

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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 : Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Material : 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

Company : Chevron Phillips Chemical Company LP

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

local emergency contact number: 0532-83889090

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)

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

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

GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)

SDS Number:100000068802 1/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

Emergency Overview

Warning

Physical state: Liquid Color: Colorless Odor: Repulsive

Hazards : Causes skin irritation. Causes serious eye irritation. May cause

an allergic skin reaction. May be harmful if swallowed and enters airways. May cause long lasting harmful effects to

aquatic life.

Classification

: Skin corrosion/irritation, Category 2

Serious eye damage/eye irritation, Category 2A

Skin sensitization, Sub-category 1B Aspiration hazard, Category 2 Chronic aquatic toxicity, Category 4

Labeling

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 skin thoroughly after handling.

P272: Contaminated work clothing must not be allowed out of

the workplace.

P273: Avoid release to the environment.

P280: Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P310: IF SWALLOWED: Immediately call a POISON

CENTER/doctor.

P302 + P352: IF ON SKIN: Wash with plenty of 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. 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.

P370 + P378: In case of fire: Use dry sand, dry chemical or

alcohol-resistant foam to extinguish.

Storage:

P405: Store locked up.

Disposal:

SDS Number:100000068802

2/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

P501: Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: Composition/information on ingredients

Synonyms : TDM

Molecular formula : C12H26S

| Chemical name | CAS-No. / EINECS-No. | Concentration [wt%] |
|--------------------|----------------------|---------------------|
| tert-Dodecanethiol | 25103-58-6 | 90 - 100 |

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. If symptoms persist, call a

physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point : 98 - 110 °C (208 - 230 °F)

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

SDS Number:100000068802 3/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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.

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.

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.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Chevron Phillips Chemical Company LP

| Ingredients | Basis | Value | Control parameters | Note | | |
|--------------------|--------------|-------|--------------------|------|--|--|
| tert-Dodecanethiol | Manufacturer | TWA | 0.1 ppm, | | | |
| CN | | | | | | |
| Ingredients | Basis | Value | Control parameters | Note | | |

SDS Number:100000068802 4/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

Engineering measures

Adequate ventilation to control airborned 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

: Wear a supplied-air NIOSH approved respirator unless Respiratory protection

> 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:. Air-Purifying Respirator for Dusts and Mists / P100. 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.

The suitability for a specific workplace should be discussed Hand protection

> 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.

Wear face-shield and protective suit for abnormal processing

problems.

: Choose body protection according to the amount and Skin and body protection

concentration of the dangerous substance at the work place.

Wear as appropriate:. Protective suit. Safety shoes.

: When using do not eat or drink. When using do not smoke. Hygiene measures

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

Safety data

Flash point : 98 - 110 °C (208 - 230 °F)

SDS Number: 100000068802 5/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

Lower explosion limit : No data available

Upper explosion limit : No data available

Oxidizing properties : no

Autoignition temperature : 198 - 230 °C (388 - 446 °F)

Thermal decomposition : 300 °F

Molecular formula : C12H26S

Molecular weight : 202.44 g/mol

pH : Not applicable

Pour point : No data available

Melting point/range -16 °C (3 °F)

Boiling point/boiling range : 233 °C (451 °F)

Vapor pressure : 4.00 Pa

at 24 °C (75 °F)

Relative density : 0.86

at 16 °C (61 °F)

Water solubility : 0.00393 mg/l

Method: OECD Test Guideline 105

Partition coefficient: n-

octanol/water

: Pow: 7.43

at 20 °C (68 °F)

Viscosity, dynamic : 2.6 cP

at 20 °C (68 °F)

Viscosity, kinematic : No data available

Relative vapor density : 3

(Air = 1.0)

Evaporation rate : < 1

SECTION 10: Stability and reactivity

Chemical stability : This material is considered stable under normal ambient and

anticipated storage and handling conditions of temperature

6/15

and pressure.

SDS Number:100000068802

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

Possibility of hazardous reactions

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

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

Acute oral toxicity

tert-Dodecanethiol : LD50: > 5,000 mg/kg

Species: Rat

Sex: male and female

Method: OECD Test Guideline 401

Information given is based on data obtained from similar

substances.

Acute inhalation toxicity

tert-Dodecanethiol : LC50: > 1.97milligram per literExposure 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: >2000 mg/kg

Species: Rat Sex: male

Method: OECD Test Guideline 402

Information given is based on data obtained from similar

substances.

