Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
Hydrogen Fluoride in Nitrogen Gas Mixture

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.
Gases Under Pressure - Compressed gas
Acute Toxicity - Oral - Category 2
Acute Toxicity - Dermal - Category 1
Acute Toxicity - Inhalation - Gas - Category 2
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1
Respiratory Sensitization - Category 1
Skin Sensitization - Category 1
Germ Cell Mutagenicity - Category 2
Specific target organ toxicity - Single exposure - Category 1
Specific target organ toxicity - Repeated exposure - Category 1
Simple Asphyxiant

GHS Label Elements
Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Contains gas under pressure; may explode if heated.
Fatal in contact with skin.
Fatal if inhaled.
Fatal if swallowed.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Safety Data Sheet

Material Name: Hydrogen Fluoride in Nitrogen Gas Mixture  
SDS ID: 00244369

Suspected of causing genetic defects.
Causes damage to organs. (pancreas, respiratory system)
Causes damage to organs through prolonged or repeated exposure. (kidneys, liver, nervous system, pituitary gland, respiratory system, skeletal system, teeth, testes, thyroid)
May displace oxygen and cause rapid suffocation.

Precautionary Statement(s)

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear respiratory protection.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Do not eat, drink or smoke when using this product.

Response
If exposed: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
Take off immediately all contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER or doctor.
Specific treatment is urgent (see label).

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

Dermal 96.5% of the mixture consists of ingredient(s) of unknown acute toxicity.
Oral 96.5% of the mixture consists of ingredient(s) of unknown acute toxicity.
Inhalation 96.5% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards
Rapid release of compressed gas may cause frostbite.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7727-37-9</td>
<td>Nitrogen</td>
<td>94-99</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrogen fluoride</td>
<td>1-6</td>
</tr>
</tbody>
</table>

The chemical identity and/or percentage of composition is being withheld as a trade secret.
**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 immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse. Destroy contaminated shoes.

**Eyes**
Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**Ingestion**
If a large amount is swallowed, get medical attention.

**Most Important Symptoms/Effects**

**Acute**
frostbite, suffocation, respiratory tract burns, skin burns, eye burns, mucous membrane burns, allergic reactions, pancreas damage, respiratory system damage

**Delayed**
allergic reactions, bone damage, fluorosis, kidney damage, liver damage, nervous system damage, pituitary effects, respiratory system damage, tooth erosion, testes effects, thyroid effects, mutagenic effects

**Note to Physicians**
For inhalation, consider oxygen. Avoid gastric lavage or emesis.

---

**Section 5 - FIRE FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media**
regular dry chemical, carbon dioxide

**Unsuitable Extinguishing Media**
None known.

**Special Hazards Arising from the Chemical**
Negligible fire hazard. Containers may rupture or explode if exposed to heat.

**Hazardous Combustion Products**
halogenated compounds, oxides of nitrogen

**Fire Fighting Measures**
Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

**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**
Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Stop leak if safe to do so - Prevent entry into
waterways, drains, or confined areas. Reduce vapors with water spray. Ventilate closed spaces before entering.
Damaged cylinders should be handled only by specialists.

**Environmental Precautions**
Avoid release to the environment.

### Section 7 - HANDLING AND STORAGE

**Precautions for Safe Handling**
Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.

**Conditions for Safe Storage, Including any Incompatibilities**
Protect from sunlight. Store in a well-ventilated place.
Keep container tightly closed.
Store locked up.
Store in accordance with all current regulations and standards. Cylinders should be stored upright (with valve protection cap in place). Protect from physical damage. Store in a cool, dry place. Store below 52 C. Keep separated from incompatible substances.

