

### 1. IDENTIFICATION

<b>Product Name</b>	<b>Hydrofluoric acid (<math>\geq 7\%</math> - <math>\leq 50\%</math>)</b>
<b>Other Names</b>	Hydrogen fluoride, aqueous solution
<b>Uses</b>	Chemical intermediate, etching and polishing of glass and pottery, cleaning of metals, mineral extraction.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	HF.H <sub>2</sub> O
<b>Chemical Name</b>	Hydrofluoric acid, aqueous solution
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

### 2. HAZARD IDENTIFICATION

**Poisons Schedule (Aust)** Schedule 7

### Globally Harmonised System

<b>Hazard Classification</b>	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
<b>Hazard Categories</b>	Acute Toxicity (Oral) - Category 2 Acute Toxicity (Dermal) - Category 1 Acute Toxicity (Inhalation) - Category 2 Skin Corrosion/Irritation - Category 1A Serious Eye Damage/Irritation - Category 1

**Pictograms**



**Signal Word** Danger

**Hazard Statements**  
**H314** Causes severe skin burns and eye damage.  
**H300 + H310 + H330** Fatal if swallowed, in contact with skin or if inhaled.

<b>Precautionary Statements</b>	Prevention	<b>P262</b>	Do not get in eyes, on skin, or on clothing.
		<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
		<b>P260</b>	Do not breathe mist/vapours.
		<b>P284</b>	Wear respiratory protection.
		<b>P270</b>	Do not eat, drink or smoke when using this product.
	Response	<b>P271</b>	Use only outdoors or in a well-ventilated area.
		<b>P310</b>	Immediately call a POISON CENTER or doctor/physician.
		<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
		<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
		<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	Storage	<b>P363</b>	Wash contaminated clothing before reuse.
		<b>P301 + P330 + P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		<b>P403 + P233</b>	Store in a well-ventilated place. Keep container tightly closed.
		<b>P405</b>	Store locked up.
		Disposal	<b>P501</b>

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification** Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>HSNO Classifications</b>	Health Hazards	<b>6.1B</b>	Substances that are acutely toxic - Fatal
		<b>6.9A</b>	Substances that are toxic to human target organs or systems
		<b>8.1A</b>	Substances that are corrosive to metals
		<b>8.2B</b>	Substances that are corrosive to dermal tissue UN PGII
		<b>8.3A</b>	Substances that are corrosive to ocular tissue

Environmental Hazards **9.1D**

Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action

**9.3A**

Substances that are very ecotoxic to terrestrial vertebrates

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Hydrofluoric acid	HF	7664-39-3	>=7 - <=50 %
Water	H2O	7732-18-5	Balance %

### 4. FIRST AID MEASURES

#### Description of necessary measures according to routes of exposure

##### Swallowed

IF SWALLOWED: Immediately call a Poison Centre or doctor/physician. Do NOT induce vomiting. Give copious quantities of milk, water drinks, milk of magnesia, antacid (e.g. Mylanta) or effervescent calcium gluconate tablets dissolved in water (in spite of vomiting). If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Rinse mouth of victim thoroughly with water and spit out rinse water. Never give anything by mouth if victim is losing consciousness, is unconscious or convulsing. Keep victim calm and warm - Obtain immediate medical care. Transport to hospital by ambulance.

##### Eye

IF IN EYES: Immediately call a Poison Centre or doctor/physician. Flush eye(s) continuously with running water or copious isotonic saline for several minutes, holding the eyelids open and occasionally lifting the upper and lower lids. Take care not to rinse contaminated water into a non-affected eye. Carefully remove contact lenses if present and easy to do. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital by ambulance; Continue eye irrigation during transport to hospital. An ophthalmologist should always be consulted, as severe corneal damage is possible. Contact with eyes, even for short periods, can cause blindness.

- If available, use Hexafluorine eyewash within the first minute of exposure and continue washing until arrival at hospital.

