



EPOCH MASTER GLOBAL BUSINESS (JIANGSU)
RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND
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SECTION 1: Identification of the substance /mixture and of the company/undertaking

1.1. Product identifier

Product Name Hydrofluoric acid 70%

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

Recommended Use For VLSI chips, solar cells, etching and cleaning processes in LED and TET-LCD panel manufacturing, atomic energy and other industrial chemicals.

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier EPOCH MASTER GLOBAL BUSINESS (JIANGSU)
Address RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND
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1.4. Emergency telephone number

+13770711448

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity - Oral Category 2
Acute toxicity - Dermal Category 1
Acute toxicity - Inhalation (Vapors) Category 2
Skin corrosion/irritation Category 1

2.2. Label elements



Symbols/Pictograms
Signal word
Hazard Statements

Danger
H300 - Fatal if swallowed.
H310 - Fatal in contact with skin.
H330 - Fatal if inhaled (Vapors).
H314 - Causes severe skin burns and eye damage.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements

P262 - Do not get in eyes, on skin, or on clothing
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P405 - Store locked up

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Mixture

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydrogen fluoride	231-634-8	7664-39-3	70	Acute Tox. 2 (H300) Acute Tox. 1 (H310) Acute Tox. 2 (H330) Skin Corr. 1A (H314)
Sulfuric acid	231-639-5	7664-93-9	0.08	
Fluorosilicic acid	241-034-8	16961-83-4	0.05	
Water	231-791-2	7732-18-5	29.87	

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

Remove contaminated clothing and shoes. Immediate medical attention is required.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Ingestion

If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Self-protection of the first aider

First aider: Pay attention to self-protection. Use personal protection recommended in Section 8.

4.2. Most important symptoms and effects, both acute and delayed

Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled (Vapors). Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

5.3. Advice for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use personal protection recommended in Section 8.

6.2. Environmental precautions

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Ventilate affected area. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

6.4. Reference to other sections

See Section 7 for more information

See section 8 for more information

See section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Wash thoroughly after handling. Use personal protection recommended in Section 8.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Keep away from food, drink and animal feeding stuffs.

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

Exposure Limits

Chemical Name	Australia	Austria	Belgium	Denmark	European Union
Hydrogen fluoride (CAS #:	2.5 mg/m ³	Skin	-	TWA: 1.8 ppm	TWA 1.8 ppm

7664-39-3)	3 ppm Peak 2.6 mg/m ³ Peak	STEL 3 ppm STEL 2.5 mg/m ³ TWA: 1.8 ppm TWA: 1.5 mg/m ³		TWA: 1.5 mg/m ³ TWA: 2.5 mg/m ³	TWA 1.5 mg/m ³ STEL 3 ppm STEL 2.5 mg/m ³
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Chemical Name	Latvia	France	Finland	Germany	Italy
Hydrogen fluoride (CAS #: 7664-39-3)	TWA: 1.8 ppm TWA: 1.5 mg/m ³ STEL: 3 ppm STEL: 2.5 mg/m ³	TWA: 1.8 ppm TWA: 1.5 mg/m ³ STEL: 3 ppm STEL: 2.5 mg/m ³	TWA: 1.8 ppm TWA: 1.5 mg/m ³ STEL: 3 ppm STEL: 2.5 mg/m ³ Skin	TWA: 1 ppm TWA: 0.83 mg/m ³ TWA: 1 mg/m ³ Ceiling / Peak: 2 ppm Ceiling / Peak: 1.66 mg/m ³ Skin	TWA: 1.8 ppm TWA: 1.5 mg/m ³ STEL: 3 ppm STEL: 2.5 mg/m ³

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Hydrogen fluoride (CAS #: 7664-39-3)	STEL: 2 mg/m ³ TWA: 0.5 mg/m ³ TWA: 2 mg/m ³	Ceiling: 2 ppm TWA: 0.5 ppm TWA: 2.5 mg/m ³	STEL: 3 ppm STEL: 2.5 mg/m ³ TWA: 1.8 ppm TWA: 1.5 mg/m ³	STEL: 2 ppm STEL: 1.66 mg/m ³ TWA: 1 ppm TWA: 0.83 mg/m ³	STEL: 1 mg/m ³

