

**Orthoxylene 99%**

Version 1.6

Revision Date 2017-04-12

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

Product Name : Orthoxylene 99%
Material : 1094430, 1028357, 1033221, 1031056, 1025157

Use : Chemical intermediate, Solvent

Company : Chevron Phillips Chemical Company LP
Specialty Chemicals
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)

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**

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

: Flammable liquids, Category 3
Skin irritation, Category 2
Eye irritation, Category 2A
Specific target organ systemic toxicity - single exposure,
Category 3, Respiratory system
Aspiration hazard, Category 1

Labeling

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Symbol(s)

:



Signal Word

:

Danger

Hazard Statements

:

H226: Flammable liquid and vapor.
 H304: May be fatal if swallowed and enters airways.
 H315: Causes skin irritation.
 H319: Causes serious eye irritation.
 H335: May cause respiratory irritation.

Precautionary Statements

:

Prevention:

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

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

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: 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 to extinguish.

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.

Disposal:

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

Carcinogenicity:

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IARC	Group 2B: Possibly carcinogenic to humans
	Cumene 98-82-8
NTP	Reasonably anticipated to be a human carcinogen
	Cumene 98-82-8

SECTION 3: Composition/information on ingredients

Synonyms : O-Xylene
Benzene, 1,2-Dimethyl-

Molecular formula : C₈H₁₀

Component	CAS-No.	Weight %
o-xylene	95-47-6	99 - 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. 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	: 32 °C (90 °F) Method: Tag closed cup
Autoignition temperature	: No data available
Suitable extinguishing media	: Alcohol-resistant foam. Carbon dioxide (CO ₂). 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	: Wear self-contained breathing apparatus for firefighting if

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- | | |
|----------------------------------|--|
| equipment for fire-fighters | 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). Keep away from open flames, hot surfaces and sources of ignition. |
| Hazardous decomposition products | : Carbon oxides. |

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. 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.
Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient. Review all operations, which have the potential to generating and accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR |
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1910.106 "Flammable and Combustible Liquids"; National Fire Protection Association (NFPA 77), "Recommended Practice on Static Electricity"; and/or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising Out of Static, Lightning, and stray Currents".

Advice on protection against fire and explosion : 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). 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
o-xylene	OSHA Z-1	TWA	100 ppm, 435 mg/m3	(b),
	OSHA Z-1-A	STEL	150 ppm, 655 mg/m3	
	OSHA Z-1-A	TWA	100 ppm, 435 mg/m3	
	ACGIH	TWA	100 ppm,	CNS impair, URT irr, eye irr, BEI, A4,
	ACGIH	STEL	150 ppm,	CNS impair, URT irr, eye irr, BEI, A4,
Cumene	ACGIH	TWA	50 ppm,	CNS impair, URT irr, eye irr, skin irr,
	OSHA Z-1	TWA	50 ppm, 245 mg/m3	X, (b),
	OSHA Z-1-A	TWA	50 ppm, 245 mg/m3	X,

(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
 skin irr Skin irritation
 URT irr Upper Respiratory Tract irritation
 X Skin notation

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
o-xylene	95-47-6	Immediately Dangerous to Life or Health Concentration Value 900 ppm	1995-03-01
Cumene	98-82-8	Immediately Dangerous to Life or Health Concentration Value 900 ppm	1995-03-01

US

Substance name	CAS-No.	Control parameters	Sampling time	Update
o-xylene	95-47-6	Methylhippuric acids: 1.5 g/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2013-03-01

Engineering measures

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

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Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

- | | | |
|--------------------------|---|---|
| Respiratory protection | : | Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: 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 | : | Colorless |
| Odor | : | Pungent, Sweet |

Safety data

- | | | |
|-----------------------|---|---|
| Flash point | : | 32 °C (90 °F)
Method: Tag closed cup |
| Ignition temperature | : | 463 °C (865 °F) |
| Lower explosion limit | : | 0.9 %(V) |

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Upper explosion limit	: 6.7 %(V)
Oxidizing properties	: no
Autoignition temperature	: No data available
Molecular formula	: C ₈ H ₁₀
Molecular weight	: 106.18 g/mol
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: 144 °C (291 °F) estimated
Vapor pressure	: 0.26 PSI
Relative density	: 0.8755 at 25 °C (77 °F)
Water solubility	: 170.5 MG/L at 25 °C (77 °F) Negligible
Partition coefficient: n-octanol/water	: log Pow: 3.12
Viscosity, dynamic	: 0.76 mPa.s at 25 °C (77 °F)
Relative vapor density	: 3.7 (Air = 1.0)
Evaporation rate	: 1
Percent volatile	: > 99 %

Other information

Conductivity	: < 50 pSm at 20 °C
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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.
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Possibility of hazardous reactions

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

- Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
- Hazardous decomposition products : Carbon oxides
- Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**Orthoxylene 99%****Acute oral toxicity**

- : LD50 Oral: 3,559 mg/kg
Species: Rat
Method: Acute toxicity estimate

Orthoxylene 99%**Acute inhalation toxicity**

- : LC50: 27.4 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: vapor
Method: Acute toxicity estimate

Acute dermal toxicity

- o-xylene : LD50: 12,126 mg/kg
Species: Rabbit

Orthoxylene 99%**Skin irritation**

- : Irritating to skin.
May cause skin irritation in susceptible persons.

