

**Sulfole® 120 Mercaptan (tert-Dodecanethiol)**

Version 2.9

Revision Date 2021-12-07

MSDS number: AA00974-0000000134

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

Product Name : Sulfole® 120 Mercaptan (tert-Dodecanethiol)
Material : 1124727, 1124726, 1121184, 1113774, 1017942, 1111452,
1024818, 1024817, 1103990, 1084934, 1101771, 1086417,
1086418, 1021548, 1036536, 1035962, 1021538, 1021539,
1021542, 1021543, 1021544, 1021546, 1021547, 1021550,
1021551, 1021552, 1021553, 1021719, 1032613, 1021545,
1021549, 10462848

Recommended use of the product : Process regulators, used in vulcanization or polymerization processes
Restrictions on use : None known.

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

Address : CHEVRON PHILLIPS CHEMICALS ASIA PTE. LTD.
C/O DONG WOO CORPORATION
#B-2601,JEONGJAIL-RO,
BUNDANG-GU,SEONGNAMI-SI,
GYEONGGI-DO,13557
SOUTH KOREA
Telephone no.: +612-9186-1132

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)

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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
 Appointees : 회사명: 리이치 24 시코리아(주).

주소: 서울시 서초구 현릉로 7,

외국기업창업지원연구센터
 (IKP) 908-909호

전화: + 82-1067838981

SECTION 2: Hazards identification**Hazard classification**

**Standards for classification and labeling of chemical substances and material safety data sheet
 (ministry of employment and labor public notice No. 2020-130)**

Classification

: Skin corrosion/irritation, Category 2
 Serious eye damage/eye irritation, Category 2
 Skin sensitization, Category 1
 Aspiration hazard, Category 2
 Long-term (chronic) aquatic hazard, Category 4

Warning label elements including precautionary statements

Symbol(s)



Signal Word

: Warning

Hazard Statements

: H305: May be harmful if swallowed and enters airways.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H319: Causes serious eye irritation.
 H413: May cause long lasting harmful effects to aquatic life.

Precautionary Statements

: **Prevention:**
 P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264: Wash the contact area thoroughly after handling.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/ eye protection/ face protection.
Response:

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P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

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.

P321: Specific treatment (see supplemental first aid instructions on this label).

P331: Do NOT induce vomiting.

P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313: If eye irritation persists: Get medical advice/ attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

Disposal:

P501: Dispose of contents and container according to wastes control act.

Other hazards which do not result in classification : None

SECTION 3: Composition/information on ingredients

Synonyms : TDM

Molecular formula : UVCB

Common name	Synonyms	CAS-No.	Concentration	KECI Number
tert-Dodecanethiol	tert-dodecanethiol	25103-58-6	98.5 % - 100%	KE-12852

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.

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.

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- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- If swallowed : Keep respiratory tract clear. If symptoms persist, call a physician. Take victim immediately to hospital.

Other cautions for Doctors

- Symptoms : No information available.
- Risks : No information available.
- Treatment : No information available.

SECTION 5: Firefighting measures

- Flash point : 98-110°C (208-230°F)
Method: closed cup
- Autoignition temperature : 198-230°C (388-446°F)
- 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. Ensure adequate ventilation.

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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 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. 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 : Normal measures for preventive fire protection.

Secure storage

Requirements for storage areas and containers : 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.

Uses advised against : None known.

Specific Use : Process regulators, used in vulcanization or polymerization processes

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

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

KR

Components	Basis	Value	Control parameters	Note

Chemical exposure standards, biological exposure standards, etc.

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

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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.
- Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.
- 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.
- 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: 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.
- Protective measures : Wear suitable protective equipment. When using do not eat, drink or smoke. Avoid contact with skin.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Appearance

- Physical state : liquid
 Color : Colorless
 Odor : Repulsive
 Odor Threshold : No data available

Number:100000068802

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pH	: Not applicable
Melting point/freezing point	: -16°C (3°F)
Pour point	No data available
Boiling point/boiling range	: 233°C (451°F)
Flash point	: 98-110°C (208-230°F) Method: closed cup
Evaporation rate	: < 1
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapor pressure	: 4.00 Pa at 24°C (75°F)
Solubility	: 0.00393 mg/l Method: OECD Test Guideline 105
Relative density	: 0.86 at 16 °C (61 °F)
Vapor density	: 3 (Air = 1.0)
Partition coefficient: n-octanol/water	: Pow: 7.43 at 20°C (68°F)
Autoignition temperature	: 198-230°C (388-446°F)
Decomposition temperature	: 300 °F
Viscosity, kinematic	: No data available
Molecular weight	: Varies
Viscosity, dynamic	: 2.6 cP at 20°C (68°F)

SECTION 10: Stability and reactivity

Reactivity : Stable under recommended storage conditions.

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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 : Further information: No decomposition if stored and applied as directed.

Conditions to avoid : Heat, sparks, fire, and oxidizing agents.

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Thermal decomposition : 300 °F

Hazardous decomposition products : Carbon oxides
Sulfur oxides

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

SECTION 11: Toxicological information**Information on exposure routes****Acute oral toxicity**

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

Acute inhalation toxicity

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

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Information given is based on data obtained from similar substances.

