SECTION 1: Chemical Product and Company Information

Product Name: SupraPure Hydrofluoric Acid 48%
Synonyms: Hydrofluoric Acid solution, Fluohydric acid, Fluoric acid
Recommended Use: Laboratory use Only
Company Identification:

Atomika
70 Chattan Road
Glenferness
South Africa
2191
Cell: +2782 354 7730
e-mail: Atomika.lab@outlook.com

SECTION 2: Composition, Information on Ingredients

CAS #:	Chemical Name:	EINECS #:	Hazard Symbol:
7664-39-3	Hydrogen fluoride	231-595-7	

SECTION 3: Hazard Identification

EMERGENCY OVERVIEW

Harmful in contact with skin and if swallowed. Causes burns.

Potential Health Effects

Eye: Causes severe eye burns. May cause eye damage.
Skin: Causes severe skin burns. May be fatal in contact with skin.
Ingestion: Fatal if swallowed.
Inhalation: May cause respiratory irritation. May be fatal if inhaled.
Other: May be corrosive to metals

SECTION 4: First Aid Measures

General Advice: Immediate and specialised first aid and medical treatment is required. Speed is of the essence. Flush with plenty of water immediately. Continue flushing during transport to hospital or medical centre.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Immediate medical attention is required.

Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Immediate medical attention is required. Dermal burns may be treated with calcium gluconate gel or slurry in water or glycerine. This compound binds the active fluorides in an insoluble form and limits burn extension and pain. Soaking or immersion with ices 0.13% Benzalkonium chloride solution may be used for skin burns and should be continued until the pain is relieved. Do not use in eyes.

Ingestion: **DO NOT** induce vomiting. Call a physician or poison control centre immediately.

Inhalation: If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid or a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required. A nebulized solution of 2.5% Calcium gluconate may be administered with Oxygen by inhalation.

Most important symptoms and effects: Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis in contraindicated. Possible perforation of stomach or oesophagus should be

investigated. Ingestion causes sever swelling, severe damage to the delicate tissue and danger of perforation.

SECTION 5: Fire Fighting Measures

General Information: Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus to prevent contact with thermal decomposition products.

Extinguishing Media: Dry chemical, CO_2 or water spray. Dry sand will be unsuitable as an extinguishing media.

Specific Hazards from Chemical: This product causes burns of eyes, skin and mucous membranes. Contact with metals may evolve flammable hydrogen gas. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

SECTION 6: Accidental Release Measures

Personal Precautions: Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment as required. Do not get in eyes, on skin, or on clothing.

Environmental Precautions: Should not release into the environment. Do not flush into surface water or sanitary sewer system.

Spills / Leaks: Soak up with inert absorbent material. Sweep up and shovel into suitable containers and for disposal.

SECTION 7: Handling and Storage

Handling: Wear personal protective equipment / face protection. Do not breathe mist/vapours/spray. Do not get into eyes, on skin, or on clothing. Do not ingest. If swallowed, then seek immediate medical assistance.

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosive area. Do not store in metal or glass containers. Incompatible materials: Metals, Cyanides, Sulfides, Bases, Fluorine.

SECTION 8: Exposure Controls, Personal Protection

Engineering Controls: Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

CAS #: 7664-39-3 (Hydrogen fluoride)

ACGIH TLV	TWA: 0.5 ppm TWA: 2.5 mg/m^3	Ceiling: 2 ppm Skin
OSHA PEL	(Vacated) TWA: 3 ppm (Vacated) TWA: 2.5 mg/m^3	(Vacated) STEL: 6 ppm TWA: 3 ppm
NIOSH IDLH	IDLH: 30 ppm TWA: 3 ppm TWA: 2.5 mg/m^3	IDLH: 250 mg/m^3 Ceiling: 6 ppm Ceiling: 5 mg/m^3
Mexico OEL (TWA)	TWA: 0.5 ppm TWA: 2.5 mg/m^3	Ceiling: 2 ppm

Legend
ACGIH – American Conference of Governmental Industrial Hygienists
OSHA – Occupational Safety and Health Administration
NIOSH IDLH: NIOSH – National Institute of Occupational Safety and Health

Personal Protective Equipment (PPE)

Eyes: Tight sealing safety goggles. Face protection shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in European Standard EN 149. Use an approved respirator if exposure is exceeded or if irritation or other symptoms are experienced.