Orthoxylene 99%**Eye irritation**

- : Eye irritation
May irritate eyes.

Sensitization

- o-xylene : Does not cause sensitization. largely based on human evidence.

Repeated dose toxicity

- o-xylene : Species: Rat
Application Route: Inhalation
Dose: 0, 3500 ppm
Exposure time: 6 wk
Lowest observable effect level: 3500 ppm

Carcinogenicity

- o-xylene : Species: Rat
Dose: 0, 250, 500 mg/kg
Exposure time: 103 wks
Number of exposures: 5 d/wk

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Remarks: No evidence of carcinogenicity

Species: Mouse

Dose: 0, 500, 1000 mg/kg

Exposure time: 103 wks

Number of exposures: 5 d/wk

Remarks: No evidence of carcinogenicity

Developmental Toxicity

o-xylene

: Species: Rat

Application Route: Inhalation

Dose: 0, 100, 500, 1000, 2000 ppm

Number of exposures: 6 h/d, 7 d/wk

Test period: GD 6-20

NOAEL Teratogenicity: 100 ppm

NOAEL Maternal: 500 ppm

Orthoxylene 99%**Aspiration toxicity**

: May be fatal if swallowed and enters airways.

Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

CMR effects

o-xylene

: Carcinogenicity: Animal testing did not show any carcinogenic effects.

Mutagenicity: Did not show mutagenic effects in animal experiments.

Teratogenicity: Did not show teratogenic effects in animal experiments.

Reproductive toxicity: No toxicity to reproduction

Orthoxylene 99%**Further information**

: Solvents may degrease the skin.

SECTION 12: Ecological information**Toxicity to fish**

o-xylene

: LC50: 7.6 mg/l

Exposure time: 96 h

Species: Salmo gairdneri (Rainbow trout)

Toxicity to daphnia and other aquatic invertebrates

o-xylene

: EC50: 1 mg/l

Exposure time: 24 h

Species: Daphnia magna (Water flea)

Method: OECD Test Guideline 202

Toxicity to algae

o-xylene

: EC50: 4.2 mg/l

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Exposure time: 8 Days
Species: *Selenastrum capricornutum* (algae)
static test Analytical monitoring: yes

Elimination information (persistence and degradability)

Bioaccumulation

o-xylene : Bioconcentration factor (BCF): 29
Does not significantly accumulate in organisms.

Biodegradability : Expected to be biodegradable

Ecotoxicology Assessment

Acute aquatic toxicity
o-xylene : Toxic to aquatic life.

Chronic aquatic toxicity
o-xylene : Harmful to aquatic life with long lasting effects.

Additional ecological
information : Toxic to aquatic life.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life., 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

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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)

UN1307, XYLENES, 3, III, RQ (O-XYLENE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1307, XYLENES, 3, III, (32 °C)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1307, XYLENES, 3, III

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

UN1307, XYLENES, 3, III, (D/E)

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

UN1307, XYLENES, 3, III

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

UN1307, XYLENES, 3, III

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

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

CERCLA Reportable : 1010 lbs
Quantity
o-xylene

SARA 302 Reportable : This material does not contain any components with a SARA
Quantity 302 RQ.

SARA 302 Threshold : No chemicals in this material are subject to the reporting

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- Planning Quantity 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:
- : o-xylene - 95-47-6

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):

: Cumene - 98-82-8

US State Regulations

- Pennsylvania Right To Know
- : o-xylene - 95-47-6
- : p-xylene - 106-42-3
- : m-xylene - 108-38-3
- : Cumene - 98-82-8

- California Prop. 65 Ingredients : WARNING! This product contains a chemical known in the State of California to cause cancer.
- Cumene 98-82-8

Notification status

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

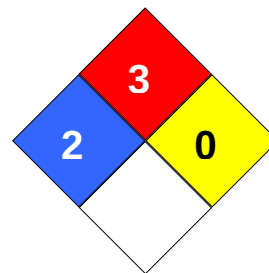
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SECTION 16: Other information

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

**Further information**

Legacy SDS Number : CPC00377

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act

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	New Chemical Substances		
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%		