

## Safety Data Sheet

according to UK REACH Regulation

### Ammonium fluoride solution 30 % for analysis

Revision date: 27.10.2022

Product code: 17738

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

### 1.1. Product identifier

Ammonium fluoride solution 30 % for analysis

UFI: GW3K-01YM-8008-AGWK

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

#### Use of the substance/mixture

Laboratory chemicals

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

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

#### Uses advised against

Do not use for private purposes (household).

### 1.3. Details of the supplier of the safety data sheet

Company name:	Fa. Bernd Kraft GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
e-mail:	info@berndkraft.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
e-mail:	produktsicherheit@berndkraft.de	
Internet:	www.berndkraft.de	
Responsible Department:	Abteilung Produktsicherheit	

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

inapplicable, this product is a mixture REACH registration number see section 3

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GB CLP Regulation

Acute Tox. 3; H311

Acute Tox. 3; H331

Acute Tox. 4; H302

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### GB CLP Regulation

#### Hazard components for labelling

ammonium fluoride

Signal word: Danger

#### Pictograms:



#### Hazard statements

H302 Harmful if swallowed.

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H311+H331 Toxic in contact with skin or if inhaled.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P311 Call a POISON CENTER/doctor.  
 P361+P364 Take off immediately all contaminated clothing and wash it before reuse.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**Additional advice on labelling**

No information available.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
12125-01-8	ammonium fluoride			30 - < 35 %
	235-185-9	009-006-00-8		
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3; H331 H311 H301			

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		
12125-01-8	235-185-9	ammonium fluoride	30 - < 35 %
	inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 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**

**General information**

fast help required  
 First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.  
 Call a physician immediately.

**After inhalation**

Provide fresh air. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Call a physician immediately.

**After contact with skin**

Rinse with plenty of water for at least 10 minutes. Immediately remove contaminated clothes. Apply calcium gluconate gel (preparation: boil 5 g of calcium gluconate in 85 ml of hot distilled water, add 10 g glycerol. Allow 5 g of Carmellose-sodium to swell in the hot solution. Stable for 6 months, store in a cool place) and massage into the skin until the pain subsides, in between rinse with water and apply fresh gel. Continue gel therapy for another 15 minutes after the pain has subsided. If no calcium gluconate gel is available, apply several

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dressings thoroughly moistened with 20 % calcium gluconate solution. Medical advice absolutely required!

**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.

**After ingestion**

Never give anything by mouth to an unconscious person or a person with cramps.

Rinse mouth immediately and drink plenty of water.

Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately.

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

Circulatory collapse

Vomiting

seizures

Irritant

Causes burns.

Risk of serious damage to eyes.

Narcotic effects

Respiratory complaints

Corneal opacity.

Agitation

**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

Ammonia (NH<sub>3</sub>)

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

In case of fire and/or explosion do not breathe fumes. Use water spray jet to protect personnel and to cool endangered containers.

**Additional information**

Suppress gases/vapours/mists with water spray jet.

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.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

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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.  
Clean contaminated articles and floor according to the environmental legislation.

#### 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.  
Take up carefully when dry. Take up dust-free and set down dust-free.

##### 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. Keep container tightly closed.  
Use personal protection equipment. Use extractor hood (laboratory).  
Provide adequate ventilation. Do not breathe vapour/aerosol.  
Avoid contact with skin, eyes and clothes.

#### 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. Make available sufficient washing facilities  
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.

#### 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.  
If handled uncovered, arrangements with local exhaust ventilation have to be used.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

#### Hints on joint storage

national regulations

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**Further information on storage conditions**

Store in a dry place.  
Unsuitable container/equipment material: Metal Glass

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
16984-48-8	Fluoride (inorganic as F)	-	2.5		TWA (8 h)	WEL

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
12125-01-8	ammonium fluoride			
Worker DNEL, long-term		inhalation	local	2,5 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	0,36 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	0,36 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	2,5 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	2,5 mg/m <sup>3</sup>

**PNEC values**

CAS No	Substance	Value
12125-01-8	ammonium fluoride	
Freshwater		0,89 mg/l
Micro-organisms in sewage treatment plants (STP)		51 mg/l
Soil		11 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used.  
Do not breathe vapour/aerosol.  
Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Suitable eye protection: goggles.  
Wear eye/face protection.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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.

