

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Hydrofluoric acid 25-30%

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
7.3	10/31/2023	1326936-00045	Date of first issue: 02/27/2017

SECTION 1. IDENTIFICATION

Product name : Hydrofluoric acid 25-30%

SDS-Identcode : 130000000595

Manufacturer or supplier's details

Company name of supplier : The Chemours Company FC, LLC

Address : 1007 Market Street
Wilmington, DE 19801 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-773-2000) ; Transport emergency: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

Recommended use of the chemical and restrictions on use

Recommended use : Industrial use

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to Metals : Category 1

Acute toxicity (Oral) : Category 2

Acute toxicity (Inhalation) : Category 3

Acute toxicity (Dermal) : Category 1

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

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Hazard Statements : H290 May be corrosive to metals.
H300 + H310 Fatal if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.
H331 Toxic if inhaled.

Precautionary Statements : **Prevention:**
P234 Keep only in original container.
P261 Avoid breathing mist or vapors.
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 and face protection.

Response:

P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth.
Do NOT induce vomiting. Immediately call a POISON CENTER.
P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER.

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.

P352 + P310 Wash with plenty of soap and water. Immediately call a POISON CENTER.

P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

Storage:

P405 Store locked up.

P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:

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

Other hazards

Corrosive to the respiratory tract.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

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Chemical name	CAS-No.	Concentration (% w/w)
Hydrofluoric acid	7664-39-3	$\geq 25 - < 30$
Hydrochloric acid	7647-01-0	$\geq 1 - 3$

SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : Move to fresh air in case of accidental inhalation of vapors or decomposition products.
Keep patient warm and at rest.
Administer 100% oxygen by mask.
Nebulize 2.5% calcium gluconate in normal saline solution continuously until medical evaluation, at least 10- 15 minutes, and again especially if pain reappears.
Get medical attention immediately.
- In case of skin contact : Go to the nearest source of water or safety shower, open the water valve, remove all your clothes, shoes and jewelry.
While closing your eyes and facing the water flow, remove your goggles or respirator face mask if you are sure that there is no HF on your face any longer.
Rinse until calcium gluconate is available, for a minimum of 1 minute.
Apply 2.5% calcium gluconate gel and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved.
Get medical attention immediately.
Double bag all contaminated clothing for disposal.
- In case of eye contact : Go to the nearest eye wash or clean source of water, open the water valve.
Remove contact lenses, if applicable, put your eye(s) in the water flow and open and close your eye lids for 1 to 5 minutes maximum.
Irrigate each eye with 1% calcium gluconate solution while the individual is transported for medical evaluation by an eye specialist. If not available, use 0.9% saline solution.
Get medical attention immediately.
- If swallowed : If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control center immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Skin contact may provoke the following symptoms:
Erythema
corrosive effects
Blistering

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Necrosis
hypocalcemia
Inhalation may provoke the following symptoms:
Inflammation
Swelling of tissue
Cough
Breathing difficulties
Lung edema
hypocalcemia
Ingestion may provoke the following symptoms:
Convulsions
Perforation of the oesophagus / stomach
Vomiting
hypocalcemia
Symptoms may be delayed.
Fatal if swallowed or in contact with skin.
Causes serious eye damage.
Toxic if inhaled.
Causes severe burns.
Causes digestive tract burns.
Corrosive to respiratory system.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Fluorine compounds
Chlorine compounds

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Only trained personnel should re-enter the area.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g., by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Avoid breathing mist or vapors.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Keep away from metals. Store in original container or corrosive resistant and/or lined container.
Do not eat, drink or smoke when using this product.
Keep only in original packaging.
Take care to prevent spills, waste and minimize release to the environment.

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- Conditions for safe storage : Keep in properly labeled containers.
Store in original container.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Flammable liquids
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hydrofluoric acid	7664-39-3	TWA	0.5 ppm (Fluorine)	ACGIH
		C	2 ppm (Fluorine)	ACGIH
		C	6 ppm 5 mg/m ³	NIOSH REL
		TWA	3 ppm 2.5 mg/m ³	NIOSH REL
		TWA	3 ppm	OSHA Z-2
Hydrochloric acid	7647-01-0	C	2 ppm	ACGIH
		C	5 ppm 7 mg/m ³	NIOSH REL
		C	5 ppm 7 mg/m ³	OSHA Z-1

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Hydrofluoric acid	7664-39-3	Fluoride (Fluorine)	Urine	Prior to shift (16 hours after exposure)	2 mg/l	ACGIH BEI

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				ceases)		
		Fluoride (Fluorine)	Urine	End of shift (As soon as possible after exposure ceases)	3 mg/l	ACGIH BEI

Engineering measures : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : butyl-rubber
Break through time : 480 min
Glove thickness : 0.5 mm

Remarks

: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection

: Wear the following personal protective equipment:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield

Skin and body protection

: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures

: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.

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When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: colorless
Odor	: stinging
Odor Threshold	: No data available
pH	: 2 (68 °F / 20 °C)
Melting point/freezing point	: -40 °F / -40 °C
Initial boiling point and boiling range	: > 219 °F / > 104 °C (1,013 hPa)
Flash point	: does not flash
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Density	: 1.1 - 1.2 g/cm ³ (68 °F / 20 °C)
Solubility(ies) Water solubility	: completely soluble
Partition coefficient: n-octanol/water	: Not applicable
Autoignition temperature	: No data available

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Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Metal corrosion rate	:	Corrosive to metals
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	May be corrosive to metals.
Conditions to avoid	:	None known.
Incompatible materials	:	None.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Fatal if swallowed or in contact with skin.
Toxic if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 17 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 960 ppm Exposure time: 4 h Test atmosphere: gas Method: Calculation method

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Acute dermal toxicity : Acute toxicity estimate: 16.67 mg/kg
Method: Calculation method

Components:

Hydrofluoric acid:

Acute oral toxicity : Acute toxicity estimate: 5.1 mg/kg
Method: Expert judgment
Remarks: Based on national or regional regulation.

