in eyes.

General Handling Information: Avoid work practices that may release volatile components in the atmosphere. Local air pollution regulations should be consulted to determine if the release of volatile components is regulated or restricted in the area in which this material is used. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations, which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids, National Fire Protection Association (NFPA 77), Recommended Practice on Static Electricity' (liquids, powders and dusts), and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents' (liquids).

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), 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.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits. Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face Protection: Wear eye protection such as safety glasses, chemical goggles, or faceshields if engineering controls or work practices are not adequate to prevent eye contact.

Skin Protection: Wear impervious protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing. Suggested materials for protective gloves include: Responder

Respiratory Protection: If user operations generate airborne material, use process enclosures, local exhaust ventilation, or other engineering controls to control exposure. Wear a NOSH approved air-supplying respirator when working with this material if exposure to airborne material may occur. 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.

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling / Peak	Notation
Dimethyl sulfide	ACGIH	10 ppm	NA	NA	NA
Dimethyl sulfide	CPCHEM	10 ppm	NA	NA	NA

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear liquid, repulsive odor.

Autoignition: NDA

Boiling Point: 37°C (98.6°F)

Evaporation Rate: NDA

Flammability (Explosive) Limits (% by volume in air): Lower: 2.2 Upper: 19.7

Flashpoint: -37°C (-34.6°F) Estimated

Molecular Formula: C₂H₆S

Molecular Weight: NDA

Melting Point: NDA

Octanol / Water Partition Coefficient: log-Kow: NDA

pH: NA

Pour Point: NDA

Solubility (in water): Slight

Specific Gravity: 0.854 @ 15.6 °C (60.1°F)

Vapor Pressure: 15 psia @ 38 °C (100°F)

Vapor Density (AIR=1): 2.1

Viscosity: 0.285 cSt @ 20 °C (68°F)
Percent Volatile: 100 % volume

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.

Conditions to Avoid: No Data Available

Incompatibility With Other Materials: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: Carbon Oxides. Sulfur Oxides.

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS:

Acute Oral Toxicity: LD50 / rat / 535 mg/kg

Acute Dermal Toxicity: LD50 / rabbit / > 5000 mg/kg

Acute Inhalation Toxicity: LC50 / rat / 40250 ppm

Eye Irritation: This material is irritating to the eyes.

Skin Irritation: This material is irritating to the skin.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains DIMETHYL SULFIDE.

Repeated Dose Toxicity: 14 weeks/ gavage / rat /Doses (0, 2.5, 25, 250 mg/kg/day) / NOAEL >= 250 mg/kg/day

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY:

This material is expected to be harmful to aquatic organisms.

- 96 hour(s) / LC50 / rainbow trout (*Oncorhynchus mykiss*) / 213 mg/l
- 48 hour(s) / EC50 / water flea (*Daphnia magna*) / 81 mg/l
- 96 hour(s) / IC50 / Algae (*Pseudokirchneriella subcapitata*) / 23 mg/l

ENVIRONMENTAL FATE:

This material is expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

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.

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 MSDS and the bill of lading.

Shipping Descriptions per regulatory authority.

US DOT

UN1164, DIMETHYL SULFIDE, 3, II

ICAO / IATA

UN1164, DIMETHYL SULFIDE, 3, II

IMO / IMDG

UN1164, DIMETHYL SULFIDE, 3, II, (-37°C)

RID / ADR

UN1164, DIMETHYL SULFIDE, 3, II

SECTION 15 REGULATORY INFORMATION

SARA 311/312 CATEGORIES:

- | | |
|---------------------------------------|-----|
| 1. Immediate (Acute) Health Effects: | YES |
| 2. Delayed (Chronic) Health Effects: | NO |
| 3. Fire Hazard: | YES |
| 4. Sudden Release of Pressure Hazard: | NO |
| 5. Reactivity Hazard: | NO |

REGULATORY LISTS SEARCHED:

