

Safety Data Sheet

Monoethanolamine 99%

Version 1.9

Revision Date: 03/14/2025

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Monoethanolamine 99%

Manufacturer or supplier's details

Company : Univar Solutions USA

Address : 3075 Highland Pkwy Suite 200
Downers Grove, IL 60515
United States of America (USA)

Emergency telephone number:
Transport North America: CHEMTREC (1-800-424-9300)
CHEMTREC INTERNATIONAL Tel # 703-527-3887

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : H227 Combustible liquid.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.

Precautionary statements : **Prevention:**

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P201 Obtain special instructions before use.
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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P363 Wash contaminated clothing 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.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

CAS-No.	Chemical name	Weight percent
141-43-5	Monoethanolamine	90 - 100
111-42-2	Diethanolamine	0.1 - 1

Actual concentration is withheld as a trade secret
Any Concentration shown as a range is due to batch variation.

Synonyms : 2-Aminoethanol,

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SECTION 4. FIRST AID MEASURES

- | | | |
|-------------------------|---|---|
| General advice | : | Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended. |
| If inhaled | : | If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician. |
| In case of skin contact | : | Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes. |
| In case of eye contact | : | Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
If eye irritation persists, consult a specialist.
Take victim immediately to hospital. |
| If swallowed | : | Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---------------------------------------|---|--|
| Suitable extinguishing media | : | Carbon dioxide (CO ₂)
Dry chemical
Foam
Water spray |
| 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
Nitrous gases
Nitrogen oxides (NO _x) |
| Specific extinguishing methods | : | Use a water spray to cool fully closed containers.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must |

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Special protective equipment for firefighters : 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.
Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).
Use personal protective equipment.
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.

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 : Neutralise with acid.
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).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.
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.
Provide sufficient air exchange and/or exhaust in work rooms.
To avoid spills during handling keep bottle on a metal tray.
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.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
141-43-5	Monoethanolamine	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		TWA	3 ppm 8 mg/m3	NIOSH REL
		ST	6 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 6 mg/m3	OSHA Z-1
		STEL	6 ppm 15 mg/m3	OSHA P0
		TWA	3 ppm 8 mg/m3	OSHA P0
		PEL	3 ppm 8 mg/m3	CAL PEL
		STEL	6 ppm 15 mg/m3	CAL PEL
111-42-2	Diethanolamine	TWA (Inhalable fraction and vapor)	1 mg/m3	ACGIH
		TWA	3 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 15 mg/m3	OSHA P0
		PEL	0.46 ppm 2 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection. In the case of vapour formation use a respirator with an approved filter.

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

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Skin and body protection	: problems. 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, viscous
Colour	: Clear, colorless
Odour	: ammoniacal
Odour Threshold	: > 0.01 ppm
pH	: 12.1 @ 500.00 g/l @ 25 % @ 20 - 25 °C (68 - 77 °F)
Freezing Point (Melting point/freezing point)	: 9.96 - 10.6 °C (49.93 - 51.1 °F)
Boiling Point (Boiling point/boiling range)	: 104 - 171 °C (219 - 340 °F)
Flash point	: 85 °C (185 °F)
Evaporation rate	: < 1 (Butyl Acetate = 1)
Flammability (solid, gas)	: No data available
Upper explosion limit	: 17 - 23.5 %(V)
Lower explosion limit	: 3.0 - 5.0 %(V)
Vapour pressure	: 0.027 kPa @ 20 °C (68 °F)
Relative vapour density	: 2.1 @ 20 °C (68 °F) (Air = 1.0)
Relative density	: 1.02 @ 20 - 25 °C (68 - 77 °F) Reference substance: (water = 1)
Density	: 1.02 g/cm ³ @ 25 °C (77 °F)
Solubility(ies)	
Water solubility	: 1,000 g/l completely miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: log Pow: -1.91
Auto-ignition temperature	: 385 - 410 °C
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: 18.95 - 23.18 mPa.s @ 20 - 25 °C (68 - 77 °F)
Viscosity, kinematic	: 23.6 mm ² /s @ 20 - 25 °C (68 - 77 °F)

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
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. Exposure to moisture Exposure to air. Exposure to light.
Incompatible materials	: Copper Halogenated compounds Iron isocyanates Light metals Mild steel nitrites and other nitrosating agents Oxidizing agents Reducing agents Strong acids Zinc Aluminium
Hazardous decomposition products	: Carbon oxides Ammonia Nitrogen oxides (NOx) Aldehydes Ketones Hydrogen cyanide (hydrocyanic acid)

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity	: Acute toxicity estimate: 1,516 mg/kg
Acute inhalation toxicity	: Acute toxicity estimate: 11 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	: Acute toxicity estimate: 1,026 mg/kg

Components:**141-43-5:**

Acute oral toxicity	: LD50 (Rat, male and female): 1,515 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.
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Acute inhalation toxicity : LC50 (Rat): 0.136 mg/l
Calculated
Exposure time: 7 h
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 1,025 mg/kg
Assessment: The component/mixture is moderately toxic after single contact with skin.

