# SAFETY DATA SHEET

## Ali

According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577, as amended.

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

### 1.1. Product identifier

**Product name** Ali

**Product number** 020-17

**UFI** UFI: UTQV-9097-A006-V65X

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

**Identified uses** Aluminium cleaner

**Uses advised against** For professional use only. This product is not recommended for any industrial, professional or consumer use other than the Identified uses above.

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

**Supplier**

Autosmart International Ltd
Lynn Lane
Shenstone, nr Lichfield
Staffordshire. WS14 0DH
England
www.autosmartinternational.com
Tel: +44 (0) 1543 481616 (09:00 - 17:00)
SHREQ@autosmart.co.uk

**Contact person** Mr. Russell Butler

### 1.4. Emergency telephone number

**Emergency telephone** NCEC - For Chemical Emergency Support ONLY (spill, leak, fire, exposure or accident), Call NCEC at +44 1865 407333 (24Hrs UK)
when calling please quote "AUTOSMART 29003-NCEC"

If you urgently need medical help or advice but it's not a life-threatening situation, call 111 free from any phone to speak to an NHS adviser. The 24-hour NHS 111 service can give you healthcare advice or direct you to the local service that can help you best.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification (SI 2019 No. 720)**

**Physical hazards** Met. Corr. 1 - H290

**Health hazards** Acute Tox. 3 - H301 Acute Tox. 2 - H310 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318

**Environmental hazards** Not Classified

### 2.2. Label elements

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**Hazard pictograms**

| | |
|---|---|
| **Signal word** | Danger |
| **Hazard statements** | H290 May be corrosive to metals.<br>H301+H331 Toxic if swallowed or if inhaled.<br>H310 Fatal in contact with skin.<br>H314 Causes severe skin burns and eye damage. |
| **Precautionary statements** | P262 Do not get in eyes, on skin, or on clothing.<br>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.<br>P320 Specific treatment is urgent (see medical advice on this label).<br>P308+P313 IF exposed or concerned: Get medical advice/ attention.<br>P403+P233 Store in a well-ventilated place. Keep container tightly closed.<br>P501 Dispose of contents/ container in accordance with national regulations. |
| **UFI** | UFI: UTQV-9097-A006-V65X |
| **Contains** | hydrofluoric acid 5.3%, Phosphoric Acid 4.3%, C9-C11 Alcohol ethoxylate (6) |
| **Detergent labelling** | < 5% non-ionic surfactants, < 5% phosphates |
| **Supplementary precautionary statements** | P260 Do not breathe vapour/ spray.<br>P270 Do not eat, drink or smoke when using this product.<br>P271 Use only outdoors or in a well-ventilated area.<br>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.<br>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.<br>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P361+P364 Take off immediately all contaminated clothing and wash it before reuse.<br>P405 Store locked up. |

## 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**hydrofluoric acid 5.3%** **5<10%**

CAS number: 7664-39-3 EC number: 231-634-8

Substance with a Community workplace exposure limit.

**Classification**

Acute Tox. 2 - H300
Acute Tox. 1 - H310
Acute Tox. 2 - H330
Skin Corr. 1A - H314
Eye Dam. 1 - H318
STOT SE 3 - H335

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| | |
|---|---|
| **Phosphoric Acid 4.3%** | **3<5%** |
| CAS number: 7664-38-2 | EC number: 231-633-2 |
| Substance with a Community workplace exposure limit. | |
| **Classification**<br>Skin Corr. 1B - H314<br>Eye Dam. 1 - H318 | |
| **C9-C11 Alcohol ethoxylate (6)** | **3<5%** |
| CAS number: 68439-46-3 | EC number: 614-482-0 |
| **Classification**<br>Acute Tox. 4 - H302<br>Eye Dam. 1 - H318 | |

The full text for all hazard statements is displayed in Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

**Inhalation**

If spray/mist has been inhaled, proceed as follows. If throat irritation or coughing persists, proceed as follows. Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. Keep affected person under observation. Place unconscious person on their side in the recovery position and ensure breathing can take place. Never give anything by mouth to an unconscious person. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Get medical attention immediately.

**Ingestion**

Rinse mouth thoroughly with water. Remove any dentures. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Give milk instead of water if readily available. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Get medical attention immediately.

**Skin contact**

It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing and wash it before reuse. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Rinse immediately with plenty of water. Apply Calcium Gluconate Gel over the affected areas. Chemical burns must be treated by a physician. Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Effects may be delayed. Keep affected person under observation.

