



## Safety Data Sheet

Material Name: ETHYLENE OXIDE (1-10%), BALANCE NITROGEN

SDS ID: 00202882

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

ETHYLENE OXIDE (1-10%), BALANCE NITROGEN

**Product Use**

Industrial and Specialty Gas Applications.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

### Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Flammable Gases - Category 1

Gases Under Pressure - Compressed gas

Acute Toxicity - Oral - Category 3

Acute Toxicity - Inhalation - Gas - Category 3

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 1

Respiratory Sensitization - Category 1

Skin Sensitization - Category 1

Germ Cell Mutagenicity - Category 1B

Carcinogenicity - Category 1A

Reproductive Toxicity - Category 1B

Specific target organ toxicity - Single exposure - Category 1

Specific target organ toxicity - Repeated exposure - Category 1

Specific target organ toxicity - Repeated exposure - Category 2

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Extremely flammable gas.

Contains gas under pressure; may explode if heated.

Toxic if inhaled.

Toxic if swallowed.

Causes skin irritation.



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Causes serious eye damage.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May cause genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
Causes damage to central nervous system.  
Causes damage to nervous system through prolonged or repeated exposure.  
May cause damage to organs through prolonged or repeated exposure. (blood , kidneys , respiratory system )  
May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Use only outdoors or in a well-ventilated area.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not breathe gas.  
Wear protective gloves/protective clothing/eye protection/face protection.  
In case of inadequate ventilation wear respiratory protection.  
Contaminated work clothing should not be allowed out of the workplace.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.

**Response**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
Eliminate all ignition sources if safe to do so.  
IF exposed or concerned: Get medical advice/attention.  
IF INHALED.  
Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor/physician.  
Specific treatment may be needed, see first aid section of Safety Data Sheet.  
IF ON SKIN.  
Wash with plenty of water.  
If skin irritation or rash occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.  
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 or doctor/physician.  
IF SWALLOWED.  
Immediately call a POISON CENTER or doctor/physician.  
Specific treatment may be needed, see first aid section of Safety Data Sheet.  
Rinse mouth.

**Storage**

Protect from sunlight.  
Store in a well-ventilated place.  
Keep container tightly closed.  
Store locked up.

**Disposal**

Dispose in accordance with all applicable regulations.

**Statement(s) of Unknown Acute Toxicity**



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Oral 94.5% of the mixture consists of ingredient(s) of unknown acute toxicity.

Inhalation: 94.5% of the mixture consists of ingredient(s) of unknown acute toxicity.

**Other Hazards**

Rapid release of compressed gas may cause frostbite. May cause asphyxia.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

CAS	Component Name	Percent
7727-37-9	NITROGEN, COMPRESSED GAS	90 - 99
75-21-8	ETHYLENE OXIDE	1 - 10

**Section 4 - FIRST AID MEASURES****Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Skin**

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention. Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing before reuse.

**Eyes**

Immediately flush eyes with plenty of water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.

**Ingestion**

If swallowed, do not induce vomiting. Get immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to an unconscious or convulsive person. Rinse mouth.

**Most Important Symptoms/Effects****Acute**

frostbite, suffocation, skin irritation, eye burns, allergic reactions, central nervous system damage

**Delayed**

allergic reactions, nervous system damage, blood damage, kidney damage, respiratory system damage, mutagenic effects, cancer, Reproductive Effects

**Note to Physicians**

For inhalation, consider oxygen. For ingestion, consider gastric lavage.

**Section 5 - FIRE FIGHTING MEASURES****Extinguishing Media****Suitable Extinguishing Media**

regular dry chemical, carbon dioxide, water spray, alcohol resistant foam, Large fires: water spray or fog, alcohol-resistant foam

**Unsuitable Extinguishing Media**

Do not direct water at source of leak or safety devices; icing may occur.

**Special Hazards Arising from the Chemical**

Severe fire hazard. Containers may rupture or explode if exposed to heat.

**Hazardous Combustion Products**

oxides of nitrogen, Oxides of carbon

**Fire Fighting Measures**



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Move container from fire area if it can be done without risk. Damaged cylinders should be handled only by specialists. Cool containers with water spray until well after the fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. ALWAYS stay away from tanks engulfed in fire. Stay upwind and keep out of low areas. Avoid inhalation of material or combustion by-products. For tank, rail car or tank truck, evacuation radius: 1600 meters (1 mile).

**Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up**

Eliminate all sources of ignition. All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Ventilate closed spaces before entering. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. Keep unnecessary people away, isolate hazard area and deny entry. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Prevent entry into waterways, sewers, basements, or confined areas. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

**Environmental Precautions**

Avoid release to the environment.

### Section 7 - HANDLING AND STORAGE

**Precautions for Safe Handling**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe gas. Wear protective gloves/clothing and eye/face protection. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.

**Conditions for Safe Storage, Including any Incompatibilities**

Protect from sunlight.

Store in a well-ventilated place.

Keep container tightly closed.

Store locked up.

Store and handle in accordance with all current regulations and standards. Protect from sunlight. Store in a well-ventilated area. Keep container tightly closed. Keep locked up. See original container for storage recommendations. Keep separated from incompatible substances. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B).

**Incompatible Materials**

oxidizing materials, metals



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**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Component Exposure Limits**

<b>NITROGEN, COMPRESSED GAS</b>	<b>7727-37-9</b>
ACGIH:	(See Appendix F: Minimal Oxygen Content )
<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>
ACGIH:	1 ppm TWA
NIOSH:	0.1 ppm TWA (less than stated value ) ; 0.18 mg/m3 TWA (less than stated value )
	5 ppm Ceiling 10 min/day ; 9 mg/m3 Ceiling 10 min/day
	800 ppm IDLH
Europe:	Present (Substantial contribution to the total body burden via dermal exposure possible )
	1.8 mg/m3 TWA ; 1 ppm TWA
OSHA (US):	1 ppm TWA
	5 ppm Excursion Limit (See 29 CFR 1910.1047 ) 15 min ; 0.5 ppm Action Level (See 29 CFR 1910.1047 ) ; 1 ppm TWA (See 29 CFR 1910.1047 )
	5 ppm STEL (see 29 CFR 1910.1047 )
Mexico:	1 ppm TWA VLE-PPT ; 2 mg/m3 TWA VLE-PPT

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment**

**Eye/face protection**

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lenses should not be worn.

**Skin Protection**

For the gas: Wear appropriate chemical resistant clothing. For the liquid: Wear appropriate protective, cold insulating clothing.

**Respiratory Protection**

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-



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contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

Wear appropriate chemical resistant gloves.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	colorless gas	<b>Physical State</b>	gas
<b>Odor</b>	Not available	<b>Color</b>	colorless
<b>Odor Threshold</b>	Not available	<b>pH</b>	Not available
<b>Melting Point</b>	-210 °C (-346 °F Nitrogen )	<b>Boiling Point</b>	-196 °C (-321 °F Nitrogen )
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Flammability (solid, gas)</b>	Flammable gas
<b>Autoignition Temperature</b>	429 °C (804 °F Ethylene oxide )	<b>Flash Point</b>	-29 °C Closed Cup (-20 °F Ethylene oxide )
<b>Lower Explosive Limit</b>	3 % (Ethylene oxide )	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	100 % (Ethylene oxide )	<b>Vapor Pressure</b>	760 mmHg @ -196 °C
<b>Vapor Density (air=1)</b>	0.967 (Nitrogen )	<b>Specific Gravity (water=1)</b>	Not available
<b>Water Solubility</b>	Not available	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	Not available
<b>Physical Form</b>	gas	<b>Volatility</b>	100 % (Nitrogen )
<b>Molecular Weight</b>	Not available		

**Section 10 - STABILITY AND REACTIVITY****Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**



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Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

oxidizing materials, metals

**Hazardous decomposition products**

oxides of nitrogen, Oxides of carbon

**Section 11 - TOXICOLOGICAL INFORMATION**

**Information on Likely Routes of Exposure**

**Inhalation**

irritation, allergic reactions, lack of sense of smell, tearing, nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, loss of coordination, Disorientation, tingling sensation, bluish skin color, suffocation, lung congestion, lung damage, kidney damage, paralysis, convulsions, coma, Reproductive Effects, blood disorders, Unconsciousness, cancer, central nervous system damage, nervous system damage, respiratory system damage

**Skin Contact**

frostbite, irritation (possibly severe), allergic reactions

**Eye Contact**

burns, tearing, frostbite

**Ingestion**

ingestion of a gas is unlikely

**Acute and Chronic Toxicity**

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**ETHYLENE OXIDE (75-21-8)**

