Triisobutylaluminum Line Flush

Version 2.1 Revision Date 2016-04-01

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

Product information

Product Name : Triisobutylaluminum Line Flush

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

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)
Transport:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
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
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.

Emergency Overview

Danger

Form: Liquid **Physical state**: Liquid **Color**: light yellow, dark, opaque **Odor**: very faint

OSHA Hazards : Flammable Liquid, Harmful by skin absorption., Reproductive hazard, Aspiration hazard

Classification

: Flammable liquids , Category 2
Skin irritation , Category 2
Reproductive toxicity , Category 2
Specific target organ systemic toxicity - single exposure ,

Category 3 , Respiratory system, Central nervous system
Specific target organ systemic toxicity - repeated exposure , Category 2 , Nervous system
Aspiration hazard , Category 1

Labeling

Symbol(s) :

Signal Word : Danger

Hazard Statements : H225: Highly flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H361: Suspected of damaging fertility or the unborn child.
H373: May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/fume/gas/mist/vapor/spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302 + P334 IF ON SKIN: Immerse in cool water/ wrap in wet bandages.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P422 Store contents under inert gas.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: Composition/information on ingredients

Component	CAS-No.	Weight %
White Mineral Oil	8042-47-5	80 - 97
n-hexane	110-54-3	3 - 20
Triisobutyl aluminum	100-99-2	0.01 - 0.2

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 : Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.

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 : 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. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point : -26 - 100 °C (-15 - 212 °F)

Suitable extinguishing media	:	Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.
Unsuitable extinguishing media	:	High volume water jet.
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Fire and explosion protection	:	Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

SECTION 6: Accidental release measures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7: Handling and storage

Handling

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
Advice on protection	:	Do not spray on an open flame or any other incandescent

against fire and explosion | material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers : No smoking. 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

US

Ingredients	Basis	Value	Control parameters	Note
White Mineral Oil	OSHA Z-1	TWA	5 mg/m3	Mist
	ACGIH	TWA	5 mg/m3	URT irr, A4, Inhalable fraction
	OSHA Z-1-A	TWA	5 mg/m3	Mist
n-hexane	ACGIH	TWA	50 ppm,	CNS impair, eye irr, peripheral neuropathy, BEI, Skin,
	OSHA Z-1	TWA	500 ppm, 1,800 mg/m3	(b),
	OSHA Z-1-A	TWA	50 ppm, 180 mg/m3	

(b) The value in mg/m3 is approximate.
A4 Not classifiable as a human carcinogen
BEI Substances for which there is a Biological Exposure Index or Indices (see BEI® section)
CNS impair Central Nervous System impairment
eye irr Eye irritation
peripheral neuropathy Peripheral neuropathy
Skin Danger of cutaneous absorption
URT irr Upper Respiratory Tract irritation

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
White Mineral Oil	8042-47-5	Immediately Dangerous to Life or Health Concentration Value 2500 milligram per cubic meter	1995-03-01
n-hexane	110-54-3	Immediately Dangerous to Life or Health Concentration Value 1100 ppm	1995-03-01
White Mineral Oil	8042-47-5	Immediately Dangerous to Life or Health Concentration Value 2500 milligram per cubic meter	1995-03-01
n-hexane	110-54-3	Immediately Dangerous to Life or Health Concentration Value 1100 ppm	1995-03-01

Biological exposure indices

US

Substance name	CAS-No.	Control parameters	Sampling time	Update
n-hexane	110-54-3	2,5-Hexanedione: 0.4 mg/l (Urine)	End of shift at end of workweek	2007-01-01

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	:	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 Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
Hand protection	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	:	Eye wash bottle with pure water. Tightly fitting safety goggles.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Form	:	Liquid
Physical state	:	Liquid
Color	:	light yellow, dark, opaque
Odor	:	very faint

Safety data

Flash point	:	-26 - 100 °C (-15 - 212 °F)
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available

Molecular weight	:	Not applicable
pH	:	Not applicable
Freezing point	:	No data available
Melting point/range		No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	No data available
Density	:	No data available
Water solubility	:	Insoluble
Solubility in other solvents	:	Soluble in hydrocarbon and non-polar organic solvents

SECTION 10: Stability and reactivity

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions

Conditions to avoid : Heat, flames and sparks.

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

SECTION 11: Toxicological information

Acute oral toxicity

White Mineral Oil : LD50 Oral: > 5,000 mg/kg
Species: Rat
Sex: male and female
Method: OECD Test Guideline 401
Test substance: yes

Acute inhalation toxicity

n-hexane : LC50: 73680 ppm
Exposure time: 4 h
Species: Rat
Sex: male

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Acute dermal toxicity : : > 5,000 mg/kg

Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

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Skin irritation : May cause skin irritation in susceptible persons.

Triisobutylaluminum Line Flush
Eye irritation : Vapors may cause irritation to the eyes, respiratory system and the skin.

Triisobutylaluminum Line Flush
Sensitization : No adverse effects expected.