Skin irritation

tert-Dodecanethiol : Skin irritation

Eye irritation

tert-Dodecanethiol : Eye irritation

Sensitization

tert-Dodecanethiol : The product is a skin sensitizer, sub-category 1B.

Repeated dose toxicity

SDS Number:100000068802 7/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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

SDS Number:100000068802 8/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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: 10, 50, 250 mg/kg Exposure time: 35 d

Number of exposures: once daily

NOEL: 50 mg/kg

Method: OECD Guideline 422 Target Organs: Liver, spleen

Information given is based on data obtained from similar

substances.

Species: Rat, female

Sex: female

Application Route: oral gavage Dose: 10, 50, 250 mg/kg Exposure time: 53 d

Number of exposures: once daily

NOEL: 50 mg/kg

Method: OECD Guideline 422 Target Organs: Liver, spleen

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: 90 d

SDS Number:100000068802

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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: 90 d

Number of exposures: 6h/d, 5d/wk

NOEL: 25 ppm

Method: OECD Test Guideline 413

Reproductive toxicity

tert-Dodecanethiol : Species: Rat Sex: male

> Application Route: oral gavage Dose: 10, 50, 250 mg/kg/d Exposure time: 35 d

> Number of exposures: Daily Method: OECD Guideline 422 NOAEL Parent: >= 250 mg/kg

Information given is based on data obtained from similar

substances.

Species: Rat Sex: female

Application Route: oral gavage Dose: 10, 50, 250 mg/kg/d Exposure time: 53 d Number of exposures: Daily Method: OECD Guideline 422 NOAEL Parent: 50 mg/kg NOAEL F1: 50 mg/kg

Information given is based on data obtained from similar

substances.

Decrease in Delivery Index

Developmental Toxicity

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: >= 88.6 ppm

No adverse effects expected

SDS Number:100000068802 10/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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: >= 88.6 ppm
No adverse effects expected

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

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

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Further information : Solvents may degrease the skin.

SECTION 12: Ecological information

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

SDS Number:100000068802 11/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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.

Bioaccumulation

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.

Biodegradability

tert-Dodecanethiol : Result: Not readily biodegradable.

0 %

Testing period: 28 d

Method: OECD Test Guideline 301D

Ecotoxicology Assessment

Acute aquatic toxicity

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

Chronic aquatic toxicity

tert-Dodecanethiol : May cause long lasting harmful effects to aquatic life.

Toxicity Data on Soil

tert-Dodecanethiol : Adsorbs on soil.

Results of PBT assessment

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

Additional ecological

information

: 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.

SDS Number:100000068802 12/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

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.

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)

UN3334, AVIATION REGULATED LIQUID, N.O.S., (TERTIARY 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.

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.

SDS Number:100000068802 13/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Other information : tert- Dodecanethiol, S.T. 3, Cat.Y

SECTION 15: Regulatory information

Notification status

Europe REACH On the inventory, or in compliance with the inventory United States of America (USA) On the inventory, or in compliance with the inventory

TSCA

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 On the inventory, or in compliance with the inventory Japan ENCS On the inventory, or in compliance with the inventory Korea KECI On the inventory, or in compliance with the inventory Philippines PICCS On the inventory, or in compliance with the inventory China IECSC On the inventory, or in compliance with the inventory

Law on Prevention and Control of Environment Other regulations

> Pollution by Solid Waste, Provisions on the Safe Use of Chemicals at Workplace, Law on the Prevention and Control of Occupational Diseases, Fire Protection Law

SECTION 16: Other information

Further information

Legacy SDS Number : 34650

Local emergency contact number: 0532-83889090

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 | LD50 | Lethal Dose 50% | |
| | Government Industrial Hygienists | | | |
| AICS | Australia, Inventory of Chemical | LOAEL | Lowest Observed Adverse Effect | |
| | Substances | | Level | |
| DSL | Canada, Domestic Substances | NFPA | National Fire Protection Agency | |
| | List | | | |
| NDSL | Canada, Non-Domestic | NIOSH | National Institute for Occupational | |
| | Substances List | | Safety & Health | |
| CNS | Central Nervous System | NTP | National Toxicology Program | |
| CAS | Chemical Abstract Service | NZIoC | New Zealand Inventory of | |
| | | | Chemicals | |

SDS Number: 100000068802 14/15

Sulfole® 120 Mercaptan (tert-Dodecyl Mercaptan)

Version 2.14 Revision Date 2017-05-31

| 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% | | |

SDS Number:100000068802 15/15