

## SAFETY DATA SHEET

### 1. Identification of the substance/mixture and of the company/undertaking

Product Name: Hydrofluoric acid  
CAS: 7664-39-3  
Application: Laboratory chemicals, Manufacture of substances  
Manufacturer: Sinopharm Chemical Reagent Co., Ltd. No. 52 Ning Bo Road, Shanghai 200002, China  
Fax: 86-021-6321403  
Emergency Telephone: 86-0532-83889090  
Email: sj\_zjzx@sinopharm.com  
Website: <http://www.reagent.com.cn>  
MSDS No: SCRC CSDS7664-39-3 Hydrofluoric acid

### 2. Hazards identification

#### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 2), H300 Acute toxicity, Inhalation (Category 2), H330 Acute toxicity, Dermal (Category 1), H310 Skin corrosion (Category 1A), H314 Serious eye damage (Category 1), H318

#### Label elements

#### Labelling according Regulation (EC) No 1272/2008

#### Pictogram



Signal word: 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. H318 Causes serious eye damage.

#### Precautionary statement(s):

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P262 Do not get in eyes, on skin, or on clothing. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P284 Wear respiratory protection.

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

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

#### Other hazards

none

### 3. Composition/information on ingredients

#### Substance/Mixture: 混合物

Component	CAS RN	Concentration
Hydrofluoric acid	7664-39-3	≥40
水	7732-18-5	--

### 4. First aid measures

#### Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### 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. Continue rinsing eyes during transport to hospital.

#### If swallowed

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

#### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

## Indication of any immediate medical attention and special treatment needed

no data available

## 5. Firefighting measures

### Extinguishing media

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

### Special hazards arising from the substance or mixture

Hydrogen fluoride

### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary

### Further information

No data available

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

### Environmental precautions

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

### 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.

### Reference to other sections

For disposal see section 13.

## 7. Handling and storage

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection. For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

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

### Specific end use(s)

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

## 8. Exposure controls/personal protection

### Control parameters

#### Components with workplace control parameters

MAC: 2

PC-STEL: —

TLV-TWA: No data available

PC-TWA: —

TLV-C: No data available

TLV-STEL: No data available

### 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 such as NIOSH (US) or EN 166 (EU).

##### Skin 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.

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. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) 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 such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Do not let product enter drains.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odour	no data available
c) Odour Threshold	No data available
d) pH	<7
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	105°C/760mmHg (47-51%)
g) Flash point	233.6°F/112°C
h) Evaporation rate	No data available

i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	No data available
	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	$\rho$ (25) 1.15g/mL (47-51%)
n) Water solubility	no data available
o) Partition coefficient: noctanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

#### Other safety information

No data available.

### 10. Stability and reactivity

#### Reactivity

no data available

#### Chemical stability

Stable under recommended storage conditions

#### Possibility of hazardous reactions

no data available

#### Conditions to avoid

No data available

#### Incompatible materials

No data available

#### Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity

No data available (Hydrofluoric acid) Inhalation: No data available LC50 Inhalation - Rat - 1 h - 1300 ppm (Hydrofluoric acid) Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Lacrimation. Behavioral: Change in motor activity (specific assay). Gastrointestinal: Changes in structure or function of salivary glands. Dermal: No data available Dermal: No data available (Hydrofluoric acid) No data available (Hydrofluoric acid)

##### Skin corrosion/irritation

No data available

##### Serious eye damage/eye irritation

Eyes - Human (Hydrofluoric acid) Result: Risk of serious damage to eyes.

##### Respiratory or skin sensitization

No data available

##### Germ cell mutagenicity

(Hydrofluoric acid) Rat Cytogenetic analysis

##### Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrofluoric acid) NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

##### Reproductive toxicity

Reproductive toxicity - Rat - Inhalation Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). (Hydrofluoric acid) Developmental Toxicity - Rat - Inhalation Effects on Embryo or Fetus: Fetal death. (Hydrofluoric acid)

##### Specific target organ toxicity - single exposure

No data available

##### Specific target organ toxicity - repeated exposure

No data available

##### Aspiration hazard

No data available

#### Additional Information

RTECS: Not available Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., 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 Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. (Hydrofluoric acid) Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence (Hydrofluoric acid)

### 12. Ecological information

#### Toxicity

No data available

#### Persistence and degradability

No data available

#### Bioaccumulative potential

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

**13. Disposal considerations**

**Waste treatment methods**

Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. Transport information**

**UN number**

ADR/RID:1790	IMDG:1790	IATA:1790
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**UN proper shipping name**

ADR/RID:Hydrofluoric acid	IMDG:Hydrofluoric acid	IATA:Hydrofluoric acid
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**Transport hazard class(es)**

ADR/RID:8(6.1)	IMDG:8(6.1)	IATA:8(6.1)
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**Packaging group**

ADR/RID:II	IMDG:II	IATA:II
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**Environmental hazards**

ADR/RID:no	IMDG:no	IATA:no
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**Special precautions for user**

no data available

**15. Regulatory information**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No data available

**Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

**16. Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sinopharm Chemical Reagent Co., Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.