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Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

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](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**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	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability		
Solid/liquid:		not applicable
Gas:		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not applicable
Auto-ignition temperature:		not applicable
Decomposition temperature:		not determined
pH-Value:		6,7
Viscosity / kinematic:		not determined
Water solubility:		easily soluble
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		not determined
Vapour pressure:		not determined

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Density:	1,09279 g/cm <sup>3</sup>
Bulk density:	not applicable
Relative vapour density:	not determined

**9.2. Other information**

**Information with regard to physical hazard classes**

Explosive properties	not applicable
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	

**Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	not applicable
Solvent content:	not applicable
Solid content:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
not determined:	
Viscosity / dynamic:	not determined
Flow time:	not determined

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Acid  
Release of: Hydrogen fluoride

**10.4. Conditions to avoid**

No data available

**10.5. Incompatible materials**

Metal  
Glass

**10.6. Hazardous decomposition products**

In case of fire:  
SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in GB CLP Regulation**

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**Toxicokinetics, metabolism and distribution**

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

**Acute toxicity**

Toxic in contact with skin.  
Toxic if inhaled.  
Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 333,3 mg/kg; ATE (dermal) 1000,0 mg/kg; ATE (inhalation vapour) 10,00 mg/l; ATE (inhalation dust/mist) 1,667 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
12125-01-8	ammonium fluoride				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			

**Irritation and corrosivity**

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

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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 preparation/mixture itself.

**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**

**Endocrine disrupting properties**

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

**Other information**

see also Section 4

**Further information**

Resorption (oral)  
Resorption (by inhalation)  
Resorption (dermal)  
Damage to: Liver and kidney damage



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Risk of serious damage to eyes.  
Avoid exposure - obtain special instructions before use.

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the mixture itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
12125-01-8	ammonium fluoride					
	Acute fish toxicity	LC50	364 mg/l	96 h	Pimephales promelas	

**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.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
12125-01-8	ammonium fluoride	-4,37

**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 UK REACH.

There are no data available on the mixture itself.

**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.

There are no data available on the mixture itself.

**12.7. Other adverse effects**

There are no data available on the mixture itself.

**Further information**

Avoid release to the environment.

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Do not allow to enter into surface water or drains.

Send to a physico-chemical treatment facility under observation of official regulations.

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

**Contaminated packaging**

This material and its container must be disposed of as hazardous waste.

Handle contaminated packages in the same way as the substance itself.

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 3287

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**14.2. UN proper shipping name:** TOXIC LIQUID, INORGANIC, N.O.S. (ammonium fluoride, solution)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Classification code: T4  
Special Provisions: 274  
Limited quantity: 5 L  
Excepted quantity: E1  
Transport category: 2  
Hazard No: 60  
Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 3287  
**14.2. UN proper shipping name:** TOXIC LIQUID, INORGANIC, N.O.S. (ammonium fluoride, solution)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Classification code: T4  
Special Provisions: 274 802  
Limited quantity: 5 L  
Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 3287  
**14.2. UN proper shipping name:** TOXIC LIQUID, INORGANIC, N.O.S. (ammonium fluoride, solution)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Special Provisions: 223, 274  
Limited quantity: 5 L  
Excepted quantity: E1  
EmS: F-A, S-A

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 3287  
**14.2. UN proper shipping name:** TOXIC LIQUID, INORGANIC, N.O.S. (ammonium fluoride, solution)  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1  
Special Provisions: A3 A4 A137  
Limited quantity Passenger: 2 L  
Passenger LQ: Y642  
Excepted quantity: E1  
IATA-packing instructions - Passenger: 655  
IATA-max. quantity - Passenger: 60 L  
IATA-packing instructions - Cargo: 663  
IATA-max. quantity - Cargo: 220 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: Toxic.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

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**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 65

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

1 - slightly hazardous to water

Skin resorption/Sensitization:

Permeates easily through outer skin and causes poisoning.

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 2,9,11.

**Abbreviations and acronyms**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service
- LC50: Lethal concentration, 50%
- LD50: Lethal dose, 50%

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Acute Tox. 3; H311	Calculation method
Acute Tox. 3; H331	Calculation method
Acute Tox. 4; H302	Calculation method

**Relevant H and EUH statements (number and full text)**

- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H311+H331 Toxic in contact with skin or if inhaled.
- H331 Toxic 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.

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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.

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