Chemical Name	Norway	United Kingdom	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen fluoride (CAS #: 7664-39-3)	TWA: 0.5 mg/m ³ Skin STEL: 0.5 mg/m ³	STEL: 3 ppm STEL: 2.5 mg/m ³ TWA: 1.8 ppm TWA: 1.5 mg/m ³	TWA: 0.5 ppm F TWA: 2.5 mg/m ³ F S* Ceiling: 2 ppm F	TWA: 3 ppm F TWA: 2.5 mg/m ³ F TWA: 2.5 mg/m ³ dust (vacated) TWA: 3 ppm F (vacated) TWA: 2.5 mg/m ³ (vacated) STEL: 6 ppm F	IDLH: 30 ppm Ceiling: 6 ppm 15 min Ceiling: 5 mg/m ³ 15 min TWA: 3 ppm TWA: 2.5 mg/m ³

Derived No Effect Level (DNEL)

No information available

Predicted No Effect Concentration (PNEC)

No information available

8.2. Exposure controls**Engineering Controls**

Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition.

Personal protective equipment

Eye/face protection	No special technical protective measures are necessary.
Hand Protection	No special technical protective measures are necessary.
Skin and body protection	No special technical protective measures are necessary.
Respiratory protection	Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	None under normal processing

Environmental exposure controls

Do not allow into any sewer, on the ground or into any body of water.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	Liquid
Color	Transparent
Odor	Strong Irritant
Odor Threshold	Not determined
pH	< 1
Melting point/freezing point	Not determined

Boiling point / boiling range	112.2 °C
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not flammable
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
Vapor density	0.71
Density	1.15 g/cm ³
Relative density	Not determined
Partition coefficient (LogPow)	-1.4
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

9.2. Other information

No information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Ammonia. Alkali.

10.6. Hazardous decomposition products

Hydrogen.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrogen fluoride (CAS #: 7664-39-3)	-	-	= 0.79 mg/L (Rat) 1 h

Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled (Vapors).

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Sensitization

No sensitization responses were observed.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available

Reproductive toxicity

No information available.

STOT - single exposure

No information available

STOT - repeated exposure

No information available

Aspiration hazard

No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Hydrogen fluoride (CAS #: 7664-39-3)	-	660: 48 h Leuciscus idus mg/L LC50	270: 48 h Daphnia species mg/L EC50

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Hydrogen fluoride (CAS #: 7664-39-3)	-1.4

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment information is not available as chemical safety assessment not conducted.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14: Transport information**14.1. UN number**

1790

14.2. UN proper shipping name	HYDROFLUORIC ACID
14.3. Transport hazard class(es)	8 (6.1)
14.4. Packing group	I
14.5. Environmental hazards	Non-marine pollutant
14.6. Special precautions for user	No information available

SECTION 15: Regulatory information

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

European Union

Component	EINECS/ELINCS	SVHC candidates	RESTRICTIONS - REACH TITLE VIII
Hydrogen fluoride 7664-39-3	EINECS	-	-

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

International Inventories

Component	TSCA	DSL/NDSL	ENCS	IECSC	KECL	PICCS	AICS
Hydrogen fluoride 7664-39-3	X	DSL	X	X	X	X	X

"-" Not Listed

"X" Listed

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

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

Issue Date 09-Dec-2015

Revision date 19-Mar-2020

Revision Note Precautionary statements updated.
Self-compliance review, and update company name

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Full text of H-Statements referred to under section 3

H300 - Fatal if swallowed

H310 - Fatal in contact with skin

H314 - Causes severe skin burns and eye damage

H330 - Fatal if inhaled

Disclaimer

The information provided in this Material 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 a 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.

----- End of Safety Data Sheet -----