

Version 3.14 Revision Date 2022-03-24

MSDS number: AA00974-0000000125

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

Product Name : n-Dodecyl Mercaptan

Material : 1126864, 1124172, 1122303, 1111421, 1021557, 1086421,

1071323, 1086420, 1086419, 1021569, 1024819, 1024820, 1021558, 1021567, 1021568, 1021571, 1021572, 1021573, 1021574, 1021575, 1033862, 1032614, 1021566, 1021570

Recommended use of the

Restrictions on use

product

Address

: Process regulators, used in vulcanization or polymerization

processes
: None known.

Specialty Chemicals 10001 Six Pines Drive The Woodlands, TX 77380

Address : CHEVRON PHILLIPS CHEMICALS ASIA PTE. LTD.

C/O DONG WOO CORPORATION

: Chevron Phillips Chemical Company LP

#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

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

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EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week) Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371

67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000 Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606 Slovakia: +421 2 5477 4166 Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24

hours/day, 7 days/week)

Sweden: 112 – ask for Poisons Information

Responsible Department : Product Safety and Toxicology Group

E-mail address : SDS@CPChem.com Website : www.CPChem.com

Appointees : 회사명: 리이치 24 시코리아㈜.

주소: 서울시 서초구 헌릉로 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)

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Classification

: Skin corrosion/irritation, Category 1

Serious eye damage/eye irritation, Category 1

Skin sensitization, Category 1 Aspiration hazard, Category 2

Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1

Warning label elements including precautionary statements

Symbol(s) :









Signal Word : Danger

Hazard Statements : H305: May be harmful if swallowed and enters airways.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction. H318: Causes serious eye damage. H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements : Prevention:

P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P273: Avoid release to the environment.

P280: Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

P301 + P310: IF SWALLOWED: Immediately call a POISON

CENTER or doctor/ physician.

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/

shower.

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.

P333 + P313: If skin irritation or rash occurs: Get medical

advice/ attention.

P362 + P364: Take off contaminated clothing and wash it

before reuse.

P391: Collect spillage.

Storage:

P405: Store locked up.

Disposal:

P501: Dispose of contents and container according to wastes

control act.

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Dodecyl Mercaptan					
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Other hazards which do not result in classification					
ECTION 3: Composition/in	format				
Synonyms	:	Normal Doded 1-dodecaneth NDDM dodecanethiol	iol		
Molecular formula	:	C12H26S			
Common name	Syn	onyms	CAS-No.	Concentration	KECI Number
n-Dodecyl Mercaptan	dode	ecane-1-thiol	112-55-0	98.5%	KE-12851
CTION 4: First aid measu	res			I	
General advice	:			Consult a physician the doctor in attendar	
In case of eye contact	:	: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.			
In case of skin contact	:	: Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.			
If inhaled	:			very position and see call a physician.	k medical
					by mouth to

Other cautions for Doctors

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Symptoms : No information available.

Risks : No information available.

Treatment : No information available.

SECTION 5: Firefighting measures

Flash point : 133°C (271°F)

Autoignition temperature : 230°C (446°F)

Suitable extinguishing

media

: Use water spray, alcohol-resistant foam, dry chemical or

carbon dioxide.

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.

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.

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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. To avoid spills during handling keep bottle on a metal tray. 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

Chemical exposure standards, biological exposure standards, etc.

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

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:. Air-Purifying Respirator for Dusts and Mists. Use a positive pressure, air-supplying respirator if there is

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potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where airpurifying respirators may not provide adequate protection.

Eye protection : Eye wash bottle with pure water.

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. Complete head face and neck protection. Rubber apron. 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

Physical state : liquid
Color : Colorless
Odor : Repulsive

Odor Threshold : No data available

pH : Not applicable

Melting point/freezing point : No data available

Pour point No data available

Boiling point/boiling range : 270°C (518°F)

Flash point : 133°C (271°F)

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Lower explosion limit : No data available

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Upper explosion limit : No data available

Vapor pressure : 0.00 mbar

at 25°C (77°F)

Solubility : 0.0054 mg/l

Method: OECD Test Guideline 105

Relative density : 0.8456

at 15 °C (59 °F)

0.8411

at 20 °C (68 °F)

0.8131

at 50 °C (122 °F)

Vapor density : 1

(Air = 1.0)

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : 230°C (446°F)

Decomposition temperature : No data available

Molecular weight : 202.44 g/mol

Viscosity, dynamic : 2.98 cP

at 25°C (77°F)

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 polymerization does not

occur.

Further information: No decomposition if stored and applied as

directed.

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

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Materials to avoid : May react with oxygen and strong oxidizing agents, such as

chlorates, nitrates, peroxides, etc.