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**Eye contact** Get medical attention immediately. Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. May cause permanent damage if eye is not immediately irrigated. Continue to rinse for at least 10 minutes. Consult a physician for specific advice. Effects may be delayed. Medical aid should instil several drops of sterile calcium gluconate solution. Show this Safety Data Sheet to the medical personnel.

**Protection of first aiders** First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that airborne contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

**General information** See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Effects may be delayed. Keep affected person under observation.

**Inhalation** A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract. Delayed, often serious, breathing problems. Development of symptoms may be delayed for 24 to 48 hours.

**Ingestion** May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting. May cause unconsciousness, blindness and possibly death.

**Skin contact** A single exposure may cause the following adverse effects: Reddened skin if chemical is not removed by washing. Later, white and wrinkled skin without pain, often with delayed skin burns. Development of symptoms may be delayed for 24 to 48 hours. Symptoms following overexposure may include the following: Pain. Unconsciousness, possibly death. Prolonged contact causes serious tissue damage.

**Eye contact** Causes serious eye damage. Small amounts may cause serious damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness. Vapour or spray may cause eye damage, impaired sight or blindness.

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

**Notes for the doctor** Treat symptomatically. Keep affected person under observation. Development of symptoms may be delayed for 24 to 48 hours.

**Specific treatments** Specific notes for fluoride derivatives: If calcium gluconate gel is available, rub it into affected skin. Massage continuously until pain disappears. Do not use this method for treatment of eyes. If ingested, give milk or calcium gluconate by mouth.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

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

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**Specific hazards**

Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours. Hydrogen fluoride (HF).

**Hazardous combustion products**

Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours. Hydrogen fluoride (HF). Fluorides.

### 5.3. Advice for firefighters

**Protective actions during firefighting**

Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters**

Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

**Personal precautions**

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

### 6.2. Environmental precautions

**Environmental precautions**

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

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

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**Methods for cleaning up**

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Provide adequate ventilation. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Neutralise with alkali. Caution. May generate heat. Following dilution and neutralisation, discharge to the sewer with plenty of water may be permitted. The requirements of the local water authority must be complied with if contaminated water is flushed directly to the sewer. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 6.4. Reference to other sections

**Reference to other sections**

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions**

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is toxic. This product is corrosive. Immediate first aid is imperative. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers. Antidote must be found in place of work.

**Advice on general occupational hygiene**

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

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

**Storage precautions**

Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Store away from the following materials: Alkalis. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent. Store at temperatures between 1°C and 35°C. Protect from freezing and direct sunlight.

**Storage class**

Toxic storage.

### 7.3. Specific end use(s)

**Specific end use(s)**

The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure controls/Personal protection

### 8.1. Control parameters

**Occupational exposure limits**

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**hydrofluoric acid 5.3%**

Long-term exposure limit (8-hour TWA): WEL 1.8 ppm 1.5 mg/m³
Short-term exposure limit (15-minute): WEL 3 ppm 2.5 mg/m³
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**Phosphoric Acid 4.3%**

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³
Short-term exposure limit (15-minute): WEL 2 mg/m³
WEL = Workplace Exposure Limit.

**Phosphoric Acid 4.3% (CAS: 7664-38-2)**

**DNEL** Consumer - Inhalation; Long term local effects: 0.73 mg/m³
Professional - Inhalation; Long term local effects: 2.92 mg/m³