Repeated dose toxicity

n-hexane : Species: Rat, male
Sex: male
Application Route: Inhalation
Dose: 3,000 ppm
Exposure time: 16 wks
Number of exposures: 12 h/d
Lowest observable effect level: 3,000 ppm
Target Organs: Peripheral nervous system

Species: Mouse, female
Sex: female
Application Route: Inhalation
Dose: 500, 1,000, 4,000, 10,000 ppm
Exposure time: 13 wks
Number of exposures: 6h or 22h (1,000 ppm)/ 5d/wk
Lowest observable effect level: 500 ppm
Target Organs: Nose

Species: Mouse, male
Sex: male
Application Route: Inhalation
Dose: 500, 1,000, 4000, 10,000 ppm
Exposure time: 13 wks
Number of exposures: 6h or 22h (1,000 ppm)/d, 5d/wk
NOEL: 500 ppm
Lowest observable effect level: 1,000 ppm
Target Organs: Nose

Species: Rat, male
Sex: male
Application Route: oral gavage
Dose: 568, 1,135, 3,973 mg/kg bw/day
Exposure time: 90 or 120 days
Number of exposures: Daily or 5d/wk (120-d study)
NOEL: 568 mg/kg bw/day
Lowest observable effect level: 1135 mg/kg bw/day

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Carcinogenicity : Remarks: Not expected to be carcinogenic based on individual component data.

Reproductive toxicity

n-hexane : Species: Rat
Sex: male
Application Route: Inhalation
Dose: 5,000 ppm
Number of exposures: 16 hr/d, 6 d/wk
Test period: 6 wks
permanent testicular damage characterized by loss of germ-cell line

Developmental Toxicity

n-hexane : Species: Rat
Application Route: Inhalation
Dose: 200, 1,000, 5,000 ppm
Number of exposures: 20 hr/d, daily
Test period: GD 6-20
NOAEL Teratogenicity: 200 ppm
NOAEL Maternal: 200 ppm

Species: Mouse
Application Route: Inhalation
Dose: 200, 1,000, 5,000 ppm
Number of exposures: 20 hr/d, daily
Test period: GD 6-17
NOAEL Maternal: 1,000 ppm

Aspiration toxicity

White Mineral Oil : May be fatal if swallowed and enters airways.
n-hexane May be fatal if swallowed and enters airways.

CMR effects

n-hexane : Carcinogenicity: Not classifiable as a human carcinogen.
Mutagenicity: Did not show mutagenic effects in animal experiments.
Teratogenicity: Suspected of damaging the unborn child.
Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

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Further information : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

SECTION 12: Ecological information

Toxicity to fish

n-hexane : LL50: 12.51 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Method: QSAR modeled data

Toxicity to daphnia and other aquatic invertebrates

n-hexane	:	EL50: 21.85 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: QSAR modeled data

Toxicity to algae

n-hexane	:	EL50: 9.29 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Method: QSAR modeled data

Bioaccumulation

n-hexane	:	Bioconcentration factor (BCF): 501 Does not significantly accumulate in organisms.

Biodegradability

n-hexane	:	This material is expected to be readily biodegradable.

Ecotoxicology Assessment

Acute aquatic toxicity
n-hexane : Toxic to aquatic life.

Chronic aquatic toxicity
n-hexane : Toxic to aquatic life with long lasting effects.

Results of PBT assessment
n-hexane : Non-classified vPvB substance, Non-classified PBT substance

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed

waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIISOBUTYL ALUMINUM, HEXANE), 4.2 (4.3), I, MARINE POLLUTANT, (HEXANE), RQ (HEXANE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIISOBUTYL ALUMINUM, HEXANE), 4.2 (4.3), I, (-26 - 100 °C), MARINE POLLUTANT, (HEXANE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3394, 4.2: NOT PERMITTED FOR TRANSPORT

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

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIISOBUTYL ALUMINUM, HEXANE), 4.2 (4.3), I, (B/E), ENVIRONMENTALLY HAZARDOUS, (HEXANE)

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

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIISOBUTYL ALUMINUM, HEXANE), 4.2 (4.3), I, ENVIRONMENTALLY HAZARDOUS, (HEXANE)

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

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIISOBUTYL ALUMINUM, HEXANE), 4.2 (4.3), I, ENVIRONMENTALLY HAZARDOUS, (HEXANE)

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

SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard Chronic Health Hazard
CERCLA Reportable Quantity	:	Calculated RQ exceeds reasonably attainable upper limit. n-hexane
SARA 302 Reportable Quantity	:	This material does not contain any components with a SARA 302 RQ.
SARA 302 Threshold Planning Quantity	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 304 Reportable Quantity	:	This material does not contain any components with a section 304 EHS RQ.
SARA 313 Ingredients	:	The following components are subject to reporting levels established by SARA Title III, Section 313:
	:	n-hexane - 110-54-3

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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):
: n-hexane - 110-54-3

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

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

US State Regulations

Pennsylvania Right To Know : White Mineral Oil - 8042-47-5
n-hexane - 110-54-3

New Jersey Right To Know : White Mineral Oil - 8042-47-5
n-hexane - 110-54-3

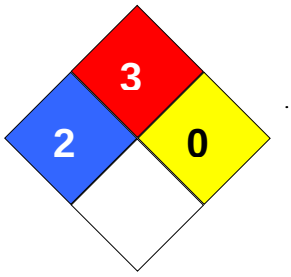
California Prop. 65 Ingredients : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

Europe REACH	:	Not in compliance with the inventory
United States of America TSCA	:	On TSCA Inventory
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
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

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0



Further 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	LOAEL	Lowest Observed Adverse Effect

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