##### Skin

IF ON SKIN: Immediately call a Poison Centre or doctor/physician. Flush contaminated skin gently with running water for several minutes. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes and footwear. For minor skin contact, avoid spreading material on unaffected skin. Isolate contaminated clothing by sealing in a bag or other container. Wearing clean protective gloves, gently massage Calcium gluconate gel into and around the affected area. If gel is not readily available, continue flushing with water. Transport to hospital by ambulance; Continue application of gel during transport to hospital and for at least 15 minutes after the pain has subsided (this treatment may be required for several hours). Wear clean gloves when applying gel.

- If available, use Hexafluorine body wash within the first minute of exposure and continue washing until arrival at hospital.

##### Inhaled

IF INHALED: Immediately call a Poison Centre or doctor/physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device; Administer oxygen if breathing is difficult. Keep victim calm and warm - Obtain immediate medical care. Transport to hospital by ambulance; Continue observation for at least 48 hours due to the danger of pulmonary oedema.

##### Advice to Doctor

This SDS should accompany the affected person to hospital. Hydrofluoric acid penetrates rapidly and deeply below fat layers binding and depleting tissue calcium. Failure to commence the correct medical treatment promptly may be fatal. Intensive care unit facilities are likely to be needed. Delayed pulmonary oedema is likely with burns to the face or neck. A skin burn involving more than 1 % of body area with 50 % or more concentration of Hydrofluoric acid, or more than 5 % of body area with any lesser concentrations, may be associated with systemic effects. Skin burns may become necrotic and gangrenous and damaged area may spread. Treatment with intravenous Calcium gluconate should commence immediately. Inhalation may lead to chemical pneumonitis, haemorrhagic pulmonary oedema or laryngeal oedema and may be fatal. Be prepared to intubate or perform tracheotomy.

##### Medical Conditions Aggravated by Exposure

No information available.

### 5. FIRE FIGHTING MEASURES

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.
<b>Flammability Conditions</b>	Non-combustible; Does not burn.
<b>Extinguishing Media</b>	Use dry chemical, Carbon dioxide (CO <sub>2</sub> ), dry sand or flooding quantities of water for extinction. Large fire: Flood fire area with large quantities of water while knocking down vapours with water fog - If insufficient water supply, knock down vapours only.
<b>Fire and Explosion Hazard</b>	Contact with metals may evolve flammable hydrogen gas. Reaction with water may generate heat which will increase the concentration of fumes in the air and present risk of splashing. Containers may explode when heated or contaminated with water. Vapours may accumulate in confined areas. Inhalation, ingestion or contact with substance may cause severe injury or death.
<b>Hazardous Products of Combustion</b>	Fire will produce toxic and corrosive gases, including Hydrogen fluoride.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and pollute waterways.
<b>Personal Protective Equipment</b>	Liquid-tight chemical protective clothing (splash suit) in combination with self-contained breathing apparatus (SCBA) should be used. Structural firefighter's uniform is NOT effective for this material.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	2X