**C9-C11 Alcohol ethoxylate (6) (CAS: 68439-46-3)**

**Ingredient comments** No exposure limits known for ingredient(s).

## 8.2. Exposure controls

**Protective equipment**

**Appropriate engineering controls** Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

**Eye/face protection** Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment that provides appropriate eye and face protection should be worn. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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|---|---|
| **Hand protection** | Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The breakthrough time for any glove material may be different for different glove manufacturers. To protect hands from chemicals, wear gloves that are proven to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended. The choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. When used with mixtures, the protection time of gloves cannot be accurately estimated. Gloves made from the following material may provide suitable chemical protection: Nitrile rubber. Thickness: > 0.2 mm The selected gloves should have a breakthrough time of at least 0.5 hours. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. Repeated exposure to chemicals will degrade the ability of the glove to provide resistance to chemicals. Specific work environments and material handling practices may vary, therefore safety procedures should be developed for each intended application. Use thin cotton gloves inside natural rubber gloves if there is an allergy risk to natural rubber. |
| **Other skin and body protection** | Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. |
| **Hygiene measures** | Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product. |
| **Respiratory protection** | Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'UKCA'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges suitable for intended use should be used. Full face mask respirators with replaceable filter cartridges suitable for intended use should be used. Half mask and quarter mask respirators with replaceable filter cartridges suitable for intended use should be used. |
| **Environmental exposure controls** | Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Store in a demarcated bunded area to prevent release to drains and/or watercourses. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Liquid. |
| **Colour** | Clear. |
| **Odour** | Acidic. |
| **Odour threshold** | Not available. |
| **pH** | pH (concentrated solution): ~ 1.0 |
| **Melting point** | ~ 0°C |
| **Initial boiling point and range** | ~ 100°C @ 760 mm Hg |

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|---|---|
| **Flash point** | Not applicable. |
| **Evaporation rate** | Not available. «59» «184» «109020» |
| **Upper/lower flammability or explosive limits** | Not applicable. |
| **Vapour pressure** | Not available. |
| **Relative density** | ~ 1.047 @ 20°C |
| **Solubility(ies)** | Soluble in water. Miscible with water. |
| **Partition coefficient** | Not available. |
| **Auto-ignition temperature** | Not applicable. |
| **Decomposition Temperature** | Not available. |
| **Viscosity** | ~1 cSt @ 20°C |
| **Oxidising properties** | Not applicable. |
| **Comments** | Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures. |

### 9.2. Other information

| | |
|---|---|
| **Volatile organic compound** | This product contains a maximum VOC content of 0 g/litre. |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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|---|---|
| **Reactivity** | May be corrosive to metals. Reacts with alkalis and generates heat. The following materials may react with the product: Strong reducing agents. Peroxides. |

### 10.2. Chemical stability

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|---|---|
| **Stability** | Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions. |

### 10.3. Possibility of hazardous reactions

| | |
|---|---|
| **Possibility of hazardous reactions** | No potentially hazardous reactions known. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air. Reacts with alkalis and generates heat. |

### 10.4. Conditions to avoid

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|---|---|
| **Conditions to avoid** | Avoid excessive heat for prolonged periods of time. |

### 10.5. Incompatible materials

| | |
|---|---|
| **Materials to avoid** | Alkalis. Acids. Amines. Mild steel. Stainless steel. Powdered metal. May be corrosive to metals. Oxidising agents. |

### 10.6. Hazardous decomposition products

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|---|---|
| **Hazardous decomposition products** | Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Hydrogen fluoride (HF). Fluorine. |

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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|---|---|
| **Toxicological effects** | This product is toxic. |

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|---|---|
| **Other health effects** | There is no evidence that the product can cause cancer. |

**Acute toxicity - oral**

| | |
|---|---|
| **Notes (oral $LD_{50}$)** | Acute Tox. 3 - H301 Toxic if swallowed. |
| **ATE oral (mg/kg)** | 93.37 |

**Acute toxicity - dermal**

| | |
|---|---|
| **Notes (dermal $LD_{50}$)** | Acute Tox. 2 - H310 Fatal in contact with skin. |
| **ATE dermal (mg/kg)** | 93.98 |

**Acute toxicity - inhalation**

| | |
|---|---|
| **Notes (inhalation $LC_{50}$)** | Acute Tox. 3 - H331 Toxic if inhaled. |
| **ATE inhalation (vapours mg/l)** | 9.4 |
| **ATE inhalation (dusts/mists mg/l)** | 0.94 |

**Skin corrosion/irritation**

| | |
|---|---|
| **Animal data** | Skin Corr. 1B - H314 Causes severe burns. |
| **Extreme pH** | ≤ 2 Corrosive. |

**Serious eye damage/irritation**

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|---|---|
| **Serious eye damage/irritation** | Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed. |

**Respiratory sensitisation**

| | |
|---|---|
| **Respiratory sensitisation** | Based on available data the classification criteria are not met. |

**Skin sensitisation**

| | |
|---|---|
| **Skin sensitisation** | Based on available data the classification criteria are not met. |

**Germ cell mutagenicity**

| | |
|---|---|
| **Genotoxicity - in vitro** | Based on available data the classification criteria are not met. |

**Carcinogenicity**

| | |
|---|---|
| **Carcinogenicity** | Based on available data the classification criteria are not met. |
| **IARC carcinogenicity** | None of the ingredients are listed or exempt. |

