

according to Regulation (EC) No 1907/2006

Reagent 781383

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

1.1. Product identifier

Reagent 781383

N71T-F7W3-F20A-H9Y0

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Laboratory chemicals

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

AnalytiChem GmbH Company name:

ACD

Street: Stempelstraße 6 Place: D-47167 Duisburg

Telephone: 0203/5194-0 Telefax: 0203/5194-290

info@analytichem.de E-mail:

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

produktsicherheit@analvtichem.de E-mail:

www.analytichem.de Internet: Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: number:

1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls

accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Met. Corr. 1; H290 Acute Tox. 2; H330 Acute Tox. 3; H301 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eve Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Hydrochloric acid Hydrofluoric acid

Signal word: Danger



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Pictograms:





Hazard statements

H290 May be corrosive to metals.

H330 Fatal if inhaled.

H301+H311 Toxic if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P201 Obtain special instructions before use.

P308 IF exposed or concerned:

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				
	EC No	Index No	REACH No		
	Classification (Regulation	on (EC) No 1272/2008)	·		
7647-01-0	Hydrochloric acid			5 - < 10 %	
	231-595-7	017-002-01-X	01-2119484862-27		
	Met. Corr. 1, Skin Corr.	1B, Eye Dam. 1, STOT SE 3; H290 I	H314 H318 H335		
7664-39-3	Hydrofluoric acid			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.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc.	Limits, M-factors and ATE	
7647-01-0	231-595-7	Hydrochloric acid	5 - < 10 %
	· ·	H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 3; H335: >= 10 - 100	
7664-39-3	231-634-8	Hydrofluoric acid	1 - < 5 %
	LC50 = 2240 p	E = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); inhalation: pm (gases); dermal: ATE = 5 mg/kg; oral: ATE = 5 mg/kg	

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information

Self-protection of the first aider

Remove contaminated, saturated clothing immediately.

fast help required

After inhalation

Provide fresh air.

Call a physician immediately.

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.

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

Causes burns.

Irritant

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

It is recommended to consult a doctor with experience in the treatment of lesions caused by hydrofluoric acid

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Hydrogen fluoride

Hydrogen chloride (HCI)

5.3. Advice for firefighters

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

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

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.



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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. Use extractor hood (laboratory).

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 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, Glass



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The product develops hydrogen in an aqueous solution in contact with metals. Keep container tightly closed.

Hints on joint storage

national regulations

Further information on storage conditions

Store in a well-ventilated place. Keep container tightly closed. Store in a place accessible by authorized persons only.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	
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

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7647-01-0	Hydrochloric acid			
Worker DNEL,	long-term	inhalation	local	8 mg/m³
Worker DNEL,	acute	inhalation	local	15 mg/m³
Consumer DN	EL, long-term	inhalation	local	8 mg/m³
Consumer DN	EL, acute	inhalation	local	15 mg/m³
7664-39-3	Hydrofluoric acid			
Worker DNEL,	long-term	inhalation	systemic	1,5 mg/m³
Worker DNEL,	acute	inhalation	systemic	2,5 mg/m³
Worker DNEL,	long-term	inhalation	local	1,5 mg/m³
Worker DNEL,	acute	inhalation	local	2,5 mg/m³
Consumer DN	EL, long-term	inhalation	systemic	0,03 mg/m³
Consumer DN	EL, acute	inhalation	systemic	0,03 mg/m³
Consumer DN	EL, long-term	inhalation	local	0,2 mg/m³
Consumer DNEL, acute		inhalation	local	1,25 mg/m³
Consumer DNEL, long-term		oral	systemic	0,01 mg/kg bw/day
Consumer DNE	EL, acute	oral	systemic	0,01 mg/kg bw/day



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PNEC values

CAS No	Substance		
Environment	al compartment	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		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.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye/face protection.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L Recommended material: NBR (Nitrile rubber) 0,11 mm Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L Recommended material: NBR (Nitrile rubber) 0,11mm Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

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.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepeneur 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.

