

Sulfolane - A Anhydrous

Version 2.4

Revision Date 2021-09-14

according to GB/T 16483 and GB/T 17519

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

Product Name : Sulfolane - A Anhydrous
Material : 1126072, 1125132, 1122438, 1115722, 1114955, 1100709,
1098522, 1093880, 1024635, 1024637, 1024641, 1024640,
1024644, 1024636, 1024639, 1024638, 1032498, 1024634

Use : Solvent

Company : Chevron Phillips Chemical Company LP
Specialty Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemicals (Shanghai) Corporation
Room 1810-1812, Shanghai Mart,
2299 Yan An Road (W),
Shanghai, PRC 200336
Tel: (86-21) 22157200

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**

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GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)**Emergency Overview****Danger****Form:** liquid **Physical state:** liquid **Color:** Clear **Odor:** Mild**Hazards** : May be harmful if swallowed. May damage fertility or the unborn child.**Classification**: Acute toxicity, Category 5, Oral
Reproductive toxicity, Category 1B**Labeling****Symbol(s)** :**Signal Word** : Danger**Hazard Statements** : H303: May be harmful if swallowed.
H360: May damage fertility or the unborn child.**Precautionary Statements** : **Prevention:**
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P312: Call a POISON CENTER/doctor if you feel unwell.
Disposal:
P501: Dispose of contents/ container to an approved waste disposal plant.**SECTION 3: Composition/information on ingredients****Synonyms** : Tetramethylene Sulfone
Sulfolane Anhydrous
Tetrahydrothiophene 1,1-dioxide**Molecular formula** : C₄H₈SO₂

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
Sulfolane	126-33-0	99 - 100

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SECTION 4: First aid measures

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- 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 : 166°C (331°F)
Method: closed cup
- Autoignition temperature : No data available
- Unsuitable extinguishing media : High volume water jet.
- 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.
- Fire and explosion protection : Normal measures for preventive fire protection.
- Hazardous decomposition products : Carbon oxides. Sulfur oxides.

SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment.
- 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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed

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containers for disposal.

SECTION 7: Handling and storage**Handling**

Advice on safe handling : 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. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Use : Solvent

SECTION 8: Exposure controls/personal protection**Chevron Phillips Chemical Company LP**

Components	Basis	Value	Control parameters	Note
Sulfolane	Manufacturer	TWA	0.37 ppm,	

Not applicable

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: Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

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- 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.
- 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:. Protective suit. Safety shoes.
- 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 : Mild

Safety data

- Flash point : 166°C (331°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 : C₄H₈SO₂
- Molecular weight : 120.18 g/mol
- pH : Not applicable
- Freezing point : 26°C (79°F)
- Pour point : No data available
- Boiling point/boiling range : 282-288°C (540-550°F)
- Vapor pressure : 1.14 MMHG
 at 37.8°C (100.0°F)

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Relative density	: 1.26 at 30 °C (86 °F)
Density	: 1.26 G/ML
Water solubility	: Miscible
Partition coefficient: n-octanol/water	: log Pow: 0 at 20°C (68°F)
Viscosity, kinematic	: No data available
Relative vapor density	: 3 (Air = 1.0)
Evaporation rate	: 1
Percent volatile	: > 99 %

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.
Conditions to avoid	: No data available.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous decomposition products	: Carbon oxides Sulfur oxides
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Acute oral toxicity	
Sulfolane	: LD50: 2,068 mg/kg Species: Rat Sex: male and female Method: OECD Test Guideline 401

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Acute inhalation toxicity

Sulfolane : LC50: > 12000 mg/m³ Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: vapor
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity

Sulfolane : LD50: > 2,000 mg/kg
Species: Rat
Method: Directive 67/548/EEC, Annex V, B.3.