01= CA Prop 65	17 = FDA 178	33 = -
02 = LA RTK	18 = FDA 179	34 = -
03 = MA RTK	19 = FDA 180	35 = -
04 =MN Hazardous Substance	20 = FDA 181	36 = -
05 =NJ RTK	21 = FDA 182	37 = SARA Section 302
06 = PA RTK	22 = FDA 184	38 = SARA Section 313
07 = -	23 = FDA 186	39 = TSCA 12 (b)
08 = -	24 = FDA 189	40 = TSCA Section 4
09 = CWA Section 311	25 = IARC Group 1	41 = TSCA Section 5(a)
10 =DOT Marine Pollutant	26 = IARC Group 2A	42 = TSCA Section 8(a) CAIR
11 = FDA 172	27 = IARC Group 2B	43 = TSCA Section 8(a) PAIR
12 = FDA 173	28 = IARC Group 3	44 = TSCA Section 8(d)
13 = FDA 174	29 = IARC Group 4	45 = WHIMS - IDL
14 = FDA 175	30 = NTP Carcinogen	46 = Germany D TAL
15 = FDA 176	31 = OSHA Carcinogen	47 = Germany WKG
16 = FDA 177	32 = OSHA Highly Hazardous	48 = DEA List 1
		49 = DEA List 2

The following components of this material are found on the regulatory lists indicated.

Dimethyl sulfide 3, 5, 6, 46

WHMIS CLASSIFICATION:

Class D, Division 2, Subdivision B: Toxic Material
Skin or Eye Irritation

CHEMICAL INVENTORY LISTINGS:

AUSTRALIA	YES (AUS)
CANADA	YES (DSL)
CHINA	YES (IECSC)
EUROPEAN UNION	YES (EINECS)
JAPAN	YES (ENCS)
KOREA	YES (ECL)
PHILIPPINES	YES (PICCS)
UNITED STATES	YES (TSCA)

EU LABELING:**Symbols:**

Xn - Harmful F - Flammable

Risk and Safety Phrases:

R52: Harmful to aquatic organisms.

R36/38: Irritating to eyes and skin.

R11: Highly flammable.

R65: Harmful: may cause lung damage if swallowed.

S36/37: Wear suitable protective clothing and gloves.

S62: If swallowed do not induce vomiting: seek medical advice immediately and show this container or label.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S2: Keep out of the reach of children.

S24/25: Avoid contact with skin and eyes.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 4 Reactivity: 0 Special: NA

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA).

REVISION STATEMENT: The following sections have been updated: 3

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV	- Threshold Limit Value	TWA	Time Weighted Average
STEL	- Short-term Exposure Limit	PEL	Permissible Exposure Limit
ACGIH	- American Conference of Government Industrial Hygienists	OSHA	Occupational Safety & Health Administration
NIOSH	- National Institute for Occupational Safety & Health	NFPA	National Fire Protection Agency
WHMIS	- Workplace Hazardous Materials Information System	IARC	Intl. Agency for Research on Cancer
EINECS	- European Inventory of existing	RCRA	Resource Conservation Recovery Act

SARA	- Commercial Chemical Substances Superfund Amendments and Reauthorization Act.	TSCA	- Toxic Substance Control Act
EC50	- Effective Concentration	LC50	- Lethal Concentration
LD50	- Lethal Dose	CAS	- Chemical Abstract Service
NDA	- No Data Available	NA	- Not Applicable
<=	- Less Than or Equal To	>=	- Greater Than or Equal To
CNS	- Central Nervous System	MAK	- Germany Maximum Concentration Values

**This data sheet is prepared according to the latest adaptation of the EEC Guideline 67/548.
This data sheet is prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
This data sheet is prepared according to the ANSI MSDS Standard (Z400.1).
This data sheet was prepared by EHS Product Stewardship Group, Chevron Phillips Chemical Company LP, 10001 Six Pines Drive, The Woodlands, TX 77380.
This data sheet is prepared according to the Globally Harmonized System (GHS).**

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.