111-42-2:

Acute oral toxicity : LD50 (Rat, male and female): 1,600 mg/kg

Skin corrosion/irritation

Components:

141-43-5:

Species: Rabbit
Result: Causes burns.

111-42-2:

Species: Rabbit
Result: Irritating to skin.

Serious eye damage/eye irritation

Components:

111-42-2:

Species: Rabbit
Result: Risk of serious damage to eyes.

Germ cell mutagenicity

Components:

111-42-2:

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

Carcinogenicity

Components:

111-42-2:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC

Group 2B: Possibly carcinogenic to humans

111-42-2

Diethanolamine

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

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

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by NTP.

Reproductive toxicity

Product:

Reproductive toxicity - Assessment

Weight of evidence does not support classification for reproductive toxicity

Components:

111-42-2:

Effects on fertility

: Remarks: In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. Repeated excessive exposures to high amounts may cause effects on testes and fertility in males.

Reproductive toxicity - Assessment

Fertility classification not possible from current data.

Teratogenicity - Assessment

: Embryotoxicity classification not possible from current data.

STOT - single exposure

Components:

141-43-5:

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Components:

111-42-2:

Target Organs: Kidney, Blood, Liver

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

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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111-42-2:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia): 30.1 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (algae)): 86.96 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC: Calculated > 1 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.78 mg/l
Exposure time: 21 d

Acute aquatic toxicity- Assessment : Harmful to aquatic life.

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

Persistence and degradability

Product:

Biodegradability : Biodegradation: >= 70 %
Exposure time: 28 d
Remarks: Readily biodegradable

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: 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).

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and

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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

DOT (Department of Transportation):

UN2491, Ethanolamine, 8, III

IATA (International Air Transport Association):

UN2491, Ethanolamine, 8, III

IMDG (International Maritime Dangerous Goods):

UN2491, ETHANOLAMINE, 8, III, Flash Point:85 °C(185 °F)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B3: Combustible Liquid
D1A: Very Toxic Material Causing Immediate and Serious Toxic Effects
D2A: Very Toxic Material Causing Other Toxic Effects
E: Corrosive Material

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Diethanolamine	111-42-2	100	50025

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489):

141-43-5 Monoethanolamine

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

141-43-5 Monoethanolamine

Pennsylvania Right To Know

141-43-5 Monoethanolamine

7732-18-5 Water

111-42-2 Diethanolamine

California Prop 65

 **WARNING:** This product can expose you to chemicals including Diethanolamine, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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

TSCA	: All substances listed as active on the TSCA inventory
AIIC	: On the inventory, or in compliance with the inventory
DSL	: All components of this product are on the Canadian DSL
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory

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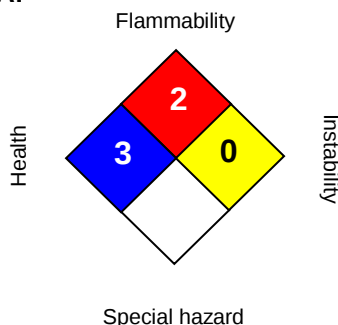
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SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3/
FLAMMABILITY	2
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

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 Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

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Legacy SDS: : R0004476

Material number:

16162172, 16184123, 16208179, 16206043, 16206058, 16205732, 16195122, 16195246, 16195253, 16195562, 16195978, 16204806, 16190602, 16192529, 16193523, 16191308, 16191520, 16188576, 16184901, 16184367, 16184902, 16185472, 16185570, 16182776, 16175942, 16144366, 16181126, 16175500, 16174864, 16168325, 16168324, 16169099, 16168326, 16143988, 16145804, 16146048, 16160094, 16146806, 16159320, 16143896, 16141985, 16141921, 16163336, 16151255, 16162467, 16144513, 16159496, 16146049, 16140638, 16142221, 16142075, 16140977, 16130200, 16130199, 16126207, 16126221, 16126220, 16120664, 16056478, 16061568, 16041891, 16040175, 754133, 704816, 594546, 554150, 554292, 546287, 546384, 508410, 88791, 105119, 55038, 89849, 88876, 72357, 87799, 88145, 71721, 72495, 144346, 171905, 153169, 168047, 505594, 505424, 20541, 20540, 20539, 39849

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICC	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

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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%		