Acute inhalation toxicity : LC50 (Rat): 288 ppm
Exposure time: 4 h
Test atmosphere: gas
Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : Acute toxicity estimate: 5 mg/kg
Method: Expert judgment
Remarks: Based on national or regional regulation.

Hydrochloric acid:

Acute inhalation toxicity : LC50 (Rat): 8.3 mg/l
Exposure time: 30 min
Test atmosphere: dust/mist

Skin corrosion/irritation

Causes severe burns.

Components:

Hydrofluoric acid:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 3 minutes or less of exposure

Hydrochloric acid:

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 431

Result : Corrosive after 3 minutes or less of exposure

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Hydrofluoric acid:

Species : Rabbit
Result : Irreversible effects on the eye

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Hydrochloric acid:

Species	:	Bovine cornea
Method	:	OECD Test Guideline 437
Result	:	Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Hydrochloric acid:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Hydrofluoric acid:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
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Genotoxicity in vivo	:	Test Type: In vivo micronucleus test Species: Mouse Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
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Hydrochloric acid:

Genotoxicity in vitro	:	Test Type: Saacharomyces cerevisiae, mitotic recombination assay (in vitro) Result: negative
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Carcinogenicity

Not classified based on available information.

Components:

Hydrofluoric acid:

Species	:	Rat
Application Route	:	Ingestion

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Exposure time : 2 Years
Result : negative
Remarks : Based on data from similar materials

Hydrochloric acid:

Species : Rat
Application Route : Inhalation
Exposure time : 128 weeks
Result : negative

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 component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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.

Reproductive toxicity

Not classified based on available information.

Components:

Hydrofluoric acid:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

STOT-single exposure

Not classified based on available information.

Components:

Hydrochloric acid:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

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Repeated dose toxicity

Components:

Hydrofluoric acid:

Species	:	Rat
NOAEL	:	0.82 mg/l
Application Route	:	inhalation (gas)
Exposure time	:	15 Days

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Hydrofluoric acid:

Toxicity to fish	:	LC50 (Oncorhynchus kisutch (coho salmon)): 51 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 122 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus kisutch (coho salmon)): 4 mg/l Exposure time: 21 d Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 3.7 mg/l Exposure time: 21 d Remarks: Based on data from similar materials
Toxicity to microorganisms	:	NOEC: 510 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

Persistence and degradability

No data available

Bioaccumulative potential

Components:

Hydrofluoric acid:

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Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 53 - 58

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste
handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1790
Proper shipping name : HYDROFLUORIC ACID
Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : 8 (6.1)
Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 1790
Proper shipping name : Hydrofluoric acid
Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : Corrosive, Toxic
Packing instruction (cargo : 855
aircraft)
Packing instruction (passen- : 851
ger aircraft)

IMDG-Code

UN number : UN 1790
Proper shipping name : HYDROFLUORIC ACID

Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : 8 (6.1)
EmS Code : F-A, S-B

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Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 1790
Proper shipping name : Hydrofluoric acid

Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : CORROSIVE, TOXIC
ERG Code : 157
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydrofluoric acid	7664-39-3	100	333
Hydrochloric acid	7647-01-0	5000	187265

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydrofluoric acid	7664-39-3	100	333

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
Hydrofluoric acid	7664-39-3	100

SARA 311/312 Hazards : Corrosive to Metals
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

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

Hydrofluoric acid 7664-39-3 >= 25 - < 30 %

US State Regulations

Pennsylvania Right To Know

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Water	7732-18-5
Hydrofluoric acid	7664-39-3
Hydrochloric acid	7647-01-0

California List of Hazardous Substances

Hydrofluoric acid	7664-39-3
Hydrochloric acid	7647-01-0

California Permissible Exposure Limits for Chemical Contaminants

Hydrofluoric acid	7664-39-3
Hydrochloric acid	7647-01-0

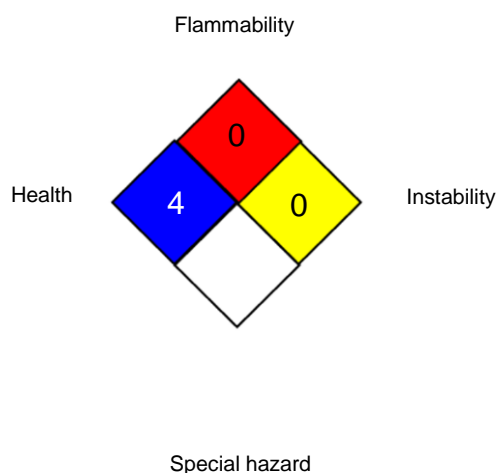
California List of Acutely Hazardous Chemicals, Toxics and Reactives

Hydrofluoric acid	7664-39-3
Hydrochloric acid	7647-01-0

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	4
FLAMMABILITY		0
PHYSICAL HAZARD		4

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	: USA. Occupational Exposure Limits (OSHA) - Table Z-2
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / C	: Ceiling limit

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NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA Z-1 / C	:	Ceiling
OSHA Z-2 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Hydrofluoric acid 25-30%

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intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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