

**Ammonium fluoride solution p.a. (40%)**

Revision date: 02.12.2016

Product code: F16

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Ammonium fluoride solution p.a. (40%)

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

Use as laboratory reagent

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

Company name:	Waldeck GmbH & Co KG		
Street:	Havixbecker Str. 62		
Place:	D-48161 Münster		
Post-office box:	410180 D-48065 Münster		
Telephone:	+49(0)180/2247662	Telefax:	+49(0)180/1247662
Responsible Department:	Labor		
	Mo. – Do.: 08.00 – 17.00 Uhr, Fr.: 08.00 – 15.00 Uhr		
<b>1.4. Emergency telephone number:</b>	+49(0)180/2247662		

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 3

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Toxic if swallowed.

Toxic in contact with skin.

Toxic if inhaled.

Causes serious eye damage.

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

ammonium fluoride

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

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

H318 Causes serious eye damage.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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P310	Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P312	Call a POISON CENTER/doctor if you feel unwell.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311	Call a POISON CENTER/doctor.
P403	Store in a well-ventilated place.
P405	Store locked up.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

Sum formula:	H4FN
Molecular weight:	37,04 g/mol

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
12125-01-8	ammonium fluoride			40 - < 45 %
	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.

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

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

**After inhalation**

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Call a physician immediately.

**After contact with skin**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Call a physician immediately.

**After contact with eyes**

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

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

No information available.

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

Treat symptomatically.

**SECTION 5: Firefighting measures**

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**5.1. Extinguishing media****Suitable extinguishing media**

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

**5.2. Special hazards arising from the substance or mixture**

In case of fire may be liberated: Hazardous combustion products

**5.3. Advice for firefighters**

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

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

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

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**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**

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

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**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 exhaust at critical locations.

**Advice on storage compatibility**

No special measures are necessary.

**Further information on storage conditions**

storage temperature: at room temperature

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

Use as laboratory reagent

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

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**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
		-	-		STEL (15 min)	WEL

**8.2. Exposure controls****Appropriate engineering controls**

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

**Protective and hygiene measures**

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.

**Eye/face protection**

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.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

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

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

pH-Value (at 20 °C):	6,2
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**Test method****Changes in the physical state**

Melting point:	not determined
Initial boiling point and boiling range:	100 °C
Flash point:	not determined

**Flammability**

Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined

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Upper explosion limits: not determined

**Auto-ignition temperature**

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

**Oxidizing properties**

Not oxidizing.

Vapour pressure: not determined

Density (at 20 °C): 1,11 g/cm<sup>3</sup>

Water solubility: easily soluble

**Solubility in other solvents**

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

Solid content: not determined

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

No hazardous reaction when handled and stored according to provisions.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.5. Incompatible materials**

Oxidising agent, strong

Glass

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****ATEmix calculated**

ATE (oral) 250,0 mg/kg; ATE (dermal) 750,0 mg/kg; ATE (inhalative vapour) 7,50 mg/l; ATE (inhalative aerosol) 1,250 mg/l

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**Acute toxicity**

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

**Additional information on tests**

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

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

The product is not: Ecotoxic.

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

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**Partition coefficient n-octanol/water**

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

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

The product has not been tested.

**12.6. Other adverse effects**

No information available.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**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.

**SECTION 14: Transport information**


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**Land transport (ADR/RID)**

<b>14.1. UN number:</b>	UN 3287
<b>14.2. UN proper shipping name:</b>	TOXIC LIQUID, INORGANIC, N.O.S. (Ammoniumfluorid)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	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)**

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

**Marine transport (IMDG)**

<b>14.1. UN number:</b>	UN 3287
<b>14.2. UN proper shipping name:</b>	TOXIC LIQUID, INORGANIC, N.O.S. (Ammonium fluoride)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	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)**

<b>14.1. UN number:</b>	UN 3287
<b>14.2. UN proper shipping name:</b>	TOXIC LIQUID, INORGANIC, N.O.S. (Ammonium fluoride)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III

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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

**14.6. Special precautions for user**

Warning: Toxic.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

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

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juvenils 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 contaminating class (D):

1 - slightly water contaminating

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****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%

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

H301

Toxic if swallowed.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

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H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H311	Toxic in contact with skin.
H318	Causes serious eye damage.
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.

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