Skin irritation

Sulfolane : No skin irritation

Eye irritation

Sulfolane : No eye irritation

Sensitization

Sulfolane : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Sulfolane : Species: Rat, Male and female
Sex: Male and female
Application Route: Oral
Dose: 60, 200, 700 mg/kg bw/day
Exposure time: 28 days
Number of exposures: Daily
NOEL: 200 mg/kg bw/day
Lowest observable effect level: 700 mg/kg bw/day

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Species: Rat
Application Route: Inhalation
Dose: 2.8, 4.0, 20 mg/m³
Exposure time: 90-110 days
Number of exposures: 23 hrs/d, 7d/wk
NOEL: 20 mg/m³

Species: Guinea pig
Application Route: Inhalation
Dose: 4.0, 20, 159, 200 mg/m³
Exposure time: 90-110 days
Number of exposures: 23 hrs/d, 7 d/wk
NOEL: 159 mg/m³
Target Organs: Lungs, Blood, Liver

Species: Rat, male
Sex: male
Application Route: Oral diet
Dose: 2.1, 8.8, 35, 131.7 mg/kg/d
Exposure time: 13 wk
Number of exposures: Daily
NOEL: 8.8 mg/kg
Method: OECD Test Guideline 408
Target Organs: Kidney

Species: Rat, female
Sex: female
Application Route: Oral diet
Dose: 2.9, 10.6, 42, 191.1 mg/kg/d
Exposure time: 13 wk
Number of exposures: Daily
NOEL: 2.9 mg/kg
Method: OECD Test Guideline 408
Target Organs: Blood

Genotoxicity in vitro

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: Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

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Test Type: Mouse lymphoma assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative

Test Type: Sister Chromatid Exchange Assay
 Metabolic activation: with and without metabolic activation
 Result: negative

Test Type: Chromosome aberration test in vitro
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: negative

Test Type: Mouse lymphoma assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 490
 Result: negative

Reproductive toxicity

Sulfolane : Species: Rat
 Sex: female
 Application Route: oral gavage
 Dose: 60, 200, 700 mg/kg
 Number of exposures: Daily
 Test period: 2 wk pre mating to lactation D4
 Method: OECD Guideline 421
 NOAEL Parent: 200 mg/kg bw/day
 NOAEL F1: 60 mg/kg bw/day
 Decrease birth index and number of pups

Developmental Toxicity

Sulfolane : Species: Rat
 Application Route: oral gavage
 Dose: 60, 200, 700 mg/kg
 Number of exposures: Daily
 Test period: 2 wk pre mating to lactation D4
 NOAEL Teratogenicity: 60 mg/kg bw/day
 NOAEL Maternal: 200 mg/kg bw/day

Species: Rat
 Application Route: oral gavage
 Dose: 100, 200, 500 mg/kg/day
 Number of exposures: Daily
 Test period: GD 1 - 19
 NOAEL Teratogenicity: 200 mg/kg
 NOAEL Maternal: 100 mg/kg
 May damage the unborn child.

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Aspiration toxicity**

: No aspiration toxicity classification.

CMR effects

Sulfolane : Carcinogenicity: Not available
 Mutagenicity: Tests on bacterial or mammalian cell cultures

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did not show mutagenic effects.
 Reproductive toxicity: Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

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Further information : No data available.

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

Sulfolane : LC50: > 100 mg/l
 Exposure time: 96 h
 Species: *Oryzias latipes* (Orange-red killifish)
 static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Sulfolane : EC50: 852 mg/l
 Exposure time: 48 h
 Species: *Daphnia magna* (Water flea)
 static test Method: OECD Test Guideline 202

Toxicity to algae

Sulfolane : EC50: 500 mg/l
 Exposure time: 72 h
 Species: *Pseudokirchneriella subcapitata* (green algae)
 Method: OECD Test Guideline 201

NOEC: 171 mg/l
 Exposure time: 72 h
 Species: *Pseudokirchneriella subcapitata* (green algae)
 Method: OECD Test Guideline 201

Biodegradability

Sulfolane : Result: Not readily biodegradable.
 10.1 %
 Testing period: 14 d
 Method: OECD Test Guideline 301C

Bioaccumulation

Sulfolane : Bioconcentration factor (BCF): < 1.3
 This material is not expected to bioaccumulate.

Mobility

Sulfolane : No data available

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Results of PBT assessment
Sulfolane : Non-classified vPvB substance, Non-classified PBT substance

Additional ecological information : This material is not expected to be harmful to aquatic organisms.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

Long-term (chronic) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

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 : Do not dispose of waste into sewer. 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.

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)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR

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TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Maritime transport in bulk according to IMO instruments**SECTION 15: Regulatory information****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	:	All components of this product are on the Canadian DSL
Other AIIC	:	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
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory

SECTION 16: Other information**Further information**

Legacy SDS Number : 34190

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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 on Cancer	TLV	Threshold Limit Value
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%		