

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	HYDROFLUORIC ACID 49%
CAS-No.	7664-39-3
Product code	AR1337, EP1337

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for analysis and production.
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1.3 Details of the manufacturer of the safety data sheet

Manufacturer	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

1.4 Emergency Telephone Number

Emergency phone	(662) 613-7911-4
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 2), H300
Acute toxicity, Dermal (Category 1), H310
Acute toxicity, Inhalation (Category 2), H330
Skin corrosion (Category 1A), H314
Serious eye damage (Category 1), H318
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H300 + H310 + H330
H314

Fatal if swallowed, in contact with skin or if inhaled.
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.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P361 + P354	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P354 + P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do.
P330	Rinse mouth.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixture

Hydrofluoric acid

Synonyms Fluoric acid, Hydrogen fluoride, Fluoride of hydrogen.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
7664-39-3	231-634-8	009-003-00-1	HF	20.01 g/mol	49

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	CAS-No	Formula	Concentration (%)	Classification
Hydrofluoric acid	7664-39-3	HF	49	Acute toxicity, Oral (Category 2), H300 Acute toxicity, Dermal (Category 1), H310 Acute toxicity, Inhalation (Category 2), H330 Skin corrosion (Category 1A), H314 Serious eye damage (Category 1), H318
Water	7732-18-5	H ₂ O	51	-

For the full text of the H-Statements mentioned in this Section, see Section 16

SECTION 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

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

In adaption to materials stored in the immediate neighborhood.

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 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

SECTION 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**.

SECTION 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 at room temperature 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.

Storage class 6.1B (TRGS 510); Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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.

SECTION 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 20°C
Melting point/range	~-36°C
Boiling point/range	~106 °C 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 20°C
Water solubility	Soluble at 20°C
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.

SECTION 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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Acute toxicity estimates oral – 10.63 mg/kg.

Acute toxicity estimates inhalation – 1.25 mg/l/4h

Acute toxicity estimates dermal – 10.63 mg/kg

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

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.

SECTION 12: Ecological information**Mixture****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 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 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.

SECTION 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.

SECTION 14: Transport information**Land Transport (ADR/RID)**

UN Number	1790
UN proper shipping name	HYDROFLUORIC ACID

Transport hazard class(es)	8 (6.1)
Packing group	II
Environmental hazards	No
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	1790
UN proper shipping name	HYDROFLUORIC ACID
Transport hazard class(es)	8 (6.1)
Packing group	II
Marine pollutant	No
Special precautions for user	Yes
EmS	F-A S-B

Air transport (IATA)

UN Number	1790
UN proper shipping name	HYDROFLUORIC ACID
Transport hazard class(es)	8 (6.1)
Packing group	II
Environmental hazards	No
Special precautions for user	No

River transport (AND/ADNR)

(Not examined)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information**Recommended restrictions**

Take notice of labels and safety data sheets for the working.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to RCI Labscan Limited.

Revision Date10/04/2025

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.