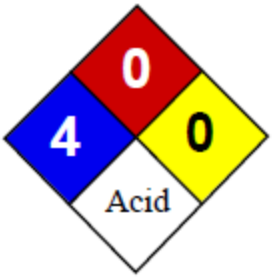

Safety Data Sheet
Hydrofluoric acid 48%

Section 1: Chemical Product and Company Identification	
Product Name: Hydrofluoric acid 48% **Catalog Codes:** 267 **CAS#:** 7664-39-3 **RTECS:** No data available **Synonym:** HF, Fluoric acid **Chemical Name:** Hydrogen Fluoride **Chemical Formula:** HF	**Contact Information:** **Email:** info@drm-chem**.com** **Address:** #7, Afshar javan Alley, Sohrevardi St ,Tehran, Iran **post code:** 1551818111 Tehran Sales: +98 21 88177760 **Order Online:** Drm-chem.com

Section 2: Composition and Information on Ingredients		
Composition:		
Name	**CAS #**	**% by Weight**
Hydrofluoric acid 48%	7664-39-3	30-50%
Toxicological Data on Ingredients: No data available		

Section 3: 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 (Sub-category 1A), H314 Serious eye damage (Category 1), H318 For the full text of the H-Statements mentioned in this Section, see Section 16.

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.
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
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/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Supplemental Hazard Statements	none

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.
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 4: First Aid Measures

Description of first-aid measures
General advice
Consult a physician. Show this material safety data sheet to the doctor in attendance.
Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 3) and/or in section 11

Indication of any immediate medical attention and special treatment needed
No data available

Section 5: Fire and Explosion Data

Extinguishing media
No data available

Special hazards arising from the substance or mixture
Hydrogen fluoride
Not combustible.

Advice for firefighters
No data available

Further information
No data available

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
For personal protection see section 8.

Environmental precautions
No data available

Methods and materials for containment and cleaning up
No data available

Reference to other sections
For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling
For precautions see section 3.

Conditions for safe storage, including any incompatibilities
No data available

Section 8: Exposure Controls/Personal Protection

Control parameters

Ingredients with workplace control parameters

Exposure controls

Personal protective equipment

Skin protection
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.
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Full contact
Material: Chloroprene
Minimum layer thickness: 0,6 mm
Break through time: > 480 min
Material tested:Camapren® (KCL 722 / Aldrich Z677493, Size M)
Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 54 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC 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.

Control of environmental exposure
Prevent product from entering drains.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	2 (H_2O, 20 °C)
e) Melting point/freezing point	-35°C
f) Initial boiling point and boiling range	106°C
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Density	1.16 g/cm3 (20 °C)

Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient n-octanol/water	No data available:
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available
u) Particle characteristics	

Other safety information
No data available

Section 10: Stability and Reactivity Data

Reactivity
No data available

Chemical stability
No data available

Possibility of hazardous reactions
No data available

Conditions to avoid
No data available

Incompatible materials
No data available

Hazardous decomposition products
In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Mixture

Acute toxicity
Acute toxicity estimate Oral - 10,63 mg/kg
(Calculation method)
Acute toxicity estimate Inhalation - 4 h - 1,25 mg/l - vapor(Calculation method)
Acute toxicity estimate Dermal - 10,63 mg/kg
(Calculation method)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

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
Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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

Components

Hydrofluoric acid

Acute toxicity
Oral: No data available
LC50 Inhalation - Rat - 1 h - 1,34 mg/l - vapor
Remarks: (IUCLID)
Acute toxicity estimate Inhalation - 0,6 mg/l - vapor
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Resultant lesions may affectthe following:, bronchitis, Pneumonia, Lung edema
Acute toxicity estimate Dermal - 5,1 mg/kg
(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns. - 4 h

(OECD Test Guideline 404)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms may be delayed. Possible damages: Necrosis Tendency of poor woundhealing after penetration of the substance.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes burns.
(OECD Test Guideline 405)
Remarks: (IUCLID)
Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells
Result: Positive results were obtained in some in vitro tests.
Species: Rat
Remarks: Cytogenetic analysis

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Acute inhalation toxicity - burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Resultant lesions may affectthe following:, bronchitis, Pneumonia, Lung edema

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Section 12: Ecological Information

Toxicity
Mixture
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
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission

Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other adverse effects
No data available

Components
Hydrofluoric acid
No data available

Section 13: Disposal Considerations

Waste treatment methods

Product
Waste material must be disposed of in accordance with the national and local regulations.
Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

Section 14: Transport Information

UN number
ADR/RID: 1790 IMDG: 1790 IATA: 1790

UN proper shipping name
ADR/RID: HYDROFLUORIC ACID
IMDG: HYDROFLUORIC ACID
IATA: Hydrofluoric acid

Transport hazard class(es)
ADR/RID: 8 (6.1) IMDG: 8 (6.1) IATA: 8 (6.1)

Packaging group
ADR/RID: II IMDG: II IATA: II

Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user
No data available

Section 15: Other Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ACUTE TOXIC

Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

Created: 01/09/2022

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the
Information for their particular purposes. In no event shall *Drm-chem.com* be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if *Drm-chem.com* has been advised of the possibility of such damages.