## 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Inhalation, ingestion or contact with substance may cause severe injury or death - Do not breathe vapours and prevent contact with eyes, skin and clothing. Large spill: Immediately contact Police or Fire Brigade.
<b>Clean Up Procedures</b>	Take up with liquid-absorbent and neutralising material and transfer to a suitable container for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours; Water spray may be used to knock down or divert vapour clouds.
<b>Decontamination</b>	Neutralise HF with calcium hydroxide or lime or HF absorbent (e.g. Chemizorb HF). Contaminated clothing should be washed with bicarbonate of soda solution. Contaminated equipment or surfaces can be neutralised with calcium hydroxide or slaked lime, before being washed with water.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Consider downwind evacuation of areas.
<b>Personal Precautionary Measures</b>	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Wear self-contained breathing apparatus (SCBA) and chemical splash suit. Structural firefighter's uniform is NOT effective for this material.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. HIGHLY CORROSIVE: Handle with extreme care and in accordance with good industrial hygiene and safety practice. Avoid generation of mist/vapours/aerosols. Do not breathe mist/vapours/aerosols. Do not get in eyes, on skin or on clothing. Do not ingest. Do not handle unless wearing appropriate protective clothing (see SECTION 8). Keep away from heat and all sources of ignition - No smoking. Use explosion-proof electrical/ventilating/lighting equipment.
<b>Storage</b>	Store in a a cool, dry and well-ventilated place. Keep container tightly closed. Keep away from heat and all sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up.
<b>Container</b>	Store HF in the original or plastic (polyethylene, polypropylene or PVC) containers only. Do not store in metal (steel, copper, aluminium) or glass containers.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	COMPONENT: Hydrogen fluoride (CAS No. 7664-39-3): <ul style="list-style-type: none"><li>- Safe Work Australia Exposure Standard (as F): TWA = 3 ppm (2.6 mg/m<sup>3</sup>) Peak limitation.</li><li>- New Zealand WES (as F): TWA = 3 ppm (2.6 mg/m<sup>3</sup>) Ceiling.</li><li>- NIOSH REL: TWA = 3 ppm (2.5 mg/m<sup>3</sup>); 6 ppm (5 mg/m<sup>3</sup>) 15-minute Ceiling.</li><li>- OSHA PEL: TWA = 3 ppm.</li><li>- Immediately dangerous to life or health (IDLH) concentration: 30 ppm.</li></ul>
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	All HF work involving the release of HF should be conducted in a scrubbed fume cupboard. The occupational exposure limit value should not be exceeded during any part of the working exposure.
<b>Personal Protection Equipment</b>	<ul style="list-style-type: none"><li>- Respiratory protection: Wear respiratory protection. Recommended: Filter type E-P3 or HF when mist/vapours/aerosols are generated.</li><li>- Eye/face protection: Wear appropriate eye protection to prevent eye contact when mixing or using. Recommended: Tightly fitting safety goggles; Face shield.</li><li>- Hand protection: Wear protective gloves when mixing or using. Recommended: For splash contact only, polychloroprene gloves (0.65 mm), Break through time: 240 min. For full contact, butyl rubber gloves (0.7 mm), Break through time: 480 min. Wash gloves thoroughly, immediately after use.</li><li>- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Acid-resistant protective clothing; rubber or plastic boots.</li></ul>
<b>Special Hazards Precautions</b>	HF should only be handled by workers who have been adequately trained and assessed as competent in its use. Do not work alone with HF. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Ensure that a first aid kit has the necessary content, is kept up to date and is complete to adequately respond to potential HF exposure. Obtain a supply of calcium gluconate gel.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Do not get in eyes, on skin or on clothing. Wash hands and face thoroughly after handling. Remove/take off immediately all contaminated clothing. Isolate contaminated clothing by sealing in a bag or other container. Decontaminate and wash contaminated clothing and protective equipment before storage or reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Appearance</b>	Liquid
<b>Odour</b>	Sharp, pungent
<b>Colour</b>	Colourless
<b>pH</b>	~2
<b>Vapour Pressure</b>	150 mmHg (@ No Data Available)
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	103 - 106 °C
<b>Melting Point</b>	-35 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Miscible with water
<b>Specific Gravity</b>	No Data Available
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available

<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	Not applicable.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	Reaction with water may generate heat which will increase the concentration of fumes in the air and present risk of splashing.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible; Does not burn; However, many reactions may cause fire or explosion.
<b>Reactions That Release Gases or Vapours</b>	Reacts violently with many compounds. producing toxic and corrosive gases, including Hydrogen fluoride.
<b>Release of Invisible Flammable Vapours and Gases</b>	Reacts violently with bases and is corrosive to most common metals forming flammable/explosive Hydrogen gas.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	The substance is a weak acid. Reacts violently with many compounds, generating fire and explosion hazard. It reacts violently with bases and is corrosive to most common metals. Attacks glass, some forms of plastic, rubber and coatings.
<b>Chemical Stability</b>	Material is stable under normal conditions of temperature and pressure.
<b>Conditions to Avoid</b>	Avoid generation of mist/vapours/aerosols. Keep away from heat and all sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with alkali metals, fluorine, organic substances, vinyl acetate; potassium permanganate, alkali hydroxides, strong alkalis, fluorides, potassium, metals, sodium, methanesulfonic acid; nitric acid, with, glycerol; acetic anhydride, ammonia, ammonium hydroxide, sodium hydroxide, fuming sulfuric acid, oxides of phosphorus, silicon compounds, sulphuric acid, bismuth acid, ethanalamine.
<b>Hazardous Decomposition Products</b>	Reacts violently with many compounds. producing toxic and corrosive gases, including Hydrogen gas, Hydrogen fluoride.
<b>Hazardous Polymerisation</b>	No information available.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: Fatal if swallowed, in contact with skin and if inhaled. Ingestion or inhalation may cause burns in mouth and throat, burning sensation, cough, laboured breathing, shortness of breath, abdominal pain, vomiting, shock or collapse. Symptoms may be delayed.</li> <li>- Skin corrosion/irritation: Causes severe skin burns, redness, pain, blisters. Hydrofluoric acid penetrates rapidly and deeply below fat layers binding and depleting tissue calcium.</li> <li>- Eye damage/irritation: Causes serious eye damage, redness, pain, severe burns.</li> <li>- Respiratory/skin sensitisation: No information available.</li> <li>- Germ cell mutagenicity: No information available.</li> <li>- Carcinogenicity: No information available.</li> <li>- Reproductive toxicity: No information available.</li> <li>- STOT (single exposure): Mist/vapours are corrosive to the respiratory tract.</li> <li>- STOT (repeated exposure): May cause bone and teeth damage, skin ulcers, irritation of the nose, throat and bronchi.</li> <li>- Aspiration toxicity: No information available.</li> </ul>
----------------------------	---

