

1. Identification


Product Code **1110870**

Product Name **HYDROFLUORIC ACID 40% w/w A.R.**

Molecular Formula **HF =20.01**

CAS Number **7664-39-3**

Supplier: **CAMLAB LIMITED**
Norman Way Industrial Estate
Over
Cambridge
England
CB4 5WE



Phone **01954 233110**

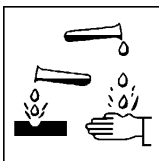
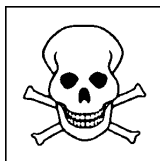
Fax **01954 233101**

Emergency Telephone **08:00-17:00 01954 233110**
24hr 112
(Have this document to hand)

2. Composition

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases	Exp (See 8.1)
Hydrofluoric acid	7664-39-3	231-634-8	40.0%	T+ C : R26/27/28,R35	WEL

3. Hazards Identification



Very toxic by inhalation, in contact with skin and if swallowed. Causes severe burns.

4. First Aid Measures

Eyes Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION URGENTLY.

Skin Wash off skin thoroughly with water. If calcium gluconate gel is available immediately rub into all affected areas and massage until pain goes. If not wash with soap and water for 30 minutes. OBTAIN MEDICAL ATTENTION URGENTLY.

Inhalation Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If conscious place in a sitting position. OBTAIN MEDICAL ATTENTION URGENTLY.

Ingestion If conscious give plenty of water to drink. Do not induce vomiting. If unconscious place in the recovery position. If conscious wash out mouth thoroughly with water and give milk or calcium gluconate to drink. OBTAIN MEDICAL ATTENTION URGENTLY.

5. Fire Fighting Measures

Hazards Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. May evolve toxic fumes if involved in a fire.

Extinguishing Media Dry chemical powder.

Unsuitable Media Do not allow water to come into direct contact with material.

6. Accidental Release Measures

Personal Protection	Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so.
Environmental	Keep non-neutralised material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.
Major Spillage	Treat with massive dilution with water to stop fuming. Contain and absorb on inert material. Neutralise spill with calcium hydroxide (slaked lime) to precipitate the insoluble fluoride. Wash area down with copious amounts of water.
Minor Spillage	Treat with massive dilution with water to stop fuming. Contain and absorb on inert material. Neutralise spill with calcium hydroxide (slaked lime) to precipitate the insoluble fluoride. Wash area down with copious amounts of water.

7. Storage & Handling

Handling Precautions	Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing. Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.
Storage Conditions	Well ventilated, cool, dry storage .

8.1 Workplace Exposure Limits

Component	CAS No	Workplace Exposure Limits				Maximum Exposure Limits			
		Long Term		Short Term		Long Term		Short Term	
		ppm	mg m ⁻³	ppm	mg m ⁻³	ppm	mg m ⁻³	ppm	mg m ⁻³
Hydrofluoric acid	7664-39-3	-	-	3.000	2.500	-	-	-	-

8.2 Personal Protection

Respiratory	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.
Hands	Use PVC gauntlets.
Eyes	Use chemical full face shield.
Skin	Wear PVC oversuit.

9. Physical & Chemical Properties

Appearance	Colourless fuming liquid.
Odour	Pungent and intensely irritating.
pH	1 @ 20 °C
Boiling point	110.0 °C
Melting point	50.0- °C
Flash point	Not available
Upper Flammable Limit	Not available
Lower Flammable Limit	Not available
Auto Ignition	Not available
Explosive properties	No.
Oxidising Properties	No.
Vapour Pressure	400 mmHg @ 2.5 C
Relative Density	1.1600 °C
Water Solubility	Completely soluble in water but reacts vigorously with much evolution of heat and fumes.

10. Stability & Reactivity

Chemical Stability	Stable under normal conditions
Conditions to Avoid	No specific conditions.
Materials to Avoid	Alkalis. Potassium permanganate. Reacts with most metals to produce extremely flammable hydrogen gas.

10. Stability & Reactivity (continued)

Hazardous Will decompose to emit very toxic and extremely irritant fumes of hydrogen fluoride.
Decomposition Products

11. Toxicological Information

Eyes The liquid, solutions and vapour are be extremely irritating to eyes and can cause chemical eye burns. Damage can range from severe irritation and corneal scarring to permanent blindness.

Skin The liquid and solutions will cause severe burns. Contact with dilute solutions and low vapour concentrations may not lead to immediate pain but damage begins at once. Burns produced by solutions of under 20% are shown by pain and erythema and may take 24 hours to become evident. Burns from 20-50% solutions become apparent in 1-8 hours, while solutions over 50% cause rapid tissue damage and immediate pain. Marked dermal injury and systemic poisoning may result in humans after skin contact with solutions of 2% for as short as 1 hour.

LD50 Skin Not available

Ingest Ingestion causes necrosis of the oesophagus and stomach, nausea, vomiting, diarrhoea, circulatory collapse and may be fatal if swallowed. Ingestion of an estimated 1.5g has led to sudden death.

LD50 Ingest Oral G.Pig 80mg/Kg

Inhalation Exposure to vapour concentrations above the occupational exposure limits will produce severe irritation of the eyes, nose, throat and respiratory tract. Prolonged exposure to vapour concentrations above the occupational exposure limits may have serious effects with initially no pathological signs. Further exposure may cause acute pulmonary oedema often with a serious outcome.

Carcinogenicity A cluster of laryngeal cancers has been reported in workers exposed to a combination of hydrogen fluoride, traces of carcinogenic metals and asbestos.

Mutagenicity May be a mutagen.

Reproductive Effects No information is available.

Other Information The irritant effect provides warning that control of exposure is needed.

12. Ecological

Fluorides are harmful to the environment.

13. Disposal Considerations

Disposal Methods Very carefully dilute with water to stop fuming. Neutralise spill with calcium hydroxide (slaked lime) to precipitate the insoluble fluoride. The liquors can be run to drain and the solid disposed of at a licensed land-fill site.

Contaminated Packaging Very carefully wash out containers with water. Use a licensed waste disposer.

14. Transport Information

Proper Shipping Name Hydrofluoric Acid
UN Number 1790
UN Classification 8 Corrosive
Subsidiary Risk 6.1 Toxic
Flash Point Not available
Packing Group II
Transport Category 2
Marine pollutant No
ADR Hazard ID 86



15. Regulatory Information

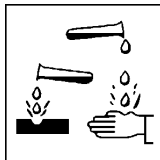
Labelling
Classification Very Toxic, Corrosive.

Label Symbols

T+



C



Risk & safety Phrases Very toxic by inhalation, in contact with skin and if swallowed. Causes severe burns. Keep locked up and out of reach of children. Keep container tightly closed and in a well ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label).

EEC Number 231-634-8

16. Other Information

Document Information This document has been prepared in accordance with directive 88/379/EEC.

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment.

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