

Safety Data Sheet

Toluene

Version 1.10

Revision Date: 01/22/2024

SECTION 1. IDENTIFICATION

Product name : Toluene

Synonyms : No data available

Recommended use of the chemical and restrictions on use

Recommended use : Industrial chemical

Restricted Uses : None known.

Manufacturer or supplier's details**Company** : Univar Solutions Canada Ltd.
Address : 64 Arrow Road
North York, ON, M9M 2L9
Canada**Emergency telephone number:**

Local Emergency Contact : During Office hours Monday-Friday, 8.00 am - 4.30 pm (Pacific Standard Time) : 1-866-686-4827

Additional Information: : Responsible Party: Product Compliance Department
E-mail: SDSNA@univarsolutions.com
SDS Requests: 1-855-429-2661
Website: www.univarsolutions.com

SECTION 2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Flammable liquids : Category 2

Skin irritation : Category 2

Eye irritation : Category 2A

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1A

Reproductive toxicity : Category 2

Specific target organ toxicity : Category 3 (Central nervous system)
- single exposureSpecific target organ toxicity : Category 2 (Auditory system, Eyes)
- repeated exposure (Inhalation)

Aspiration hazard : Category 1

Label elements

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Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

:

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ 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.
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.
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.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before

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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.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

CAS-No.	Chemical name	% by Weight	Synonyms
108-88-3	Toluene	80 - 100	toluene
1330-20-7	Mixed xylenes	5 - 10	Mixed xylenes
100-41-4	Ethylbenzene	5 - 10	ethylbenzene
71-43-2	Benzene	0.1 - 1	benzene (Containing adhesive)

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST-AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.
- 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 : 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.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.

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

SECTION 5. FIREFIGHTING MEASURES

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.
Hazardous combustion products	: Carbon oxides Unburned hydrocarbons
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.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours 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 and materials for containment and 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

Advice on protection against fire and explosion	: Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only
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explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/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.
- Conditions for safe storage : 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

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
108-88-3	Toluene	TWA	50 ppm 188 mg/m3	CA AB OEL
		TWA	20 ppm	CA BC OEL
		TWAEV	20 ppm	CA QC OEL
100-41-4	Ethylbenzene	TWA	100 ppm 434 mg/m3	CA AB OEL
		STEL	125 ppm 543 mg/m3	CA AB OEL
		TWA	20 ppm	CA BC OEL
		STEL	125 ppm	CA BC OEL
		TWAEV	100 ppm 434 mg/m3	CA QC OEL
		STEV	125 ppm 543 mg/m3	CA QC OEL
71-43-2	Benzene	TWA	0.5 ppm 1.6 mg/m3	CA AB OEL
		STEL	2.5 ppm 8 mg/m3	CA AB OEL
		TWA	0.5 ppm	CA BC OEL
		STEL	2.5 ppm	CA BC OEL
		TWA	0.5 ppm	CA ON OEL
		STEL	2.5 ppm	CA ON OEL
		STEV	2.5 ppm	CA QC OEL

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		TWAEV	0.5 ppm	CA QC OEL
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Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Organic vapour type
Hand protection	:	
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
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

Appearance	:	liquid
Colour	:	Clear, colorless
Odour	:	characteristic, sweet, pungent
Odour Threshold	:	2.9 ppm
pH	:	No data available
Freezing Point (Melting point/freezing point)	:	-95 °C (-139 °F)
Boiling Point (Boiling point/boiling range)	:	109 - 111 °C (228 - 232 °F)
Flash point	:	4 - 5 °C (39 - 41 °F) Method: Tag closed cup
Evaporation rate	:	< 2 (Butyl Acetate = 1)
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	7.1 %(V)
Lower explosion limit	:	1.1 %(V)
Vapour pressure	:	< 24 mmHg @ 20 °C (68 °F)
Relative vapour density	:	< 3.14 @ 20 - 25 °C (68 - 77 °F) (Air = 1.0)
Relative density	:	0.867 - 0.88 @ 20 - 25 °C (68 - 77 °F) Reference substance: (water = 1)

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Density : 0.87 g/cm³ @ 20 - 25 °C (68 - 77 °F)**Solubility(ies)**

Water solubility : slightly soluble

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : 480 - 536 °C

Thermal decomposition : No data available

ViscosityViscosity, kinematic : < 3 mm²/s @ 20 °C (68 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.

Conditions to avoid : Keep away from heat, flame, sparks and other ignition sources.

Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Acids
Strong oxidizing agents
Bases

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity**Components:****1330-20-7:**Acute inhalation toxicity : LC50 (Rat, male): 6700 ppm
Exposure time: 4 h
Assessment: The component/mixture is moderately toxic after short term inhalation.Acute dermal toxicity : LD50 (Rabbit): 1,700 mg/kg
Assessment: The component/mixture is moderately toxic after single contact with skin.**100-41-4:**Acute inhalation toxicity : LC50 (Rat, Male): 1432 ppm
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.

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Skin corrosion/irritation

Components:

108-88-3:

Species: Rabbit
Exposure time: 4 h
Result: Irritating to skin.

1330-20-7:

Species: Rabbit
Exposure time: 24 h
Result: Irritating to skin.

71-43-2:

Species: Rabbit
Exposure time: 4 h
Result: Irritating to skin.

Serious eye damage/eye irritation

Components:

108-88-3:

Species: Rabbit
Result: Irritating to eyes.