**Carcinogen Category** None

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** No information available.  
**Persistence/Degradability** No information available.  
**Mobility** No information available.  
**Environmental Fate** Avoid release to the environment. Endangers drinking-water supplies if allowed to enter soil or water. Harmful effect due to pH shift.  
**Bioaccumulation Potential** No information available.  
**Environmental Impact** No Data Available

## 13. DISPOSAL CONSIDERATIONS

**General Information** Dispose of contents/container in accordance with local/regional/national regulations.  
**Special Precautions for Land Fill** Leave chemicals in original containers; No mixing with other waste. Handle uncleaned containers like the product itself.

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)

ADG Code

**Proper Shipping Name** HYDROFLUORIC ACID, with not more than 60% hydrogen fluoride  
**Class** 8 Corrosive Substances  
**Subsidiary Risk(s)** 6.1 Toxic and Infectious Substances - Toxic Substances  
**EPG** 40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive  
**UN Number** 1790  
**Hazchem** 2X  
**Pack Group** II  
**Special Provision** No Data Available

### Land Transport (Malaysia)

ADR Code

**Proper Shipping Name** HYDROFLUORIC ACID, with not more than 60% hydrogen fluoride  
**Class** 8 Corrosive Substances  
**Subsidiary Risk(s)** 6.1 Toxic and Infectious Substances - Toxic Substances  
**EPG** 40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive  
**UN Number** 1790  
**Hazchem** 2X  
**Pack Group** II  
**Special Provision** No Data Available

## Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	HYDROFLUORIC ACID, with not more than 60% hydrogen fluoride
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	6.1 Toxic and Infectious Substances - Toxic Substances
<b>EPG</b>	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
<b>UN Number</b>	1790
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available

## Land Transport (United States of America)

US DOT

<b>Proper Shipping Name</b>	HYDROFLUORIC ACID, with not more than 60% hydrogen fluoride
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	6.1 Toxic and Infectious Substances - Toxic Substances
<b>ERG</b>	157 Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)
<b>UN Number</b>	1790
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available

## Sea Transport

IMDG Code

<b>Proper Shipping Name</b>	HYDROFLUORIC ACID solution, with not more than 60% hydrogen fluoride
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	6.1 Toxic and Infectious Substances - Toxic Substances
<b>UN Number</b>	1790
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available
<b>EMS</b>	F-A, S-B
<b>Marine Pollutant</b>	No

## Air Transport

IATA DGR

<b>Proper Shipping Name</b>	Hydrofluoric acid 60% or less hydrogen fluoride
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	6.1 Toxic and Infectious Substances - Toxic Substances
<b>UN Number</b>	1790
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available

## National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

<b>Dangerous Goods Classification</b>	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
---------------------------------------	---



