

# Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company  
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,  
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)  
Tel : + 91 98200 41841 Email : [info@ottokemi.com](mailto:info@ottokemi.com) Web : [www.ottokemi.com](http://www.ottokemi.com)

## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Product identifiers

Product Name : Ammonium bifluoride, GR 98%+  
Product Code : A 2037  
CAS No: 1341-49-7

1.2. Relevant identified uses of the substance or mixture and uses advised against  
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification  
OTTO CHEMIE PVT LTD  
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,  
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number

Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, (Category 3)

Skin corrosion, (Sub-category  
1B)

damage.

Serious eye damage, (Category  
1)

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H301

H314

Precautionary Statements

P260

P280

protection.

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

P363

Supplemental Hazard

Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

H301: Toxic if swallowed.

H314: Causes severe skin burns and eye

H318: Causes serious eye damage.

Danger

Toxic if swallowed.

Causes severe skin burns and eye damage.

Do not breathe dust.

Wear protective gloves/ protective clothing/ eye protection/ face

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Immediately call a POISON CENTER/ doctor.

IF IN EYES: Rinse cautiously with water for several minutes.

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

Wash contaminated clothing before reuse.

none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : Etching powder  
Formula : H5F2N  
Molecular weight : 57,04 g/mol  
CAS-No. : 1341-49-7

Component	Classification	Concentration
Ammonium hydrogen difluoride		
CAS-No. EC-No.	Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; H301, H314, H318 Concentration limits: >= 1 %: Skin Corr. 1B, H314; 0,1 - < 1 %: Skin Irrit. 2, H315; 0,1 - < 1 %: Eye Irrit. 2, H319;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

#### If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately.

In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 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

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NOx)

Hydrogen fluoride

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures  
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

hygroscopic Store under inert gas.

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Minimum layer thickness: 0,11 mm

Break through time: 480 min

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail [sales@kcl.de](mailto:sales@kcl.de), test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

protective clothing

Respiratory protection

Recommended Filter type: Filter B-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory

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protective devices are carried out according to the instructions of the producer.  
These measures have to be properly documented.  
Control of environmental exposure  
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Physical state	crystalline
b) Color	white
c) Odor	No data available
d) Melting point/freezing point	Melting point/range: 125 °C - lit
e) Initial boiling point and boiling range	No data available
f) Flammability (solid, gas)	The product is not flammable.
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	Not applicable
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	10.000 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, soluble
n) Partition coefficient: n-octanol/water	- Not applicable for inorganic substances
o) Vapor pressure	0,0108 hPa at 20 °C - OECD Test Guideline 104
p) Density	1,500 g/cm <sup>3</sup> at 25 °C
Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available
9.2 Other safety information	No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Generates dangerous gases or fumes in contact with:

acids

Release of:

Hydrogen fluoride

alkalines

Release of:

Ammonia

Risk of explosion with:

halogen-halogen compounds

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Aluminum

Iron

metals

Zinc

10.4 Conditions to avoid

Avoid moisture.

no information available

10.5 Incompatible materials

glass, quartzes/silicate ceramics

10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

## SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC50 - Fish - 421,4 mg/l - 96 h

Remarks: (ECHA)

Toxicity to bacteria

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

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## SECTION 14: Transport information

14.1 UN number  
ADR/RID: 1727  
SIGALD- 224820 Page 10 of 12  
14.2 UN proper shipping name  
ADR/RID: AMMONIUM HYDROGENDIFLUORIDE, SOLID  
IMDG: AMMONIUM HYDROGENDIFLUORIDE, SOLID  
IATA: Ammonium hydrogendifluoride, solid  
14.3 Transport hazard class(es)  
ADR/RID: 8  
IMDG: 8  
IATA: 8  
14.4 Packaging group  
ADR/RID: II  
IMDG: II  
IATA: II  
14.5 Environmental hazards  
ADR/RID: no  
IMDG Marine pollutant: no  
IATA: no  
14.6 Special precautions for user  
Tunnel restriction code : (E)  
Further information : No data available

## SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

H2 ACUTE TOXIC

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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