Mercaptanized Trivinylcyclohexane

Version 1.6 Revision Date 2025-06-09

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

Product information

Product Name	:	Mercaptanized Trivinylcyclohexane
Material	:	1131894, 1131636, 1131637, 1131633, 1131634, 1131684, 1131656
Use	:	Research and Development
Company	:	Chevron Phillips Chemical Company LP Specialty Chemicals 9500 Lakeside Blvd. The Woodlands, TX 77381

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
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: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02 66101029; POISON CENTER ROME – Policlinico “Agostino Gemelli”, Servizio di tossicologia clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù Tel. +39 06 68593726;POISON CENTER ROME – Policlinico “Umberto I” Tel. +39 06 4997 8000; POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326; POISON CENTER NAPLES – Azienda Ospedaliera “Antonio Cardarelli” Tel. +39 081 7472870; POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055 7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382 24444; POISON CENTER BERGAMO – Azienda Ospedaliera “Papa Giovanni XXIII” Tel. 800 883 300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;
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

For Research and Development Purposes Only. Contains substances not on the TSCA Inventory.
To be used under the direction of a Technically Qualified Individual.
This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

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

: Skin irritation, Category 2
Eye irritation, Category 2A

Labeling

Symbol(s) :

Signal Word : Warning

Hazard Statements : H315: Causes skin irritation.
H319: Causes serious eye irritation.

Precautionary Statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
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.
P332 + P313 If skin irritation 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.

Potential Health Effects

Symptoms of Overexposure : No information available.

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.

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SECTION 3: Composition/information on ingredients

Synonyms : Cyclohexanetriethanethiol
Trimercaptoethylcyclohexane
TMEC
Crude TMEC
Crude Trimercaptoethylcyclohexane
Crude Cyclohexanetriethanethiol

Molecular formula : No Data Available

Component	CAS-No.	Weight %
Trimercaptoethylcyclohexane	25664-92-0	55 - 100
Hydrogen Sulfide	7783-06-4	0 - 2
Trivinylcyclohexane	2855-27-8	0.1 - 1

For Research and Development Purposes Only. Contains substances not on the TSCA Inventory.
To be used under the direction of a Technically Qualified Individual.
This is an experimental material: The composition of this material may vary.

SECTION 4: First aid measures

This product is for experimental uses only. Please use caution while handling this product.

General advice : Move out of dangerous area. Show this material safety data

sheet to the doctor in attendance.

If inhaled	:	Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Notes to physician

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

SECTION 5: Firefighting measures

Flash point	:	>200°C (>392°F) Method: PMCC
Autoignition temperature	:	No data available
Unsuitable extinguishing media	:	High volume water jet.
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Fire and explosion protection	:	Normal measures for preventive fire protection.
Hazardous decomposition products	:	Sulfur. Sulfur oxides.

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

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.

This product is for experimental uses only. Please use caution while handling this product.

SECTION 7: Handling and storage

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

Handling

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. 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.

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. Electrical installations / working materials must comply with the technological safety standards.

Use : Research and Development

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

US

Components	Basis	Value	Control parameters	Note
Hydrogen Sulfide	ACGIH	TWA	1 ppm,	
	ACGIH	STEL	5 ppm,	
	OSHA Z-2	CEIL	20 ppm,	
	OSHA Z-2	Peak	50 ppm,	
	OSHA Z-1-A	TWA	10 ppm, 14 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 21 mg/m3	

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Hydrogen Sulfide	7783-06-4	Immediately Dangerous to Life or Health Concentration Value 100 parts per million	1995-03-01

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

Respiratory protection	:	If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as:. A positive pressure, air-supplying respirator may be appropriate 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.
Hand protection	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	:	Eye wash bottle with pure water. Tightly fitting safety goggles.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Protective suit. Safety shoes.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Hazardous quantities of hydrogen sulfide (H2S) may be present. Whenever a potential for exceeding 0.5 ppm (one-half the ACGIH TLV) exists, detection and monitoring of hydrogen sulfide should occur. Since the sense of smell cannot be relied upon to detect the presence of H2S, the concentration should be measured by the use of fixed or portable devices.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Form	:	liquid
Physical state	:	liquid
Color	:	Yellow, clear
Odor	:	Pungent
Odor Threshold	:	No data available

Safety data

Flash point	:	>200°C (>392°F) Method: PMCC
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Oxidizing properties	:	No
Autoignition temperature	:	No data available
Molecular formula	:	No Data Available
Molecular weight	:	No data available
pH	:	Not applicable
Pour point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	No data available
Relative density	:	1.075 at 23 °C (73 °F)
Density	:	1.06 G/ML
Water solubility	:	negligible
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	100 - 300 cP
Relative vapor density	:	Not applicable
Evaporation rate	:	1
Percent volatile	:	0 %

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Conductivity	:	No data available

SECTION 10: Stability and reactivity

This product is for experimental uses only. Please use caution while handling this product.

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	May gradually release H2S at any temperature.

Possibility of hazardous reactions

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

Conditions to avoid : Extremes of temperature and direct sunlight. Avoid contact with strong oxidants..

