Safety Data Sheet

Date of Issue: 23.09.2024 Date of Expiry: 23.09.2029

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : **ECP Limited**
Address : PO Box 34125, Birkenhead, Auckland 0746
Telephone : +64 9 480 4386
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Emergency phone number : 0800 243 622 (24 hours)

Product Name	**Hydrofluoric acid 49%**
Product Code	EP1337
CAS No.	7664-39-3

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 Classification of the substance or mixture

Acute toxicity, Oral (Category 2)
Acute toxicity, Dermal (Category 1)
Acute toxicity, Inhalation (Category 2)
Skin corrosion (Category 1A)

Label Elements

DANGER

Hazard statement(s)

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

Precautionary statement(s)

P260 Do not breathe fume/gas/mist/vapours/spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash hand thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoor or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.
P330 Rinse mouth.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

3: Composition/information on ingredients

3.2 Mixture

Hydrofluoric acid

Synonyms	Fluoric acid, Hydrogen fluoride, Fluoride of hydrogen.
CAS-No	7664-39-3
EC-No	231-634-8
EC-Index-No	009-003-00-1

Component	Concentration	Classification
Hydrofluoric acid		
	49%	Acute toxicity, Oral (Category 2), H300 Acute toxicity, Dermal (Category 1), H310 Acute toxicity, Inhalation (Category 2), H330 Skin corrosion (Category 1A), H314

4: First aid measures

4.1 Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

Inhalation

Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus

Skin contact

Remove contaminated clothing and immediately wash out with plenty of water at least 15 minutes. Treatment of skin exposures with calcium gluconate gel (2,5%) until the pain subsides or soaked with 10% calcium gluconate solution if not available for calcium gluconate gel (2.5%). Obtain medical attention.

Eye contact

If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.

Ingestion

Rinse mouth. Do not induce vomiting; add calcium gluconate, calcium lactate, 1% calcium gluconate solution or milk. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11.

4.3 Indication of any immediate medical attention and special treatment needed
Not Available

5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
In adaption to materials stored in the immediate neighbourhood.

5.2 Special hazards arising from the substance or mixture
Non-combustible. Ambient fire may liberate hazardous vapors. The following may develop in event of fire:
Hydrofluoric acid gas.

5.3 Advice for firefighters
Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

5.4 Hazchem Code
2X

5.5 Further information
Standard procedure for chemical fires. Prevent firefighting water from entering surface water or groundwater

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions
Contain or absorb leaking liquid with inert absorbent material, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

6.3 Methods and materials for containment and cleaning up
Spillage : soak up with inert absorbent material. Prevent liquid entering sewers, basements and workpits.
Transfer to covered drums. Dispose of promptly.

6.4 Reference to other sections
For disposal see Section 13.

7: Handling and storage

7.1 Precautions for safe handling
Provision of good ventilation in the working area. The floor must be fluoride resistant. Do not leave container open. Avoid spillage.

7.2 Conditions for safe storage, including any incompatibilities
Keep tightly closed in a dry, cool and well-ventilated place. Keep out of direct sunlight and away from heat, water and incompatible materials. Requirements for container, in plastic containers.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Component	CAS No	Value	Control Parameters	Basis
Hydrofluoric acid	7664-39-3	WES-Ceiling	3 ppm 2.6 mg/m3	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

Biological occupational exposure limits

Component	CAS No	Parameters	Value	Biological Specimen	Basis
Hydrofluoric acid	7664-39-3	Fluoride	2 mg/l	Urine	New Zealand. Biological Exposure Indices
	Remarks	Prior to shift			
			3 mg/l	Urine	New Zealand. Biological Exposure Indices
		End of Shift			

8.2 Exposure controls

Appropriate engineering controls

The product should only be used in ventilation hoods and fans.
Individual protection measures (Personal protective equipment, PPE)

Eye/face protection

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / corrosive protective clothing, heavy duty work shoes.
Handle with gloves