1330-20-7:

Species: Rabbit
Result: Irritating to eyes.

71-43-2:

Species: Rabbit
Result: Irritating to eyes.

Germ cell mutagenicity

Components:

108-88-3:

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

71-43-2:

Genotoxicity in vitro : Test Type: Mammalian cell gene mutation assay
Species: Chinese hamster ovary (CHO)
Result: positive

Genotoxicity in vivo

: Species: Mouse
Application Route: Inhalation
Exposure time: 1, 2, 4 or 8 wks
Dose: 0, 1, 10, 100 or 200 ppm
Result: positive

Germ cell mutagenicity - Assessment

: Positive result(s) from mutagenicity tests in mammals. Evidence that the substance has potential to cause mutations to germ cells

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Carcinogenicity

Components:

108-88-3:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

71-43-2:

Species: Rat, (male and female)

Application Route: Oral

Exposure time: 103 wks

Dose: 0, 50, 100, 200 mg/kg

Frequency of Treatment: daily, 5 d/wk

LOAEL: 50

Remarks: Category 1A

Carcinogenicity - Assessment : Human carcinogen.

ACGIH

Confirmed human carcinogen

71-43-2

Benzene

Confirmed animal carcinogen with unknown relevance to humans

100-41-4

Ethylbenzene

Reproductive toxicity

Components:

108-88-3:

Effects on foetal development : Species: Rat
Application Route: inhalation (vapour)
Dose: 0, 250, 750, 1500, 3000 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
General Toxicity Maternal: NOAEC: 750 ppm
Developmental Toxicity: NOAEC: 750 ppm
Symptoms: Maternal toxicity, Reduced body weight, Skeletal malformations

Teratogenicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Reproductive toxicity - Assessment : No toxicity to reproduction

71-43-2:

Reproductive toxicity - Assessment : Fertility classification not possible from current data.

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Teratogenicity - Assessment : teratogenicity classification is not possible

STOT - single exposure

Components:

108-88-3:

Exposure routes: Inhalation

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

1330-20-7:

Assessment: May cause respiratory irritation.

STOT - repeated exposure

Components:

108-88-3:

Exposure routes: Inhalation

Target Organs: Auditory system, Eyes

Assessment: May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

1330-20-7:

Target Organs: Central nervous system, Kidney, Liver

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

100-41-4:

Target Organs: Auditory system

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

71-43-2:

Target Organs: Blood

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Aspiration toxicity

Components:

108-88-3:

May be fatal if swallowed and enters airways.

1330-20-7:

May be fatal if swallowed and enters airways.

100-41-4:

May be fatal if swallowed and enters airways.

71-43-2:

May be fatal if swallowed and enters airways.

Further information

Product:

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Remarks: 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

Ecotoxicity

Components:

108-88-3:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia): 3.78 mg/l
Exposure time: 48 h
Test Type: Renewal

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.74 mg/l
Exposure time: 7 d

Acute aquatic toxicity- Assessment : Toxic to aquatic life.

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

100-41-4:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): 5.4 mg/l
Exposure time: 72 h
Test Type: static test

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

71-43-2:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.3 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): 32 mg/l
End point: Biomass
Exposure time: 72 h
Test Type: static test

Toxicity to fish (Chronic tox- : NOEC (Pimephales promelas (fathead minnow)): 3.1 mg/l

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Exposure time: 28 d

Acute aquatic toxicity- Assessment : Toxic to aquatic life.

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

Persistence and degradability

No data available

Bioaccumulative potential

Components:

108-88-3:

Partition coefficient: n-octanol/water : log Pow: 2.73 (20 °C)
pH: 7

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : 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.

Components:

100-41-4:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

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

TDG (Transportation of Dangerous Goods):

UN1294, TOLUENE, 3, II

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IATA (International Air Transport Association):

UN1294, TOLUENE, 3, II

IMDG (International Maritime Dangerous Goods):

UN1294, TOLUENE, 3, II, Flash Point: 4 - 5 °C (39 - 41 °F)

SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

NPRI Components : 108-88-3
100-41-4
71-43-2
98-82-8
91-20-3

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PHIL : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions EHS Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

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Legacy SDS: : R0000565, 100000027774

Material number:

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16210728, 16210729, 16209023, 16208416, 16208312, 16207660, 16207339, 16206900, 16205696, 16204501, 16204283, 16198434, 16203986, 16197521, 16192390, 16184349, 16184857, 16177870, 16183100, 16178779, 16176370, 16176367, 16175893, 16175447, 16174931, 16174746, 16174673, 16174615, 16177006, 16180605, 16165897, 16159073, 16075135, 16075023, 16168918, 16168805, 16168797, 16168637, 16168288, 16168201, 16172811, 16163761, 16154410, 16154235, 16155553, 16157824, 16167504, 16167250, 16167249, 16161748, 16165292, 16148842, 16156346, 16147784, 16153071, 16136227, 16136226, 16155073, 16146356, 16135865, 16152078, 16146709, 16154785, 16143300, 16142589, 16140873, 16142767, 16141667, 16140945, 16157828, 16143314, 16143342, 16129469, 16127453, 16127493, 16126020, 16116034, 16108456, 16066714, 16066691, 16061579, 16076583, 20054, 16052078, 16044492, 16042922, 16020146, 758386, 744411, 744290, 710730, 710841, 659495, 638920, 605418, 599094, 591594, 583688, 577548, 74292

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 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%		