

WE MAKE  
CHEMISTRY  
WORK**ALU CLEAN**Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**Trade name **Alu Clean**  
Alternative number(s) 57927**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses Cleaning agent

**1.3 Details of the supplier of the safety data sheet**Mavro International BV  
Heksekamp 1  
5301 LX Zaltbommel  
NetherlandsTelephone: +31 418 680 680  
e-mail: [info@mavro-int.com](mailto:info@mavro-int.com)  
Website: <https://www.mavro-int.com>**1.4 Emergency telephone number**Emergency information service +31 418 680 680  
This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

Poison centre					
Country	Name	Postal code/city	Telephone	Telefax	Opening hours
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital		0344 892 0111		Mon - Fri 12:00 AM - 12:00 AM

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations: see SECTION 16.

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

## 2.2 Label elements

### Labelling

- Signal word danger

- Pictograms

GHS05, GHS07



- Hazard statements

H302 Harmful if swallowed.

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/eye protection/face protection/hearing protection.

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

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.

- Hazardous ingredients for labelling ammonium bifluoride

## 2.3 Other hazards

### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .


## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
ammonium bifluoride	CAS No 1341-49-7  EC No 215-676-4  Index No 009-009-00-4	5 - <10	Acute Tox. 3 / H301 Skin Corr. 1B / H314 Eye Dam. 1 / H318	

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
ammonium bifluoride	Skin Corr. 1B; H314: C ≥ 1 % Skin Irrit. 2; H315: 0.1 % ≤ C < 1 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0.1 % ≤ C < 1 %	-	130 mg/kg	oral

For full text of abbreviations: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

##### Following skin contact

Rinse copiously with a calcium gluconate solution. Get medical advice/attention.

##### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Get immediate medical advice/attention.

##### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Get immediate medical advice/attention.

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

Symptoms and effects are not known to date.

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

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

Water jet

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

##### Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen fluoride (HF)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**ALU CLEAN**

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

**Advice on how to contain a spill**

Covering of drains

**Advice on how to clean up a spill**

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

**Appropriate containment techniques**

Neutralisation techniques. Use of adsorbent materials.

**Other information relating to spills and releases**

Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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

**Recommendations**

- **Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation. Use only in well-ventilated areas. Never add water to this product.

- **Handling of incompatible substances or mixtures**

Do not mix with alkali.

- **Keep away from**

Caustic solutions

**Advice on general occupational hygiene**

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

**7.2 Conditions for safe storage, including any incompatibilities**

**Control of effects**

**Protect against external exposure, such as**

frost

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### - Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values (Workplace Exposure Limits)

this information is not available

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
ammonium bifluoride	1341-49-7	DNEL	2.3 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
ammonium bifluoride	1341-49-7	DNEL	3.8 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
ammonium bifluoride	1341-49-7	PNEC	1.3 mg/l	aquatic organisms	freshwater	short-term (single instance)
ammonium bifluoride	1341-49-7	PNEC	76 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
ammonium bifluoride	1341-49-7	PNEC	22 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

#### Appropriate engineering controls

General ventilation.

#### Individual protection measures (personal protective equipment)

##### Eye/face protection

Wear eye/face protection.

##### Skin protection

###### - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

###### - Type of material

IIR: isobutene-isoprene (butyl) rubber, Nitrile

###### - Material thickness

>0,32mm

###### - Breakthrough times of the glove material

>480 minutes (permeation: level 6)

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### - Other protection measures

Wash hands thoroughly after handling.

### Body protection

Protective clothing against liquid chemicals.

### Respiratory protection

[In case of inadequate ventilation] wear respiratory protection. Type: ABEK-P2 (combined filters against gases, vapours and particles, colour code: Brown/Grey/Yellow/Green/White).

### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	transparent
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	100 °C
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	0 – 1 (in aqueous solution: 100 mg/cm <sup>3</sup> , 20 °C)
Kinematic viscosity	not determined

### Solubility(ies)

Water solubility	miscible in any proportion
------------------	----------------------------

### Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
---	-----------------------------------

Vapour pressure	not determined
-----------------	----------------

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### Density and/or relative density

Density	1.02 g/cm <sup>3</sup>
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
--------------------------	-----------------------

### 9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
--	---

### Other safety characteristics

Miscibility	Completely miscible with water.
-------------	---------------------------------

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

Bases, Oxidisers

Release of flammable materials with:

Light metals (due to the release of hydrogen in an acid/alkaline medium)

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification acc. to GHS

##### Acute toxicity

Harmful if swallowed.

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### - Acute toxicity estimate (ATE)

Oral 1,806 mg/kg

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
ammonium bifluoride	1341-49-7	oral	130 mg/kg

### Skin corrosion/irritation

Causes severe skin burns and eye damage.

### Serious eye damage/eye irritation

Causes serious eye damage.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## 11.2 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .



## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Waste treatment-relevant information

Regeneration of acids.

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR/RID	UN 3264
IMDG-Code	UN 3264
ICAO-TI	UN 3264

### 14.2 UN proper shipping name

ADR/RID	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
IMDG-Code	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
ICAO-TI	Corrosive liquid, acidic, inorganic, n.o.s.
Technical name (hazardous ingredients)	ammonium bifluoride

### 14.3 Transport hazard class(es)

ADR/RID	8
IMDG-Code	8
ICAO-TI	8

### 14.4 Packing group

ADR/RID	II
IMDG-Code	II
ICAO-TI	II

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

#### Information for each of the UN Model Regulations

##### **Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information**

Classification code C1  
Danger label(s) 8



Special provisions (SP) 274  
Excepted quantities (EQ) E2  
Limited quantities (LQ) 1 L  
Transport category (TC) 2  
Tunnel restriction code (TRC) E  
Hazard identification No 80  
Emergency Action Code 2X

##### **Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information**

Classification code C1  
Danger label(s) 8



Special provisions (SP) 274  
Excepted quantities (EQ) E2  
Limited quantities (LQ) 1 L  
Transport category (TC) 2  
Hazard identification No 80

##### **International Maritime Dangerous Goods Code (IMDG) - Additional information**

Marine pollutant -  
Danger label(s) 8



Special provisions (SP) 274  
Excepted quantities (EQ) E2  
Limited quantities (LQ) 1 L  
EmS F-A, S-B  
Stowage category B  
Segregation group 1 - Acids

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s)	8
	
Special provisions (SP)	A3
Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

##### Relevant provisions of the European Union (EU)

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

##### Water Framework Directive (WFD)

List of pollutants (WFD)			
Name of substance	CAS No	Listed in	Remarks
ammonium bifluoride		a)	

##### Legend

A) Indicative list of the main pollutants

##### Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

##### National inventories

Country	Inventory	Status
EU	REACH Reg.	all ingredients are listed

##### Legend

REACH Reg. REACH registered substances

#### 15.2 Chemical safety assessment

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

## ALU CLEAN

 Version number: GHS 3.0  
 Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
vPvB	Very Persistent and very Bioaccumulative

## ALU CLEAN

Version number: GHS 3.0  
Replaces version of: 2023-04-18 (GHS 2)

Revision: 2023-06-30

**Key literature references and sources for data**

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Classification procedure**

Physical and chemical properties: The classification is based on tested mixture.  
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**List of relevant phrases (code and full text as stated in section 2 and 3)**

Code	Text
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.