

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 2 of 13

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture**Regulation (EC) No 1272/2008**

Acute Tox. 3; H311
Acute Tox. 4; H302
Skin Corr. 1B; H314
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**

Hydrofluoric acid

Signal word: Danger**Pictograms:****Hazard statements**

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures**Chemical characterization**

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name	Index No	REACH No	Quantity
	EC No			
	Classification (Regulation (EC) No 1272/2008)			
7664-39-3	Hydrofluoric acid			0.1 - < 5 %
	231-634-8	009-003-00-1		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Skin Corr. 1A, Eye Dam. 1; H310 H330 H300 H314 H318			

Full text of H and EUH statements: see section 16.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 3 of 13

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7664-39-3	231-634-8	Hydrofluoric acid	0.1 - < 5 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); inhalation: LC50 = 2240 ppm (gases); dermal: ATE = 5 mg/kg; oral: ATE = 5 mg/kg Skin Corr. 1A; H314: >= 7 - 100 Skin Corr. 1B; H314: >= 1 - < 7 Eye Irrit. 2; H319: >= 0,1 - < 1	

Further Information

No data available

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Self-protection of the first aider

After inhalation

Provide fresh air.

After contact with skin

Wash immediately with: Water

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

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

Irritant

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

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

No data available

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NOx)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Avoid contact with skin, eyes and clothes.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 4 of 13

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Corrosive to metals.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Use personal protection equipment.
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.
Do not breathe vapour/aerosol.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 5 of 13

shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

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

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Corrosive to metals.

Unsuitable container/equipment material: Metal

The product develops hydrogen in an aqueous solution in contact with metals.

Hints on joint storage

Take national regulations into account.

Further information on storage conditions

Keep container tightly closed.

7.3. Specific end use(s)

Laboratory chemicals

Only for laboratory and analysis purposes.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7664-39-3	Hydrogen fluoride (as F)	1.8	1.5		TWA (8 h)	
		3	2.5		STEL (15 min)	

Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
7664-39-3	Hydrogen fluoride	Fluoride	2 mg/L	Urine	Prior to shift
		Fluoride	3 mg/L	Urine	End of shift

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 6 of 13

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7664-39-3	Hydrofluoric acid			
Worker DNEL, long-term		inhalation	systemic	1,5 mg/m ³
Worker DNEL, acute		inhalation	systemic	2,5 mg/m ³
Worker DNEL, long-term		inhalation	local	1,5 mg/m ³
Worker DNEL, acute		inhalation	local	2,5 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	0,03 mg/m ³
Consumer DNEL, acute		inhalation	systemic	0,03 mg/m ³
Consumer DNEL, long-term		inhalation	local	0,2 mg/m ³
Consumer DNEL, acute		inhalation	local	1,25 mg/m ³
Consumer DNEL, long-term		oral	systemic	0,01 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,01 mg/kg bw/day

PNEC values

CAS No	Substance	Value
7664-39-3	Hydrofluoric acid	
Freshwater		0,89 mg/l
Marine water		0,089 mg/l
Freshwater sediment		3,38 mg/kg
Marine sediment		0,338 mg/kg
Micro-organisms in sewage treatment plants (STP)		51 mg/l
Soil		10,6 mg/kg

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles

Wear eye/face protection.

Hand protection

Tested protective gloves must be worn. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 7 of 13

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		No data available
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
No data available		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density (at 21.5 °C):		1.004 g/cm ³
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 8 of 13

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

Corrosive to metals.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Corrosive to metals.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Alkali (lye)

The product develops hydrogen in an aqueous solution in contact with metals.

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Cellulose

Metal

The product develops hydrogen in an aqueous solution in contact with metals.

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

Acute toxicity

Toxic in contact with skin.

Harmful if swallowed.

ATEmix calculated

ATE (oral) 500,0 mg/kg; ATE (dermal) 500,0 mg/kg

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 9 of 13

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7664-39-3	Hydrofluoric acid				
	oral	ATE 5 mg/kg			
	dermal	ATE 5 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
	inhalation (1 h) gas	LC50 2240 ppm	Rat	Study report (1990)	OECD Guideline 403

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

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.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

There are no data available on the mixture itself.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards**Endocrine disrupting properties**

There are no data available on the mixture itself.

Other information

There are no data available on the mixture itself.

Further information

There are no data available on the mixture itself.

SECTION 12: Ecological information**12.1. Toxicity**

Based on available data, the classification criteria are not met.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 10 of 13

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7664-39-3	Hydrofluoric acid					
	Acute fish toxicity	LC50 299 mg/l	96 h	Salmo trutta	REACH Registration Dossier	other: U.S Environmental Protection Agen
	Acute algae toxicity	ErC50 43 mg/l	96 h	various algae species	REACH Registration Dossier	Methods not detailed in the review.
	Crustacea toxicity	NOEC 3,7 mg/l	21 d	Daphnia magna	REACH Registration Dossier	The publication is a review article of v
	Acute bacteria toxicity	EC50 2930 mg/l ()	3 h	Activated sludge	REACH Registration Dossier	ISO 8192

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

BCF

CAS No	Chemical name	BCF	Species	Source
7664-39-3	Hydrofluoric acid	53 - 58	not specified	REACH Registration D

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

- Discharge into the environment must be avoided.
- Harmful effect due to pH shift.
- Forms corrosive mixtures with water even if diluted.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

- Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
- Send to a physico-chemical treatment facility under observation of official regulations.
- Do not empty into drains.

Contaminated packaging

- Waste codes/waste designations according to EWC/AVV
- Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 11 of 13

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(Hydrofluoric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(Hydrofluoric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(Hydrofluoric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	223 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	1 - acids

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3264
14.2. UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(Hydrofluoric acid)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 12 of 13

SECTION 15: Regulatory information

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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to Directive
2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

1 - slightly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,7,8,9,11,13,14.

Abbreviations and acronyms

Acute Tox. 1: Acute toxicity, hazard category 1

Acute Tox. 2: Acute toxicity, hazard category 2

Acute Tox. 3: Acute toxicity, hazard category 3

Acute Tox. 4: Acute toxicity, hazard category 4

Skin Corr. 1A: Skin corrosion, sub-category 1A

Skin Corr. 1B: Skin corrosion, sub-category 1B

Eye Dam. 1: Serious eye damage, hazard category 1

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 3; H311	Calculation method
Acute Tox. 4; H302	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method

Relevant H and EUH statements (number and full text)

H300	Fatal if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ICP Standard, Nb, 1000 Åµg/ml (140-050-41x)

Revision: 24.09.2025

Product code: AC18.06317

Page 13 of 13

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)