

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date 03rd September 2018
Revision date 30th November 2021 Version 4.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Substance / mixture Hydrofluoric acid 47-51%
Number substance
UAc0091, SAc0091, SAc4000, SAc0007
Chemical name hydrofluoric acid
CAS number 7664-39-3
Index number 009-003-00-1
EC (EINECS) number 231-634-8

1.2. Relevant identified uses of the substance or mixture and uses advised against Substance's intended use

For professional use only. Laboratory chemical substances.

The use descriptors

SU 24 Scientific research and development
PC 21 Laboratory chemicals
PROC 15 Use as laboratory reagent

Substance uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name Analytika, spol. s r.o.
Address Ke Klíčovu 816/2a, Praha 9 - Vysočany, 190 00
Czech Republic
Identification number (CRN) 14891883
VAT Reg No CZ14891883
Phone +420 286 589 616
E-mail msds@analytika.net
Web address www.analytika.net

Competent person responsible for the safety data sheet

Name Analytika, spol. s r.o.
E-mail msds@analytika.net

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is classified as dangerous.

Met. Corr. 1, H290
Acute Tox. 2, H300+H330
Acute Tox. 1, H310
Skin Corr. 1A, H314

Full text of all classifications and hazard statements is given in the section 16.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date 03rd September 2018
Revision date 30th November 2021 Version 4.0

Most serious adverse physico-chemical effects

May be corrosive to metals.

Most serious adverse effects on human health and the environment

Causes severe skin burns and eye damage. Fatal in contact with skin. Fatal if swallowed or if inhaled.

2.2. Label elements

Hazard pictogram



Signal word

Danger

Dangerous substance

hydrofluoric acid
(Index: 009-003-00-1; CAS: 7664-39-3)

Hazard statements

H290 May be corrosive to metals.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H300+H330 Fatal if swallowed or if inhaled.

Precautionary statements

P260 Do not breathe vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 IF INHALED: Remove person to fresh air and keep 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 doctor.

Supplemental information

2.3. Other hazards

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date 03rd September 2018
Revision date 30th November 2021 Version 4.0

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 009-003-00-1 CAS: 7664-39-3 EC: 231-634-8	substance main component hydrofluoric acid	48	Met. Corr. 1, H290 Acute Tox. 2, H300+H330 Acute Tox. 1, H310 Skin Corr. 1A, H314 Eye Dam. 1, H318 Specific concentration limit: Skin Corr. 1A, H314: C ≥ 7 % Eye Irrit. 2, H319: 0,1 % ≤ C < 1 % Skin Corr. 1B, H314: 1 % ≤ C < 7 %	1, 2, 3

Notes

- Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
- Substance with a Union workplace exposure limit.
- The use of the substance is restricted by Annex XVII of REACH Regulation

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Rinse skin with water or shower. Rinse cautiously with water for several minutes.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

DO NOT INDUCE VOMITING - there is danger of further damage to the gastrointestinal tract!!! Danger of esophageal and gastric perforation! RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs. The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT PROVIDE ACTIVATED CARBON! Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.

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

If inhaled

Inhaling vapours can cause corrosion of the breathing system.

If on skin

Causes severe skin burns.

If in eyes

Causes serious eye damage.

If swallowed

Corrosion of the digestion system can occur.

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

Symptomatic treatment.

More information

Other relevant information is not available.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

The substance is non-flammable. May be corrosive to metals. Provide sufficient ventilation. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents. Absorb spillage to prevent material damage.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale aerosols. Prevent contact with skin and eyes. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep only in original packaging. Keep container tightly closed.

