

**Sulfole® 100 Mercaptan**

Version 1.4

Revision Date 2020-09-11

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

Product Name : Sulfole® 100 Mercaptan
Material : 1098106, 1024816, 1021527, 1035961, 1021528, 1021529,
1021526, 1027474, 1105025

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
Skin irritation, Category 2
Eye irritation, Category 2A
Skin sensitization, Category 1

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Labeling

Symbol(s)

:



Signal Word

:

Warning

Hazard Statements

:

H227: Combustible liquid.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H319: Causes serious eye irritation.

Precautionary Statements

:

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

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.

SECTION 3: Composition/information on ingredients

Synonyms

:

100 Mercaptan
 TNM and TDM Mixture

Molecular formula

:

Mixture

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Component	CAS-No.	Weight %
tert-Nonanethiol	25360-10-5	60 - 75
tert-Dodecanethiol	25103-58-6	25 - 40

SECTION 4: First aid measures

- General advice : Move out of dangerous area. 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 : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician. 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. 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)
- Autoignition temperature : No data available
- Suitable extinguishing media : Carbon dioxide (CO₂).
- 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. 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 a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
- Hazardous decomposition : Carbon oxides. Sulfur oxides.

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

products

SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment. Ensure adequate ventilation.
- 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 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. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Storage

- Requirements for storage areas and containers : No smoking. Keep in a 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**Chevron Phillips Chemical Company LP**

Components	Basis	Value	Control parameters	Note
tert-Dodecanethiol	Manufacturer	TWA	0.1 ppm,	

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

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, 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. 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: Flame retardant protective clothing. Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.
- 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 : Colorless
 Odor : Repulsive

Safety data

- Flash point : 67°C (153°F)
 Lower explosion limit : No data available
 Upper explosion limit : No data available

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Autoignition temperature	: No data available
Thermal decomposition	: No data available
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Freezing point	: No data available
Pour point	No data available
Boiling point/boiling range	: 188-233°C (370-451°F) estimated
Vapor pressure	: 0.02 PSI at 25.5°C (77.9°F)
Relative density	: 0.855 at 15.6 °C (60.1 °F)
Density	: 853.2 g/l
Water solubility	: negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, dynamic	: 1.77 cP
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.

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

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.

Materials to avoid : Avoid oxidizing agents.

Thermal decomposition : No data available

Hazardous decomposition products : Carbon oxides
Sulfur oxides

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

SECTION 11: Toxicological information**Acute oral toxicity**

tert-Nonanethiol : LD50: 5,550 mg/kg
Species: Rat
Method: OECD Test Guideline 401
Symptoms: Disorientation, Loss of balance

tert-Dodecanethiol : LD50: > 2,000 mg/kg
Species: Rat
Sex: female
Method: OECD Test Guideline 423

Acute inhalation toxicity

tert-Nonanethiol : LC50: > 7.04 mg/l
Exposure time: 4.5 h
Species: Rat
Sex: male and female
Test atmosphere: vapor
Method: OECD Test Guideline 403

tert-Dodecanethiol : LC50: > 1.97 mg/l
Exposure time: 4 h
Species: Rat
Sex: male and female
Method: OECD Test Guideline 403
Information given is based on data obtained from similar substances.

Acute dermal toxicity

tert-Nonanethiol : LD50: > 2,000 mg/kg
Species: Rat
Sex: male
Method: OECD Test Guideline 402

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

tert-Dodecanethiol LD50: > 2,000 mg/kg
 Species: Rat
 Sex: male
 Method: OECD Test Guideline 402
 Information given is based on data obtained from similar substances.

Sulfole® 100 Mercaptan
Skin irritation : Skin irritation
 largely based on animal evidence.

Sulfole® 100 Mercaptan
Eye irritation : Eye irritation
 largely based on animal evidence.

Sulfole® 100 Mercaptan
Sensitization : Causes sensitization.
 largely based on animal evidence.

Repeated dose toxicity

tert-Nonanethiol : Species: Rat, male and female
 Sex: male and female
 Application Route: Inhalation
 Dose: 0, 26, 98 ppm
 Exposure time: 4 wk
 Number of exposures: 6 h/d, 5 days/wk
 Lowest observable effect level: 26 ppm
 Method: OECD Guideline 412
 Target Organs: Kidney, Liver
 Information given is based on data obtained from similar substances.

Species: Rat, female
 Sex: female
 Application Route: Inhalation
 Dose: 5, 25, 100 ppm
 Exposure time: 13 wk
 Number of exposures: 6h/d, 5d/wk
 NOEL: 25 ppm
 Method: OECD Test Guideline 413
 Information given is based on data obtained from similar substances.