Oral LD50 Rat 72 mg/kg

Inhalation LC50 Rat 800 ppm 4 h

**Product Toxicity Data**

**Acute Toxicity Estimate**

Inhalation - Gas	800 ppm
Oral	72 mg/kg

**Immediate Effects**

frostbite, suffocation, skin irritation, eye burns, allergic reactions, central nervous system damage

**Delayed Effects**

allergic reactions, nervous system damage, blood damage, kidney damage, respiratory system damage, mutagenic effects, cancer, Reproductive Effects

**Irritation/Corrosivity Data**

skin irritation, eye burns

**Respiratory Sensitization**

Yes

**Dermal Sensitization**

Yes

**Component Carcinogenicity**

<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>
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ACGIH:	A2 - Suspected Human Carcinogen
IARC:	Monograph 100F [2012] ; Monograph 97 [2008] ; Monograph 60 [1994] (overall evaluation upgraded from Group 2A to Group 1 based on mechanistic and other relevant data ) (Group 1 (carcinogenic to humans))
NTP:	Known Human Carcinogen
DFG:	Category 2 (considered to be carcinogenic for man )
OSHA:	Present
OSHA:	see 29 CFR 1910.1047
NIOSH:	potential occupational carcinogen

**Germ Cell Mutagenicity**

Available data characterizes this substance as mutagenic.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

Available data characterizes components of this product as reproductive hazards.

**Specific Target Organ Toxicity - Single Exposure**

central nervous system

**Specific Target Organ Toxicity - Repeated Exposure**

nervous system, blood, kidneys, Respiratory system

**Aspiration hazard**

Not applicable.

**Medical Conditions Aggravated by Exposure**

No data available.

**Additional Data**

Alcohol may enhance the toxic effects.

**Section 12 - ECOLOGICAL INFORMATION**

**Component Analysis - Aquatic Toxicity**

<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>
Fish:	LC50 96 h Pimephales promelas 73 - 96 mg/L
Invertebrate:	LC50 48 h Daphnia magna 137 - 300 mg/L IUCLID

**Other Toxicity**

None known.

**Section 13 - DISPOSAL CONSIDERATIONS**

**Disposal Methods**

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

Hazardous Waste Number(s): D001.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.





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**Section 14 - TRANSPORT INFORMATION**

**US DOT Information:**

**Shipping Name:** COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. , ( Contains: NITROGEN, COMPRESSED GAS , ETHYLENE OXIDE )

**Hazard Class:** 2.3

**UN/NA #:** UN1953

**Required Label(s):** 2.3 2.1

**IMDG Information:**

**Shipping Name:** COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. , ( Contains: NITROGEN, COMPRESSED GAS , ETHYLENE OXIDE )

**Hazard Class:** 2.3

**UN#:** UN1953

**Required Label(s):** 2.3 2.1

**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

**Section 15 - REGULATORY INFORMATION**

**U.S. Federal Regulations**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>
SARA 302:	1000 lb TPQ
SARA 313:	0.1 % de minimis concentration
CERCLA:	10 lb final RQ ; 4.54 kg final RQ
OSHA (safety):	5000 lb TQ
SARA 304:	10 lb EPCRA RQ

**SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories**

Flammable; Gas Under Pressure; Carcinogenicity; Acute toxicity; Reproductive Toxicity; Skin Corrosion/Irritation; Respiratory/Skin Sensitization; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity; Germ Cell Mutagenicity

**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
<b>NITROGEN, COMPRESSED GAS</b>	<b>7727-37-9</b>	No	Yes	Yes	Yes	Yes
<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>	Yes	Yes	Yes	Yes	Yes

**The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**



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WARNING! This product contains a chemical known to the state of California to cause cancer

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects

<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>
Carc:	carcinogen , 7/1/1987
Repro/Dev. Tox	developmental toxicity , 8/7/2009
	male reproductive toxicity , 8/7/09
	female reproductive toxicity , initial date 2/27/87

**Canada Regulations****Canadian WHMIS Ingredient Disclosure List (IDL)**

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

<b>ETHYLENE OXIDE</b>	<b>75-21-8</b>
	0.1 %

**Component Analysis - Inventory****NITROGEN, COMPRESSED GAS (7727-37-9)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

**ETHYLENE OXIDE (75-21-8)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

**Section 16 - OTHER INFORMATION****NFPA Ratings**

Health: 3 Fire: 4 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

Updated: 05/01/2015

**Key / Legend**



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ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

**Other Information****Disclaimer:**

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