Storage class

8B - Non-combustible corrosive substances

7.3. Specific end use(s)

not available

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date 03rd September 2018
Revision date 30th November 2021 Version 4.0

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

European Union

Commission Directive 2000/39/EC

Substance name (component)	Type	Value
hydrofluoric acid (CAS: 7664-39-3)	OEL 8 hours	1,5 mg/m ³
	OEL 8 hours	1,8 ppm
	OEL 15 minutes	2,5 mg/m ³
	OEL 15 minutes	3 ppm

DNEL

hydrofluoric acid

Workers / consumers	Route of exposure	Value	Effect	Determining method	Source
Workers	Inhalation	1.5 mg/m ³	Systemic chronic effects		ECHA
Workers	Inhalation	2.5 mg/m ³	Systemic acute effects		ECHA
Consumers	Inhalation	0.03 mg/m ³	Systemic chronic effects		ECHA
Consumers	Inhalation	0.03 mg/m ³	Systemic acute effects		ECHA
Consumers	Oral	0.01 mg/kg bw/day	Systemic chronic effects		ECHA
Consumers	Oral	0.01 mg/kg bw/day	Systemic acute effects		ECHA

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: protective workwear. Contaminated skin should be washed thoroughly.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

Respiratory protection

Use a mask with filter when the exposition limits of the substances are exceeded or at the place with insufficient ventilation.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	data not available
Odour	characteristic
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	112 °C
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	1 (undiluted)
Kinematic viscosity	data not available
Solubility in water	soluble
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	data not available
Form	data not available

9.2. Other information

none

SECTION 10: Stability and reactivity

10.1. Reactivity

The substance is non-flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

The product is stable under normal conditions.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents. Thereby a dangerous exothermic reaction will be prevented. May be corrosive to metals.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide, heavy smoke, hydrogen fluoride and nitrogen oxides are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

Acute toxicity

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

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/irritation

Causes severe skin burns and eye damage.

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

If swallowed, severe burns of mouth and throat, danger of perforation of esophagus and stomach.

Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Mucous membranes and respiratory tract irritation or damage may occur.

11.2. Information on other hazards

not available

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Based on available data the classification criteria are not met.

12.2. Persistence and degradability

Data not available.

12.3. Bioaccumulative potential

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

Data not available.

12.7. Other adverse effects

Data not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

20 01 14 Acids *

Packaging waste type code

15 01 10 packaging containing residues of or contaminated by hazardous substances *

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number or ID number

UN 1790

14.2. UN proper shipping name

HYDROFLUORIC ACID

14.3. Transport hazard class(es)

8 Corrosive substances

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date 03rd September 2018
Revision date 30th November 2021 Version 4.0

14.4. Packing group

II - substances presenting medium danger

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

Hazard identification No.

86

UN number

1790

Classification code

CT1

Safety signs

8+6.1



Road transport - ADR

Limited quantities 1 L

Excepted quantities E0

Packaging

Packing instructions P001, IBC02

Mixed packing provisions MP15

Portable tanks and bulk containers

Guidelines T8

Special provisions TP2

ADR tank

Tank code L4DH

Special provisions TU14, TE21

Vehicles for tank carriage AT

Transport category 2

Tunnel restriction code (E)

Special provision for

loading, unloading and handling CV13, CV28

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

Railway transport - RID

Packaging

Packing instructions P001, IBC02

Mixed packing provisions MP15

Portable tanks and bulk containers

Guidelines T8

Special provisions TP2

RID Tanks

Tank code L4DH

Special provisions TU14, TE21

Transport category 0

Special provision for

loading, unloading and handling CW 13, CW 28

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

15.2. Chemical safety assessment

not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H290	May be corrosive to metals.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H300+H330	Fatal if swallowed or if inhaled.

Guidelines for safe handling used in the safety data sheet

P260	Do not breathe vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

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 doctor.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Acute Tox.	Acute toxicity
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Met. Corr.	Corrosive to metals

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Hydrofluoric acid 47-51%

Creation date	03rd September 2018	Version	4.0
Revision date	30th November 2021		

Skin Corr. Skin corrosion

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 4.0 replaces the SDS version from 05 November 2020. Changes were made in sections 1, 2, 8, 11, 12 and 16.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.