



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/27/2015

Version 1. 1

SECTION 1. Identification

Product identifier

Product number HX0627
Product name Hydrofluoric Acid
47-51% OmniTrace®

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

Identified uses Reagent for analysis

Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,
United States of America | General Inquiries: +1-978-715-4321 |
Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Acute toxicity, Category 2, Oral, H300
Acute toxicity, Category 2, Inhalation, H330
Acute toxicity, Category 1, Dermal, H310
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.

GHS-Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

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

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Precautionary Statements

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ 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 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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.

P310 Immediately call a POISON CENTER or doctor/ physician.

P320 Specific treatment is urgent (see supplemental first aid instructions on this label).

P361 Remove/Take off immediately all contaminated clothing.

P363 Wash contaminated clothing 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 known.

SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Hydrofluoric acid (>= 50 % - < 70 %)

7664-39-3

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

General advice

Countermeasurements must be implemented at once. First aider needs to protect himself.

Inhalation

After inhalation: fresh air. Get medical attention. Keep respiratory tract clear. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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Skin contact

After contact with skin: Rinse with plenty of water for at least 10 minutes. Immediately remove contaminated clothes. Apply calcium gluconate gel (preparation: boil 5 g of calcium gluconate in 85 ml of hot distilled water, add 10 g glycerol. Allow 5 g of Carmellose-sodium to swell in the hot solution. Stable for 6 months, store in a cool place) and massage into the skin until the pain subsides, in between rinse with water and apply fresh gel. Continue gel therapy for another 15 minutes after the pain has subsided. If no calcium gluconate gel is available, apply several dressings thoroughly moistened with 20 % calcium gluconate solution. Medical advice absolutely required!

Eye contact

After contact with eyes: Rinse with plenty of water keeping eyelids open, protecting the unaffected eye (at least 10 minutes). Seek medical advice immediately!

Ingestion

After swallowing: Immediately give to drink plenty of water, add calcium (in the form of calcium gluconate or calcium lactate). Caution: In the case of vomiting risk of perforation! Administer more calcium gluconate solution. Laxative: Sodium sulfate (1 tablespoon/1/4 l water). Seek medical advice immediately. Ensure that injured persons remain calm and protect them against heat loss.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Irritation and corrosion, bronchitis, Bloody vomiting, cardiovascular disorders, collapse, Convulsions, Risk of blindness!

Indication of any immediate medical attention and special treatment needed

Note for the doctor: It is recommended to consult a doctor with experience in the treatment of lesions caused by hydrofluoric acid. If a systemic effect is suspected, monitoring and treatment in an intensive care unit is urgently required. Caution, ventricular fibrillation due to electrolyte imbalance.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

Hydrogen fluoride

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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Further information

Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® HF, Art. No. 101591).

Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Avoid generation of vapors/aerosols. Work under hood. Do not inhale substance/mixture.

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

In plastic containers.

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at room temperature.

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SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>Hydrofluoric acid 7664-39-3</i>			
ACGIH	Time Weighted Average (TWA):	0.5 ppm	Expressed as: as F
	Ceiling Limit Value:	2 ppm	Expressed as: as F
	Skin designation:		Can be absorbed through the skin. Expressed as: as F
NIOSH/GUIDE	Recommended exposure limit (REL):	3 ppm 2.5 mg/m ³	
	Ceiling Limit Value and Time Period (if specified):	6 ppm 5 mg/m ³	Ceiling Limit Value 15-min
OSHA_TRANS	PEL:	2.5 mg/m ³	Expressed as: as F
Z1A	Time Weighted Average (TWA):	3 ppm	Expressed as: as F
	Short Term Exposure Limit (STEL):	6 ppm	Expressed as: as F
OSHA/Z2	Time Weighted Average (TWA):	3 ppm	

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Tightly fitting safety goggles

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

Acid-resistant protective clothing., Rubber or plastic boots

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	stinging
Odor Threshold	No information available.
pH	at 68 °F (20 °C) strongly acid
Melting point	ca. -35 °C
Boiling point/boiling range	ca. 223 °F (106 °C) at 1,013 hPa
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.16 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.

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Oxidizing properties

none

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapors with:

Metals, Alkali metals, Fluorine

Risk of explosion/exothermic reaction with:

potassium permanganate, silicon compounds, alkali hydroxides, Oxides of phosphorus, bismuth acid, strong alkalis

Conditions to avoid

Heating.

Incompatible materials

glass, Metals, quartzes/silicate ceramics

Gives off hydrogen by reaction with metals.

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Target Organs

Eyes

Skin

Respiratory system

Blood

Acute oral toxicity

Acute toxicity estimate: 10 mg/kg

Calculation method

absorption

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Acute toxicity estimate: 10.2 mg/kg

Calculation method

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Acute inhalation toxicity

absorption

Symptoms: burns of mucous membranes, damage of respiratory tract

Acute toxicity estimate: 1.2 mg/l; 4 h

Calculation method

Acute dermal toxicity

Acute toxicity estimate : 10 mg/kg

Calculation method

absorption

Acute toxicity estimate : 10.2 mg/kg

Calculation method

Skin irritation

pain Symptoms may be delayed. Possible damages: Necrosis

Mixture causes severe burns.

Tendency of poor wound-healing after penetration of the substance.

Eye irritation

Mixture causes serious eye damage. Risk of blindness!

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Resultant lesions may affect the following:

Pneumonia, Lung edema, bronchitis

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Possible symptoms:

Bloody vomiting

Systemic effects:

collapse, Convulsions, cardiovascular disorders

Damage to:

Liver, Kidney

Lethal effect after absorption.

Symptoms may be delayed.

Countermeasurements must be implemented at once.

Further data:

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Ingredients

Hydrofluoric acid

Acute oral toxicity

Acute toxicity estimate: 5.1 mg/kg

Expert judgment

Acute inhalation toxicity

Acute toxicity estimate: 0.6 mg/l; vapor

Expert judgment

Acute dermal toxicity

Acute toxicity estimate : 5.1 mg/kg

Expert judgment

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Additional ecological information

Biological effects:

Endangers drinking-water supplies if allowed to enter soil or water.

Harmful effect due to pH shift.

Forms toxic and corrosive mixtures with water even if diluted.

Further information on ecology

Discharge into the environment must be avoided.

Ingredients

Hydrofluoric acid

No information available.

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SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number UN 1790
Proper shipping name HYDROFLUORIC ACID
Class 8 (6.1)
Packing group II
Environmentally hazardous --

Air transport (IATA)

UN number UN 1790
Proper shipping name HYDROFLUORIC ACID
Class 8 (6.1)
Packing group II
Environmentally hazardous --
Special precautions for user no

Sea transport (IMDG)

UN number UN 1790
Proper shipping name HYDROFLUORIC ACID NOT MORE THAN 60%
Class 8 (6.1)
Packing group II
Environmentally hazardous --
Special precautions for user yes
EmS F-A S-B

SECTION 15. Regulatory information

United States of America

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients

Hydrofluoric acid 7664-39-3 50 %

SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients

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Hydrofluoric acid 7664-39-3

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Ingredients

Hydrofluoric acid

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Ingredients

Hydrofluoric acid

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

Hydrofluoric acid

Pennsylvania Right To Know

Ingredients

Hydrofluoric acid

New Jersey Right To Know

Ingredients

Hydrofluoric acid

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

KOREA: Not in compliance with the inventory

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



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Signal Word

Danger

Hazard Statements

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary Statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

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

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

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

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 01/27/2015

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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