

P361 Remove/Take off immediately all contaminated clothing.

P363 Wash contaminated clothing before reuse.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

2.3 Other hazards

None

3. Composition/information on ingredients

3.1 Mixtures

Formula: HF

Molecular weight: 20.01 g/mol

Component	Classification	Concentration
Hydrofluoric acid		
CAS No. 7664-39-3	6.1 B; 6.1 A; 8.2 A; 8.3 A; H300, H310, H314, H330	>= 30% - < 50%

4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcaemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.

Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcaemia. Material can cause severe burns and blistering which may not be immediately painful or visible. The full extent of tissue damage may not exhibit itself for 12-24 hours after exposure. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, necrosis of the skin.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Hydrogen fluoride

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

No data available

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/m ³	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	160 micro mol per litre	Urine	New Zealand. Biological Exposure Indices
		Fluoride	3.0000 mg/l	Urine	New Zealand. Biological Exposure Indices
		Fluoride	530 micro	Urine	New Zealand. Biological Exposure Indices

		Fluoride	10.0000 mg/l	Urine	New Zealand. Biological Exposure Indices
--	--	----------	--------------	-------	------------------------------------------

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

Full contact

Material: Chloroprene

Minimum layer thickness: 0.6 mm

Break through time: > 480 min

Splash contact

Material: Nature latex/chloroprene

Minimum layer thickness: 0.6 mm

Break through time: 180 min

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: liquid

b) Odour

No data available

c) Odour

Threshold

No data available

d) pH

No data available

e) Melting point/freezing point

No data available

f) Initial boiling point and boiling range

No data available

g) Flash point

No data available

h) Evaporation rate

No data available

- i) Flammability (solid, gas)
No data available
- j) Upper/lower flammability or explosive limits
No data available
- k) Vapour pressure
No data available
- l) Vapour density
No data available
- m) Relative density
No data available
- n) Water solubility
No data available
- o) Partition coefficient: n-octanol/water
No data available
- p) Auto-ignition temperature
No data available
- q) Decomposition temperature
No data available
- r) Viscosity
No data available

10. Stability and reactivity

- 10.1 Reactivity
No data available
- 10.2 Chemical stability
No data available
- 10.3 Possibility of hazardous reactions
No data available
- 10.4 Conditions to avoid
No data available
- 10.5 Incompatible materials
Strong oxidizing agents
- 10.6 Hazardous decomposition products
Other decomposition products
No data available

11. Toxicological information

- 11.1 Information on toxicological effects
 - Acute toxicity
No data available
 - Skin corrosion/irritation
No data available
 - Serious eye damage/eye irritation
No data available
 - Respiratory or skin sensitisation
No data available
 - Germ cell mutagenicity
No data available
 - Carcinogenicity
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans
 - Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation

May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

May be fatal if swallowed. Causes burns.

Skin

May be fatal if absorbed through skin. Causes skin burns.

Eyes

Causes eye burns.

Signs and Symptoms of Exposure

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcaemia. Material can cause severe burns and blistering which may not be immediately painful or visible. The full extent of tissue damage may not exhibit itself for 12-24 hours after exposure. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, necrosis of the skin.

Additional Information

RTECS: Not available

12. Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

No data available

13. Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

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	No data available		

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.

****END*****END*****END*****END*****END*****END****