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

Hazardous decomposition products : Sulfur
Sulfur oxides

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

SECTION 11: Toxicological information

THE TOXICITY OF THIS MATERIAL HAS NOT BEEN FULLY ASSESSED
Since this is an experimental material, limited data are available regarding potential health effects following exposure to it. Therefore, we strongly recommend that this document be read carefully and the precautions outlined in it be followed to minimize exposure.
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Mercaptanized Trivinylcyclohexane
Acute oral toxicity : No data available

Mercaptanized Trivinylcyclohexane
Acute inhalation toxicity : Acute toxicity estimate: 31.05 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Mercaptanized Trivinylcyclohexane
Acute dermal toxicity : No data available

Skin irritation

Trimercaptoethylcyclohexane : Skin irritation

Trivinylcyclohexane Skin irritation

May cause skin irritation in susceptible persons.

Eye irritation
Trimercaptoethylcyclohexane : Mild eye irritation

Trivinylcyclohexane Eye irritation

May cause irreversible eye damage.

Mercaptanized Trivinylcyclohexane
Aspiration toxicity : No aspiration toxicity classification.

Mercaptanized Trivinylcyclohexane

Further information : No data available.

SECTION 12: Ecological information

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

Toxicity to daphnia and other aquatic invertebrates

Hydrogen Sulfide : EC50: 0.12 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Analytical monitoring: yes
Test substance: yes
Method: OECD Test Guideline 202

Toxicity to algae

Hydrogen Sulfide : EC50: 1.87 mg/l
Exposure time: 24 h
Species: Selenastrum capricornutum (algae)
static test Test substance: yes

M-Factor

: M-Factor (Acute Aquat. Tox.) 1

M-Factor (Chron. Aquat. Tox.) 1

M-Factor
hydrogen sulphide : M-Factor (Chron. Aquat. Tox.) 1

M-Factor
cyclohexane-1,2,4-triyltris(ethylene) M-Factor (Acute Aquat. Tox.) 1

M-Factor (Chron. Aquat. Tox.) 1

Biodegradability

Trimercaptoethylcyclohexane : This material is not expected to be readily biodegradable.

Hydrogen Sulfide : No data available

Bioaccumulation

Hydrogen Sulfide : This material is not expected to bioaccumulate.

Mobility

Hydrogen Sulfide : No data available

Additional ecological information : Very toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

Trimercaptoethylcyclohexane	:	Very toxic to aquatic life.
Hydrogen Sulfide	:	Very toxic to aquatic life.

Long-term (chronic) aquatic hazard

Trimercaptoethylcyclohexane	:	Very toxic to aquatic life with long lasting effects.
Hydrogen Sulfide	:	Not applicable

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.

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)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (HYDROGEN SULFIDE), 9, III, RQ (HYDROGEN SULFIDE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TRIMERCAPTOETHYLCYCLOHEXANE, HYDROGEN SULFIDE), 9, III, (> 200 °C c.c.), MARINE POLLUTANT, (TRIMERCAPTOETHYLCYCLOHEXANE, HYDROGEN SULFIDE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TRIMERCAPTOETHYLCYCLOHEXANE, HYDROGEN SULFIDE), 9, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TRIMERCAPTOETHYLCYCLOHEXANE, HYDROGEN SULFIDE), 9, III, (-)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
90,UN3082,ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TRIMERCAPTOETHYLCYCLOHEXANE, HYDROGEN SULFIDE), 9, III

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TRIMERCAPTOETHYLCYCLOHEXANE, HYDROGEN SULFIDE), 9, III

Maritime transport in bulk according to IMO instruments

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SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards	:	Skin corrosion or irritation Serious eye damage or eye irritation	
CERCLA Reportable Quantity	:	5000 lbs Hydrogen Sulfide	
SARA 302 Reportable Quantity	:	5000 lbs Hydrogen Sulfide	
SARA 302 Threshold Planning Quantity	:	Hydrogen Sulfide 7783-06-4	500 lbs
SARA 304 Reportable Quantity	:	5000 lbs Hydrogen Sulfide 7783-06-4	100 lbs

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
: Hydrogen Sulfide - 7783-06-4

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).

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):
: Hydrogen Sulfide - 7783-06-4

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

US State Regulations

Pennsylvania Right To Know
: Trimercaptoethylcyclohexane - 25664-92-0
1-vinyl-2,4-bis(2-mercaptoethyl)cyclohexane -
2-(1-methyloctahydro-1H-isothiochromen-7-yl)ethane-1-thiol -
Hydrogen Sulfide - 7783-06-4

California Prop. 65 Components : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

Taiwan TCSI	:	Not in compliance with the inventory
Europe REACH	:	Not in compliance with the inventory
United States of America (USA) TSCA	:	Exemptions from the obligation to register
Australia AIIC	:	Not in compliance with the inventory
Canada DSL	:	Not in compliance with the inventory
Japan ENCS	:	Not in compliance with the inventory

Japan ISHL	:	Not in compliance with the inventory
Korea KECI	:	Not in compliance with the inventory
Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory
New Zealand NZIoC	:	Not in compliance with the inventory
Other TECI	:	Not in compliance with the inventory

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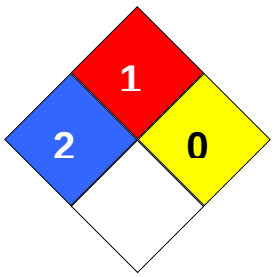
SECTION 16: Other information

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



Further information

Legacy SDS Number : CPC00315

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%
AIIC	Australian Inventory of Industrial Chemicals	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

	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%	ATE	Acute toxicity estimate