**Incompatible Materials**
Acids, amines, bases, combustible materials, Cyanides, halogens, metal oxides, metal salts, metals, oxidizing materials, reducing agents

### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**Component Exposure Limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>7727-37-9</td>
</tr>
<tr>
<td>Hydrogen fluoride</td>
<td>7664-39-3</td>
</tr>
</tbody>
</table>

ACGIH:
(See Appendix F: Minimal Oxygen Content )

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>7727-37-9</td>
</tr>
<tr>
<td>Hydrogen fluoride</td>
<td>7664-39-3</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>0.5 ppm TWA as F</td>
</tr>
<tr>
<td>2 ppm Ceiling as F</td>
<td></td>
</tr>
<tr>
<td>Skin - potential significant contribution to overall exposure by the cutaneous route</td>
<td></td>
</tr>
</tbody>
</table>

NIOSH:
3 ppm TWA ; 2.5 mg/m3 TWA
6 ppm Ceiling 15 min ; 5 mg/m3 Ceiling 15 min
SK: SYS(FATAL)-DIR(COR) (Apr 2011 )
30 ppm IDLH

Europe:
1.8 ppm TWA ; 1.5 mg/m3 TWA

OSHA (US):
3 ppm STEL ; 2.5 mg/m3 STEL

Mexico:
2.5 mg/m3 TWA VLE-PPT as F (related to Fluorides)
Safety Data Sheet

Material Name: Hydrogen Fluoride in Nitrogen Gas Mixture

| 3 ppm Ceiling ; 2.5 mg/m3 Ceiling |

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)
Hydrogen fluoride (7664-39-3)
3 mg/g creatinine Medium: urine Time: prior to shift Parameter: Fluoride (background, nonspecific ); 10 mg/g creatinine Medium: urine Time: end of shift Parameter: Fluoride (background, nonspecific )

Engineering Controls
Provide local exhaust or process enclosure ventilation system. 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. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

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

Respiratory Protection
The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. Measurement Element: F. 30 ppm. Any air-purifying half-mask respirator equipped with cartridge(s) providing protection against the compound of concern. Any powered, air-purifying respirator with cartridge(s) providing protection against this substance. Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern. Any supplied-air respirator. Any self-contained breathing apparatus with a full facepiece. Emergency or planned entry into unknown concentrations or IDLH conditions -. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. 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. Escape -. Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern. Any appropriate escape-type, self-contained breathing apparatus.

Glove Recommendations
For the gas: Wear appropriate chemical resistant gloves. For the liquid: Wear chemical resistant, insulated gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>gas</th>
<th>Physical State</th>
<th>gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>pungent odor</td>
<td>Color</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>0.04 ppm (Hydrogen fluoride )</td>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>-210 °C (-346 °F Nitrogen )</td>
<td>Boiling Point</td>
<td>-195.8 °C (-320 °F Nitrogen )</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not available</td>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
<td>Flammability (solid, gas )</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not available</td>
<td>Flash Point</td>
<td>(Not flammable )</td>
</tr>
</tbody>
</table>
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
Avoid heat, flames, sparks and other sources of ignition. May ignite or explode on contact with combustible materials.

Incompatible Materials
Acids, amines, bases, combustible materials, Cyanides, halogens, metal oxides, metal salts, metals, oxidizing materials, reducing agents

Hazardous decomposition products
halogenated compounds, oxides of nitrogen

Water or Moisture
hydrofluoric acid

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
burns, fluorois, kidney damage, liver damage

Skin Contact
burns, absorption may occur, fluorosis

Eye Contact
burns

Ingestion
burns

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:

Hydrogen fluoride (7664-39-3)
Inhalation LC50 Rat 0.79 mg/L 1 h
Safety Data Sheet

Material Name: Hydrogen Fluoride in Nitrogen Gas Mixture

Product Toxicity Data

<table>
<thead>
<tr>
<th>Acute Toxicity Estimate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td>Inhalation - Gas</td>
<td>482.8875 ppm</td>
</tr>
</tbody>
</table>

Immediate Effects
frostbite, suffocation, respiratory tract burns, skin burns, eye burns, mucous membrane burns, allergic reactions, pancreas damage, respiratory system damage

Delayed Effects
allergic reactions, bone damage, fluorosis, kidney damage, liver damage, nervous system damage, pituitary effects, respiratory system damage, tooth erosion, testes effects, thyroid effects, mutagenic effects

Irritation/Corrosivity Data
respiratory tract burns, skin burns, eye burns, mucous membrane burns.

