# SAFETY DATA SHEET

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

Revision Date 01/26/2015 Version 1. 1

## SECTION 1.Identification

### Product identifier

| | |
|---|---|
| Product number | HX0628 |
| Product name | Hydrofluoric Acid OmniTrace Ultra™ |

### 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.

*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 wihtheld 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.

*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.

*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.

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

*Ingredients*

| Basis | Value | Threshold limits | Remarks |
|---|---|---|---|
| *Hydrofluoric acid 7664-39-3* | | | |
| 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.<br>Expressed as: as F |
| NIOSH/GUIDE | Recommended exposure limit (REL): | 3 ppm<br>2.5 mg/m³ | |
| | Ceiling Limit Value and Time Period (if specified): | 6 ppm<br>5 mg/m³ | Ceiling Limit Value 15-min |
| OSHA_TRANS | PEL: | 2.5 mg/m³ | 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.

## SECTION 9. Physical and chemical properties

| | |
|---|---|
| Physical state | liquid |
| Color | colorless |
| Odor | stinging |
| Odor Threshold | No information available. |
| pH | at 68 °F (20 °C)<br>strongly acid |
| Melting point | ca. -35 °C |
| Boiling point/boiling range | ca. 223 °F (106 °C)<br>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/cm³<br>at 68 °F (20 °C) |
| Relative density | No information available. |
| Water solubility | at 68 °F (20 °C)<br>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. |

| | |
|---|---|
| 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

*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 affectthe following:
Pneumonia, Lung edema, bronchitis

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.

## 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*

| | |
|---|---|
| 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*



*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 01/26/2015

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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