- Full contact wears gloves from polychloroprene material.
- Splash contact wears gloves from butyl rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter E-(P3) (EN 141 or EN 14387).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance		
Form	:	Liquid
Color	:	Colorless
Odour	:	Not Available
Odour Threshold	:	Not Available
pH	:	~2 at 20ºC
Melting point/range	:	~-36ºC

Boiling point/range	:	~106 ºC at 1013 hPa
Flash point	:	Not Available
Evaporation rate	:	Not Available
Flammability (solid, gas)	:	Not Available
Explosion limits lower	:	Not Available
upper	:	Not Available
Vapor Pressure	:	Not Available
Relative Vapor Density	:	Not Available
Density	:	1.15 g/ml at 20ºC
Water solubility	:	Soluble at 20ºC
Partition coefficient (n-octanol/water)	:	Not Available
Auto-Ignition temperature	:	Not Available
Decomposition Temperature	:	Not Available
Viscosity	:	Not Available
Explosive properties	:	Not Explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

10: Stability and reactivity

10.1 Reactivity
Not Available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Risk of explosion in contact with potassium, sodium, potassium permanganate, metals, methanesulfonic acid, nitric acid + glycerin.
The substance can react dangerously with ammonia, organic substances, sulfuric acid, fluorine, acetic anhydride, 2-aminoethanol, ammonium hydroxide, metal silicides, sodium hydroxide, dry paper, phosphorus pentoxide, quartz (gets etched), silicon compounds, vinyl acetate, bismuthic acid.

10.4 Conditions to avoid
Heat

10.5 Incompatible materials
See Section 10.3

10.6 Hazardous decomposition products
Hydrogen fluoride gas.

11: Toxicological information

11.1 Information on toxicological effects
Mixture
Acute toxicity
LD50 (oral, rat): 2730-3800 mg/kg
LD50 (dermal, rabbit): 988 mg/kg
LC50 (inhalation, rat): 27.3 mg/l/4 h

Acute oral toxicity
Symptoms: severe burns of mouth and throat, bloody vomiting.

Acute inhalation toxicity
Burn of the mucous membranes, coughing, damage of respiratory.

Skin corrosion/irritation
Causes severe burn.

Serious eye damage/eye irritation
Cause serious eye damage. Risk of blindness.

Respiratory or skin sensitization
Not Available

Germ cell mutagenicity
Not Available

Carcinogenicity
Not Available

Reproductive toxicity
Not Available

Teratogenicity
Not Available

Specific target organ toxicity (STOT) - single exposure
Not Available

Specific target organ toxicity (STOT) - repeated exposure
Not Available

Aspiration hazard
Not Available

Further information
Lethal effect after absorption. Damage to liver and kidney. Symptoms may be delayed.
The product should be handled with the care usual when dealing with chemicals.

12: Ecological information

12.1 Toxicity
Not Available

12.2 Persistence and degradability
Not Available

12.3 Bioaccumulative potential
Not Available

12.4 Mobility in soil
Not Available

12.5 Other adverse effects
Forms corrosive mixtures with water even if diluted. Damage to plant growth. The following applies to Hydrofluoric acid general: Harmful effect on aquatic organisms. Harmful effect due to pH shift.
Do not allow to enter waters, waste water or soil.

13: Disposal considerations

13.1 Waste treatment methods
Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging
Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	**UN Number**	1790	1790	1790
14.2	**UN Proper Shipping name**	HYDROFLUORIC ACID	HYDROFLUORIC ACID	Hydrofluoric acid
14.3	**Transport Hazard Class**	8 (6.1)	8 (6.1)	8 (6.1)
14.4	**Packaging group**	II	II	II
14.5	**Environmental Hazards**	No	No	No
14.6	**Special precautions for user**	none		

15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulatory information
HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006
Tracking Required: 6.1B
Approved Handler Cert.: 6.1B

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to

determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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