Respiratory Sensitization
Component data indicate the substance is sensitizing.

Dermal Sensitization
Component data indicate the substance is sensitizing.

Component Carcinogenicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen fluoride</td>
<td>7664-39-3</td>
</tr>
</tbody>
</table>

ACGIH:
A4 - Not Classifiable as a Human Carcinogen (related to Fluorides)

Germ Cell Mutagenicity
Available data characterizes this substance as mutagenic.

Tumorigenic Data
No data available

Reproductive Toxicity
No data available for the mixture.

Specific Target Organ Toxicity - Single Exposure
Respiratory system, pancreas

Specific Target Organ Toxicity - Repeated Exposure
kidneys, liver, nervous system, pituitary gland, Respiratory system, skeletal system, teeth, testes, thyroid

Aspiration hazard
Not applicable.

Medical Conditions Aggravated by Exposure
bone, joint or tooth disorders, kidney disorders, respiratory disorders, skin disorders, heart disorders, eye disorders

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>EC50 48 h Daphnia species 270 mg/L IUCLID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen fluoride</td>
<td>7664-39-3</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No data available for the mixture.

Bioaccumulative Potential
No data available for the mixture.

Mobility
No data available for the mixture.

**Other Toxicity**

Due to the corrosivity of this gas, contact with animals, plants and aquatic life may cause damage or be fatal.

---

### Section 13 - DISPOSAL CONSIDERATIONS

**Disposal Methods**

Dispose in accordance with all applicable regulations.

**Component Waste Numbers**

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

---

### Section 14 - TRANSPORT INFORMATION

**US DOT Information:**

- **Shipping Name:** COMPRESSED GAS, N.O.S., (Contains: Nitrogen, Hydrogen fluoride)
- **Hazard Class:** 2.2
- **UN/NA #:** UN1956
- **Required Label(s):** 2.2

**IMDG Information:**

- **Shipping Name:** COMPRESSED GAS, N.O.S., (Contains: Nitrogen, Hydrogen fluoride)
- **Hazard Class:** 2.2
- **UN#:** UN1956
- **Required Label(s):** 2.2

**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.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydrogen fluoride</strong></td>
<td>7664-39-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 302:</td>
<td>100 lb TPQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 313:</td>
<td>1 % de minimis concentration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CERCLA:</td>
<td>100 lb final RQ; 45.4 kg final RQ</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>OSHA (safety):</td>
<td>1000 lb TQ; 1000 lb TQ (anhydrous)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 304:</td>
<td>100 lb EPCRA RQ</td>
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</tr>
</tbody>
</table>

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

- Gas Under Pressure; Acute toxicity; Skin Corrosion/Irritation; Respiratory/Skin Sensitization; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity; Germ Cell Mutagenicity; Simple Asphyxiant

**U.S. State Regulations**

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

Material Name: Hydrogen Fluoride in Nitrogen Gas Mixture

<table>
<thead>
<tr>
<th>Nitrogen</th>
<th>7727-37-9</th>
<th>No</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen fluoride</td>
<td>7664-39-3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)
Not listed under California Proposition 65.

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

<table>
<thead>
<tr>
<th>Hydrogen fluoride</th>
<th>7664-39-3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 %</td>
</tr>
</tbody>
</table>

WHMIS Classification
A, E

Component Analysis - Inventory
Nitrogen (7727-37-9)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Hydrogen fluoride (7664-39-3)

<table>
<thead>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Section 16 - OTHER INFORMATION

NFPA Ratings
Health: 3 Fire: 0 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes
Updated: 12/24/2015

Key / Legend
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;
Safety Data Sheet

Material Name: Hydrogen Fluoride in Nitrogen Gas Mixture  SDS ID: 00244369

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

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