Recommended Filter Type: Acid gases filter; Type E; Yellow; conforming to regulation.

SECTION 9: Physical and Chemical Properties

Physical State:	Liquid
Colour:	Clear colourless
Odour:	Pungent
pH:	< 1.0
Vapour Pressure:	No information available
Vapour Density:	2.21
Viscosity:	No information available
Boiling Point:	105°C
Freezing/Melting Point:	-35°C
Autoignition Temperature:	No information available
Flash Point:	No information available
Lower Explosion Limits:	Not available
Upper Explosion Limits:	Not available
Decomposition Temperature:	Not available
Solubility in Water:	Soluble in water
Specific Gravity/Density:	1.15 – 1.20
Molecular Formula:	HF
Molecular Weight:	20

SECTION 10: Stability and Reactivity

Reactive Hazard:	None known based on information available.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Incompatible products. Excess heat.
Incompatibilities with Other Materials:	Metals, Cyanides, Sulfides, Bases, Fluorine.
Hazardous Decomposition Products:	Gaseous hydrogen fluoride (HF).
Hazardous Polymerization:	Hazardous polymerization does not occur.
Hazardous Reactions:	Corrosive to metals. Contact with metals may evolve flammable hydrogen gas.

SECTION 11: Toxicological Information

LD50/LC50: RTECS:
CAS #: 7664-39-3 (Hydrogen fluoride)
Oral: LD50 – Not Listed
Dermal: LD50 – Not Listed
Inhalation: LC50 = 0.79 mg/ℓ (Rat – 1h)

Other: Causes severe burns by all exposure routes.

SECTION 12: Ecological Information

Ecotoxicity:	Do not empty into drains.
Persistence and degradability:	Soluble in water. Persistence is unlikely based on information available. Miscible in water.
Bioaccumulation:	No information available.
Mobility:	Will likely be mobile in the environment due to its water solubility.

Chemical Name	Algae/aquatic Plants	Fish	Microtox	Crustacea
Hydrogen fluoride 7647-01-0	-	LC50: 660 mg/ℓ (48h, *Leicoscis idus*)	-	EC50: 270 mg/ℓ (48h, *Daphnia* species)

SECTION 13: Disposal Considerations

Waste Disposal Methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport Information

	DOT	ADR/RID	IMDG	ICAO-TI and IATA-DGR
Shipping Name:	Corrosive liquid, acidic, inorganic, n.o.s., hydrogen fluoride	Corrosive liquid, acidic, inorganic, n.o.s., hydrogen fluoride	Corrosive liquid, acidic, inorganic, n.o.s., hydrogen fluoride	Corrosive liquid, acidic, inorganic, n.o.s., hydrogen fluoride
Hazard Class:	8	8	8	8
Subsidiary Hazard Class	6.1	6.1	6.1	6.1
UN Number:	1790	1790	1790	1790
Packing Group:	II	II	II	II

SECTION 15: Regulatory Information

European / International Regulations

Hazard Symbol:
C – Oxidizing
E – Corrosive
T+ - Toxic

Risk Phrases:
R35 – Causes burns.
R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.
R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed.
R36 – Irritating to eyes.
R41 – Risk of serious damage to eyes.

Safety Phrases:
S10 - When using do not eat or drink.
S23 - Do not inhale gas/fumes/vapour/spray.
S24/25 - Avoid contact with skin and eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27/28 - After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
S3/7/9 - Keep container tightly closed in a cool, well-ventilated place.
S45 - In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
S61 - Avoid release to the environment. Refer to special instructions/safety data sheet.

SECTION 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability of any other warranty, express of implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information to 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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