Species: Rat, male
 Sex: male
 Application Route: Inhalation
 Dose: 5, 25, 100 ppm
 Exposure time: 13 wk
 Number of exposures: 6h/d, 5d/wk
 NOEL: 25 ppm
 Method: OECD Test Guideline 413
 Information given is based on data obtained from similar substances.

tert-Dodecanethiol Species: Rat, male
 Sex: male
 Application Route: Inhalation
 Dose: 0, 26, 98 ppm

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Exposure time: 4 wk
Number of exposures: 6 h/d, 5 d/wk
Lowest observable effect level: 26 ppm
Method: OECD Test Guideline 412
Target Organs: Kidney, Liver

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Species: Rat, female
Sex: female
Application Route: Inhalation
Dose: 0, 26, 98 ppm
Exposure time: 4 wk
Number of exposures: 6 h/d, 5 d/wk
NOEL: 26 ppm
Method: OECD Guideline 412
Target Organs: Liver, Kidney

Species: Dog, male and female
Sex: male and female
Application Route: Inhalation
Dose: 0, 25, 106 ppm
Exposure time: 4 wk
Number of exposures: 6 h/d, 5 d/wk
NOEL: 25 ppm
Lowest observable effect level: 109 ppm
Method: OECD Test Guideline 412
Target Organs: Liver

Species: Mouse, male and female
Sex: male and female
Application Route: Inhalation
Dose: 0, 25, 109 ppm
Exposure time: 4 wk
Number of exposures: 6 h/d, 5 d/wk
Lowest observable effect level: 25 ppm
Method: OECD Test Guideline 412
Target Organs: Liver

Species: Rat, male
Sex: male
Application Route: oral gavage
Dose: 50, 100, 200 mg/kg
Exposure time: 10 wk
Number of exposures: once daily
NOEL: 200 mg/kg
Method: OECD Guideline 422
Target Organs: Kidney, Liver

Species: Rat, female
Sex: female
Application Route: oral gavage
Dose: 50, 100, 200 mg/kg
Exposure time: 8 - 9 wk
Number of exposures: once daily
NOEL: 200 mg/kg
Method: OECD Guideline 422
Target Organs: Liver

Species: Rat, male
Sex: male
Application Route: Inhalation
Dose: 5, 25, 100 ppm
Exposure time: 13 wk
Number of exposures: 6h/d, 5d/wk
NOEL: 25 ppm
Method: OECD Test Guideline 413

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Species: Rat, female
 Sex: female
 Application Route: Inhalation
 Dose: 5, 25, 100 ppm
 Exposure time: 13 wk
 Number of exposures: 6h/d, 5d/wk
 NOEL: 25 ppm
 Method: OECD Test Guideline 413

Genotoxicity in vitro

tert-Nonanethiol : Test Type: Ames test
 Metabolic activation: with and without metabolic activation
 Method: Mutagenicity (Escherichia coli - reverse mutation assay)
 Result: negative
 Remarks: In vitro tests did not show mutagenic effects

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

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

Test Type: Sister Chromatid Exchange Assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Guideline 479
 Result: negative

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

Genotoxicity in vivo

tert-Dodecanethiol : Test Type: In vivo micronucleus test
 Species: Mouse
 Route of Application: Oral
 Dose: 1250, 2500, 5000 mg/kg/bw
 Method: Mutagenicity (micronucleus test)
 Result: negative
 Remarks: Information given is based on data obtained from similar substances.

Reproductive toxicity

tert-Dodecanethiol : Species: Rat
 Sex: male
 Application Route: oral gavage
 Dose: 50, 100, 200 mg/kg/d
 Exposure time: 10 wk
 Number of exposures: Daily
 Method: OECD Guideline 422

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

NOAEL Parent: 200 mg/kg
Animal testing did not show any effects on fertility.

Species: Rat
Sex: female
Application Route: oral gavage
Dose: 50, 100, 200 mg/kg/d
Exposure time: 8 - 9 wk
Number of exposures: Daily
Method: OECD Guideline 422
NOAEL Parent: 200 mg/kg
NOAEL F1: 100 mg/kg
Animal testing did not show any effects on fertility.
Reduced fetal weight.

Developmental Toxicity

tert-Nonanethiol : Species: Rat
Application Route: Inhalation
Dose: 0, 22.7, 88.6 ppm
Number of exposures: 6 h/d
Test period: GD 6 - 19
Method: OECD Guideline 414
NOAEL Teratogenicity: \geq 88.6 ppm
NOAEL Maternal: \geq 88.6 ppm
No adverse effects expected
Information given is based on data obtained from similar substances.

tert-Dodecanethiol Species: Rat
Application Route: Inhalation
Dose: 0, 22.7, 88.6 ppm
Number of exposures: 6 hrs/d
Test period: GD 6-19
Method: OECD Guideline 414
NOAEL Teratogenicity: \geq 88.6 ppm
No adverse effects expected

Species: Mouse
Application Route: Inhalation
Dose: 0, 22.7, 88.6 ppm
Number of exposures: 6 hrs/d
Test period: GD 6-19
Method: OECD Guideline 414
NOAEL Teratogenicity: \geq 88.6 ppm
No adverse effects expected