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

Information on exposure routes

n-Dodecyl Mercaptan

Acute oral toxicity : LD50: > 5,000 mg/kg

Species: Rat Sex: male

n-Dodecyl Mercaptan

Acute inhalation toxicity : : > 3.10 mg/l

Exposure time: 4.5 h

Species: Rat

Sex: male and female Test atmosphere: vapor

Method: OECD Test Guideline 403

Information given is based on data obtained from similar

substances.

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Acute dermal toxicity : LD50: > 2,000 mg/kg

Species: Rat Sex: male

Method: OECD Test Guideline 402

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Skin corrosion or irritation : Corrosive after 1 to 4 hours of exposure

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Eye corrosion or irritation: Irreversible effects on the eye.

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Respiratory Sensitization : No data available.

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Skin sensitization The product is a skin sensitizer, sub-category 1A.

Repeated dose toxicity

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n-Dodecyl Mercaptan : Species: Rat

Application Route: Inhalation Dose: 0, 0.43, 1.6, 7.3 ppm Exposure time: 4 wk NOEL: 0.01 mg/l 1.7 ppm

Lowest observable effect level: 0.06 mg/l 7.3 ppm

Target Organs: Skin

Species: Dog

Application Route: Inhalation Dose: 0, 0.44, 1.7, 7.7 ppm Exposure time: 4 wk

NOEL: 1.7 ppm

Lowest observable effect level: 7.7 ppm

Germ cell mutagenicity (in vitro)

n-Dodecyl Mercaptan : Test Type: Ames test

Result: negative

Test Type: Sister Chromatid Exchange Assay

Result: negative

Test Type: Mouse lymphoma assay

Result: negative

Germ cell mutagenicity (in vivo)

n-Dodecyl Mercaptan : Test Type: Mouse micronucleus assay

Species: Mouse

Dose: 1250, 2500, 5000 mg/kg

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.

n-Dodecyl Mercaptan Aspiration toxicity Toxicology Assessment

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

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CMR effects : 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:

Animal testing did not show any effects on fertility.

n-Dodecyl Mercaptan

Further information : Solvents may degrease the skin.

SECTION 12: Ecological information

Ecological Toxicity

Toxicity to fish : LC50: > 100 mg/l

Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and

: EC50: 1 - 10 mg/l other aquatic invertebrates Exposure time: 48 h

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202

Toxicity to algae : EC50: 0.0145 mg/l

Exposure time: 72 h

Species: Pseudokirchneriella subcapitata (green algae) Growth inhibition Method: OECD Test Guideline 201

Persistence and degradability

Persistence and degradability

: Result: Not readily biodegradable. Method: OECD Test Guideline 301

Mobility : After release, adsorbs onto soil.

Other adverse effects : Very toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic

: Very toxic to aquatic life.

hazard

Long-term (chronic) aquatic

: Very toxic to aquatic life with long lasting effects.

hazard

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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 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	:	UN1760
UN Product Shipping Name	:	CORROSIVE LIQUID, N.O.S.
Hazard Class	:	
Packing Group	:	III - Less Hazardous Properties
Marine Pollutant	:	Yes
Special Safety Measures on Mode of Transport	:	No data available

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN1760, CORROSIVE LIQUIDS, N.O.S., (N-DODECYL MERCAPTAN), 8, III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, (133°C), MARINE POLLUTANT, (N-DODECYL MERCAPTAN)

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IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III

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

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, (E), ENVIRONMENTALLY HAZARDOUS, (N-DODECYL MERCAPTAN)

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

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, ENVIRONMENTALLY HAZARDOUS, (N-DODECYL MERCAPTAN)

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

UN1760, CORROSIVE LIQUID, N.O.S., (N-DODECYL MERCAPTAN), 8, III, ENVIRONMENTALLY HAZARDOUS, (N-DODECYL MERCAPTAN)

Other information : 8

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

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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

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

Safety Management Act

Regulations by the Waste

Management Act

: n-Dodecyl Mercaptan: Designated Waste

Regulations by other domestic and foreign laws

Europe REACH This product is in full compliance according to REACH

regulation 1907/2006/EC.

On TSCA Inventory

Switzerland CH INV On the inventory, or in compliance with the inventory

United States of America (USA)

TSCA

Canada DSL All components of this product are on the Canadian

DSL

Australia AICS On the inventory, or in compliance with the inventory New Zealand NZIoC On the inventory, or in compliance with the inventory On the inventory, or in compliance with the inventory Japan ENCS 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 China IECSC On the inventory, or in compliance with the inventory Taiwan TCSI On the inventory, or in compliance with the inventory

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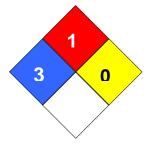
Other regulations : No data available

SECTION 16: Other information

Source of data	:	Korea. GHS based classification
Date of initial writing	:	2021-07-19
Revision number	:	1
Last revision date	:	2021-12-20

NFPA Classification : Health Hazard: 3

Fire Hazard: 1 Reactivity Hazard: 0



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		

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			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%		

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