## 15. REGULATORY INFORMATION

**General Information** No Data Available

**Poisons Schedule (Aust)** Schedule 7

### **Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

**Approval Code** HSR001568

### **National/Regional Inventories**

**Australia (AICS)** Listed

**Canada (DSL)** Not Determined

**Canada (NDSL)** Not Determined

**China (IECSC)** Not Determined

**Europe (EINECS)** Not Determined

**Europe (REACH)** Not Determined

**Japan (ENCS/METI)** Not Determined

**Korea (KECI)** Not Determined

**Malaysia (EHS Register)** Not Determined

**New Zealand (NZIoC)** Listed

**Philippines (PICCS)** Not Determined

**Switzerland (Giftliste 1)** Not Determined

**Switzerland (Inventory of Notified Substances)** Not Determined

**Taiwan (NCSR)** Not Determined

**USA (TSCA)** Not Determined

## 16. OTHER INFORMATION

**Related Product Codes** HYFLAC1035, HYFLAC1057, HYFLAC1100, HYFLAC1101, HYFLAC1200, HYFLAC1400, HYFLAC1700, HYFLAC1800, HYFLAC1900, HYFLAC1901, HYFLAC2000, HYFLAC2001, HYFLAC2100, HYFLAC2101, HYFLAC2102, HYFLAC2200, HYFLAC2201, HYFLAC2210, HYFLAC2249, HYFLAC3000, HYFLAC3500, HYFLAC3501, HYFLAC3520, HYFLAC4000, HYFLAC4200, HYFLAC4201, HYFLAC4202, HYFLAC4203, HYFLAC4210, HYFLAC4249, HYFLAC4300, HYFLAC4400, HYFLAC4401, HYFLAC4500, HYFLAC4600, HYFLAC5000, HYFLAC5001, HYFLAC5513, HYFLAC8000, HYFLAC9000, HYFLAC9001, HYFLAC9100

**Revision** 3

**Revision Date** 05 Sep 2018

**Reason for Issue** Updated SDS

## Key/Legend

< Less Than  
> Greater Than  
**AICS** Australian Inventory of Chemical Substances  
**atm** Atmosphere  
**CAS** Chemical Abstracts Service (Registry Number)  
**cm<sup>2</sup>** Square Centimetres  
**CO<sub>2</sub>** Carbon Dioxide  
**COD** Chemical Oxygen Demand  
**deg C (°C)** Degrees Celcius  
**EPA (New Zealand)** Environmental Protection Authority of New Zealand  
**deg F (°F)** Degrees Farenheit  
**g** Grams  
**g/cm<sup>3</sup>** Grams per Cubic Centimetre  
**g/l** Grams per Litre  
**HSNO** Hazardous Substance and New Organism  
**IDLH** Immediately Dangerous to Life and Health  
**immiscible** Liquids are insoluable in each other.  
**inHg** Inch of Mercury  
**inH<sub>2</sub>O** Inch of Water  
**K** Kelvin  
**kg** Kilogram  
**kg/m<sup>3</sup>** Kilograms per Cubic Metre  
**lb** Pound  
**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.  
**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.  
**ltr** or **L** Litre  
**m<sup>3</sup>** Cubic Metre  
**mbar** Millibar  
**mg** Milligram  
**mg/24H** Milligrams per 24 Hours  
**mg/kg** Milligrams per Kilogram  
**mg/m<sup>3</sup>** Milligrams per Cubic Metre  
**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.  
**mm** Millimetre  
**mmH<sub>2</sub>O** Millimetres of Water  
**mPa.s** Millipascals per Second  
**N/A** Not Applicable  
**NIOSH** National Institute for Occupational Safety and Health  
**NOHSC** National Occupational Heath and Safety Commission  
**OECD** Organisation for Economic Co-operation and Development  
**Oz** Ounce  
**PEL** Permissible Exposure Limit  
**Pa** Pascal  
**ppb** Parts per Billion  
**ppm** Parts per Million  
**ppm/2h** Parts per Million per 2 Hours  
**ppm/6h** Parts per Million per 6 Hours  
**psi** Pounds per Square Inch  
**R** Rankine  
**RCP** Reciprocal Calculation Procedure  
**STEL** Short Term Exposure Limit  
**TLV** Threshold Limit Value  
**tne** Tonne  
**TWA** Time Weighted Average  
**ug/24H** Micrograms per 24 Hours  
**UN** United Nations  
**wt** Weight