Sulfole® 120 Mercaptan (tert-Dodecanethiol)**Skin corrosion or irritation** : Skin irritation**Sulfole® 120 Mercaptan (tert-Dodecanethiol)****Eye corrosion or irritation** : Eye irritation**Sulfole® 120 Mercaptan (tert-Dodecanethiol)****Respiratory Sensitization** : No data available**Sulfole® 120 Mercaptan (tert-Dodecanethiol)****Skin sensitization** The product is a skin sensitizer, sub-category 1B.**Repeated dose toxicity**

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

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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

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Exposure time: 13 wk
Number of exposures: 6h/d, 5d/wk
NOEL: 25 ppm
Method: OECD Test Guideline 413

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

Germ cell mutagenicity (in vitro)

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 Test Guideline 473
Result: negative

Germ cell mutagenicity (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.

Developmental Toxicity

tert-Dodecanethiol : Species: Rat
Application Route: Inhalation

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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

**Specific Target Organ
 Toxicity (Single Exposure)**

Not classified due to data which are conclusive although insufficient for classification.

**Specific Target Organ
 Toxicity (Repeated
 Exposure)**

Not classified due to data which are conclusive although insufficient for classification.

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Aspiration toxicity : May be harmful if swallowed and enters airways.

CMR effects

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

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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
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.

Species: Rat
Sex: male
Application Route: oral gavage
Dose: 25, 75, 200 mg/kg/d
Exposure time: 18 wk
Number of exposures: Daily
Method: OECD Test Guideline 443
NOAEL Parent: 200 mg/kg
NOAEL F1: 200 mg/kg
NOAEL F2: 200 mg/kg
Animal testing did not show any effects on fertility.

Species: Rat
Sex: female
Application Route: oral gavage
Dose: 25, 75, 200 mg/kg/d
Exposure time: 16 - 18 wk
Number of exposures: Daily
Method: OECD Test Guideline 443
NOAEL Parent: 200 mg/kg
NOAEL F1: 200 mg/kg
NOAEL F2: 200 mg/kg
Animal testing did not show any effects on fertility.
Reduced fetal weight.

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Further information : Solvents may degrease the skin.

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SECTION 12: Ecological information

Ecological Toxicity

Toxicity to fish

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-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 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.

Persistence and degradability

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

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Bioaccumulative

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-Dodecanethiol : After release, adsorbs onto soil.

Results of PBT assessment

tert-Dodecanethiol : Non-classified PBT substance, Non-classified vPvB substance

Other adverse effects : May cause long lasting harmful effects to aquatic life.

Ecotoxicology Assessment**Short-term (acute) aquatic hazard**

tert-Dodecanethiol : No toxicity at the limit of solubility.

Long-term (chronic) aquatic hazard

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.

Disposal method : 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.

Disposal precaution : 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

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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.

UN Number	:	not regulated
UN Product Shipping Name	:	Not regulated as a dangerous good
Hazard Class	:	Not applicable
Packing Group	:	Not applicable
Marine Pollutant	:	Not applicable
Special Safety Measures on Mode of Transport	:	No data available

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)

UN3334, AVIATION REGULATED LIQUID, N.O.S., (TERT - DODECANETHIOL), 9, III

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.

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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**National legislation****Regulation under the Occupational Safety and Health Act**

A Material Safety Datasheet (MSDS) for this product is not required according to article 41 of the ISHA.

Regulation	Chemical name	Threshold limits
Harmful Substances Prohibited from Manufacturing	: Not applicable	
	Not applicable	
Harmful Substances Required Permission for Manufacture	: Not applicable	
	Not applicable	

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

Regulation	Chemical name	Threshold limits
Toxic Chemicals	: Not applicable	
	Not applicable	
Prohibited Chemicals	: Not applicable	
	Not applicable	
Restricted Chemicals	: Not applicable	
	Not applicable	
Toxic Release Inventory	: Not applicable	
	Not applicable	

Dangerous Substances Safety Management Act

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Dangerous Substances Safety Management Act : Flammable liquids, Type 3 petroleums, Water insoluble liquid

Regulations by the Waste Management Act : tert-Dodecanethiol: Designated Waste

Regulations by other domestic and foreign laws

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 AIIIC : 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

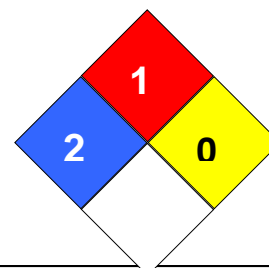
China IECSC : On the inventory, or in compliance with the inventory

Other regulations : No data available

SECTION 16: Other information

Source of data	:	Korea. GHS based classification
Date of initial writing	:	2021-08-24
Revision number	:	1
Last revision date	:	2021-11-04

NFPA Classification : Health Hazard: 2
Fire Hazard: 1
Reactivity Hazard: 0



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Other information

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

Sulfole® 120 Mercaptan (tert-Dodecanethiol)

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			Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		