Species: Rabbit
Application Route: oral gavage
Dose: 0, 50, 100, 200 mg/kg/d
Number of exposures: Daily
Test period: GD 6-28
Method: OECD Guideline 414
NOAEL Teratogenicity: 100 mg/kg
NOAEL Maternal: 100 mg/kg
Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Sulfole® 100 Mercaptan**Aspiration toxicity** : May be harmful if swallowed and enters airways.**CMR effects**

tert-Nonanethiol : Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Teratogenicity: Animal testing did not show any effects on fetal development.

tert-Dodecanethiol Carcinogenicity: Not available
 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

Sulfole® 100 Mercaptan**Further information** : Solvents may degrease the skin.**SECTION 12: Ecological information****Toxicity to fish**

tert-Nonanethiol : No data available

tert-Dodecanethiol LL50: > 100 mg/l
 Exposure time: 96 h
 Species: Danio rerio (Zebra Fish)
 static test Method: OECD Test Guideline 203
 No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates

tert-Nonanethiol : EC50: 0.090 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 Immobilization Method: OECD Test Guideline 202

tert-Dodecanethiol EC50: > 0.056 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 semi-static test Method: OECD Test Guideline 202
 No toxicity at the limit of solubility.

Toxicity to algae

tert-Nonanethiol : No data available

M-Factor

1,1-dimethylheptanethiol : M-Factor (Acute Aquat. Tox.) 10
 M-Factor (Chron. Aquat. Tox.) 10

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

Toxicity to bacteria

tert-Dodecanethiol : NOEC: 8.6 mg/l
 Exposure time: 3 h
 Growth rate
 Respiration inhibition
 Method: OECD Test Guideline 209

NOEC: > 10 mg/l
 Exposure time: 3 h
 Growth rate
 Respiration inhibition
 Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

tert-Dodecanethiol : NOEC: 0.0108 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)
 semi-static test
 Method: OECD Test Guideline 211
 No toxicity at the limit of solubility.

Biodegradability

tert-Nonanethiol : aerobic
 Result: Not readily biodegradable.
 0 %
 Testing period: 28 d
 Method: Directive 67/548/EEC Annex V, C.4.D.

tert-Dodecanethiol : aerobic
 Result: Not readily biodegradable.
 0 %
 Testing period: 28 d
 Method: OECD Test Guideline 301D

Bioaccumulation

tert-Nonanethiol : Accumulation in aquatic organisms is unlikely.
 Information given is based on data obtained from similar substances.

tert-Dodecanethiol : Species: Danio rerio (zebra fish)
 Exposure time: 15 d
 Bioconcentration factor (BCF): > 500 - < 1,950
 Method: OECD Test Guideline 305
 Biomagnification factor <1
 The product may be accumulated in organisms.

Mobility

tert-Nonanethiol : No data available

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

tert-Dodecanethiol	: After release, adsorbs onto soil.
Results of PBT assessment	
tert-Nonanethiol	: Non-classified PBT substance, Non-classified vPvB substance
tert-Dodecanethiol	: Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information	: Very toxic to aquatic life with long lasting effects.
Ecotoxicology Assessment	
Short-term (acute) aquatic hazard	
tert-Nonanethiol	: Very toxic to aquatic life.
tert-Dodecanethiol	: No toxicity at the limit of solubility.
Long-term (chronic) aquatic hazard	
tert-Nonanethiol	: Very toxic to aquatic life with long lasting effects.
tert-Dodecanethiol	: May cause long lasting harmful effects to aquatic life.

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)

NA1993, COMBUSTIBLE LIQUID, N.O.S., (TERT - DODECANETHIOL, TERT-NONANETHIOL),

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERT-NONANETHIOL), 9, III, (67°C), MARINE POLLUTANT, (TERT-NONANETHIOL)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERT-NONANETHIOL), 9, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERT-NONANETHIOL), 9, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERT-NONANETHIOL), 9, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERT-NONANETHIOL), 9, III

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 : Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

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 : This material does not contain any components with a section 302 EHS TPQ.

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

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.

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

US State Regulations

Pennsylvania Right To Know : tert-Nonanethiol - 25360-10-5
tert-Dodecanethiol - 25103-58-6

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 KECI : A substance(s) in this product was not registered,

Sulfole® 100 Mercaptan

Version 1.4

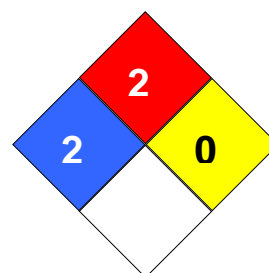
Revision Date 2020-09-11

notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance.

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

NFPA Classification : Health Hazard: 2
 Fire Hazard: 2
 Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 34660

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	PRNT	Presumed Not Toxic

Sulfole® 100 Mercaptan

Version 1.4

Revision Date 2020-09-11

	Values		
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%		