Environmental exposure controls

Do not allow to enter into surface water or drains.

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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 No data available

boiling range:

No data available Flammability: Lower explosion limits: No data available Upper explosion limits: No data available No data available Flash point: Auto-ignition temperature: No data available Decomposition temperature: No data available pH-Value: acidic Viscosity / kinematic: No data available Water solubility: completely miscible

Solubility in other solvents No data available

Partition coefficient n-octanol/water:

No data available Vapour pressure: No data available Vapour pressure: No data available 1,03 g/cm³ Density: No data available Bulk density: Relative vapour density: No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties No data available

No data available Sustaining combustion:

Self-ignition temperature

Solid: No data available Gas: No data available

Other safety characteristics

Evaporation rate: No data available Solvent separation test: No data available Solvent content:

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: Flow time: No data available

Further Information No data available

SECTION 10: Stability and reactivity



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10.1. Reactivity

Corrosive to metals, Glass

10.2. Chemical stability

No data available

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

Corrosive to metals, Glass

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

Toxicocinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Acute toxicity

Fatal if inhaled.

Toxic if swallowed.

Toxic in contact with skin.

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 ppm	2240	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.



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Aspiration hazard

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

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

There are no data available on the preparation/mixture itself.

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Other information

There are no data available on the preparation/mixture itself.

Further information

It is recommended to consult a doctor with experience in the treatment of lesions caused by hydrofluoric acid

SECTION 12: Ecological information

12.1. Toxicity

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

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
7647-01-0	Hydrochloric acid						
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus		
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 mg/l ()	2930	3 h	Activated sludge	REACh Registration Dossier	ISO 8192

12.2. Persistence and degradability

There are no data available on the preparation/mixture itself.

12.3. Bioaccumulative potential

There are no data available on the preparation/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 preparation/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.



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12.7. Other adverse effects

Discharge into the environment must be avoided.

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 allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 1790

14.2. UN proper shipping name: HYDROFLUORIC ACID

14.3. Transport hazard class(es): 14.4. Packing group: Ш Hazard label: 8+6.1 Classification code: CT1 Limited quantity: 1 L Excepted quantity: E2 Transport category: 2 Hazard No: 86 Tunnel restriction code: F

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1790

14.2. UN proper shipping name: Hydrofluoric acid

14.3. Transport hazard class(es):814.4. Packing group:IIHazard label:8+6.1Classification code:CT1Special Provisions:802Limited quantity:1 LExcepted quantity:E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1790

14.2. UN proper shipping name: HYDROFLUORIC ACID

14.3. Transport hazard class(es):814.4. Packing group:IIHazard label:8+6.1Special Provisions:-Limited quantity:1 LExcepted quantity:E2EmS:F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1790

14.2. UN proper shipping name: HYDROFLUORIC ACID

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14.3. Transport hazard class(es):814.4. Packing group:IIHazard label:8+6.1Limited quantity Passenger:0.5 LPassenger LQ:Y840Excepted quantity:E2

IATA-packing instructions - Passenger:851IATA-max. quantity - Passenger:1 LIATA-packing instructions - Cargo:855IATA-max. quantity - Cargo:30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

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

Information according to Directive

H2 ACUTE TOXIC

2012/18/EU (SEVESO III):

National regulatory information

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): 1,2,9,12.

Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals

Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eye Dam: Eye damage

STOT SE: Specific target organ toxicity - single exposure

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

Classification	Classification procedure	
Met. Corr. 1; H290		
Acute Tox. 2; H330		
Acute Tox. 3; H301	Calculation method	
Acute Tox. 3; H311	Calculation method	
Skin Corr. 1B; H314	Calculation method	
Eye Dam. 1; H318	Calculation method	

Relevant H and EUH statements (number and full text)

H290 May be corrosive to metals.

H300 Fatal if swallowed. H301 Toxic if swallowed.

H301+H311 Toxic if swallowed or in contact with skin.



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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.

H335 May cause respiratory irritation.

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

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