**Reproductive toxicity**

| | |
|---|---|
| **Reproductive toxicity - fertility** | Based on available data the classification criteria are not met. |
| **Reproductive toxicity - development** | Based on available data the classification criteria are not met. |

**Specific target organ toxicity - single exposure**

| | |
|---|---|
| **STOT - single exposure** | Not classified as a specific target organ toxicant after a single exposure. |

**Specific target organ toxicity - repeated exposure**

| | |
|---|---|
| **STOT - repeated exposure** | Not classified as a specific target organ toxicant after repeated exposure. |

**Aspiration hazard**

| | |
|---|---|
| **Aspiration hazard** | Based on available data the classification criteria are not met. |

| | |
|---|---|
| **General information** | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |

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| | |
|---|---|
| **Inhalation** | Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat. Burns can occur. |
| **Ingestion** | May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting. Unconsciousness, possibly death. |
| **Skin contact** | A single exposure may cause the following adverse effects: Pain. Unconsciousness, possibly death. |
| **Eye contact** | Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness. Vapour or spray may cause eye damage, impaired sight or blindness. |
| **Acute and chronic health hazards** | Repeated exposure to high concentrations of materials containing fluorine may increase bone density leading to Osteosclerosis. |
| **Route of exposure** | Ingestion Inhalation Skin and/or eye contact |
| **Target organs** | Bone structure Heart and cardiovascular system Central nervous system Teeth |
| **Medical symptoms** | Severe skin irritation. Severe lung irritation. Reddened skin if chemical is not removed by washing. Later, white and wrinkled skin without pain, often with delayed skin burns. Unconsciousness, possibly death. |

**Toxicological information on ingredients.**

**hydrofluoric acid 5.3%**

| | |
|---|---|
| **Toxicological effects** | This product is toxic. |
| **Other health effects** | There is no evidence that the product can cause cancer. |
| **Acute toxicity - inhalation** | |
| **ATE inhalation (vapours mg/l)** | 0.5 |
| **ATE inhalation (dusts/mists mg/l)** | 0.05 |
| **Acute and chronic health hazards** | This chemical can be hazardous when inhaled and/or touched. Toxic in contact with skin. |
| **Route of exposure** | Inhalation Skin absorption Ingestion. |
| **Target organs** | Bone structure Heart & cardiovascular system Teeth Central nervous system |
| **Medical symptoms** | Reddened skin if chemical is not removed by washing. Later, white and wrinkled skin without pain, often with delayed skin burns. |

**Phosphoric Acid 4.3%**

| | |
|---|---|
| **Other health effects** | There is no evidence that the product can cause cancer. |
| **Skin sensitisation** | |
| **Skin sensitisation** | Not sensitising. |

**C9-C11 Alcohol ethoxylate (6)**

| | |
|---|---|
| **Other health effects** | There is no evidence that the product can cause cancer. |

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## SECTION 12: Ecological information

**Ecotoxicity** The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

**Ecological information on ingredients.**

**hydrofluoric acid 5.3%**

**Ecotoxicity** The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

**Phosphoric Acid 4.3%**

**Ecotoxicity** The product may contribute to an excessive enrichment of the aquatic environment with nutrients. The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

### 12.1. Toxicity

**Toxicity** Based on available data the classification criteria are not met.

**Acute aquatic toxicity**

**Acute toxicity - fish** Not determined.

**Acute toxicity - aquatic invertebrates** Not determined.

**Acute toxicity - aquatic plants** Not determined.

**Acute toxicity - microorganisms** Not determined.

**Acute toxicity - terrestrial** Not determined.

**Ecological information on ingredients.**

**hydrofluoric acid 5.3%**

**Acute aquatic toxicity**

**Acute toxicity - aquatic invertebrates** $EC_{50}$, 48 hours: ~ 10.6 mg/l, Daphnia magna

**Phosphoric Acid 4.3%**

**Acute aquatic toxicity**

**Acute toxicity - fish** LC50, : 100 mg/l, Freshwater fish

**Acute toxicity - aquatic invertebrates** $EC_{50}$, : 29 mg/l, Daphnia magna
NOEC, 72 hours: 100 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** $IC_{50}$, 72 hours: 590 mg/l, Freshwater algae

**C9-C11 Alcohol ethoxylate (6)**

**Acute aquatic toxicity**

**Acute toxicity - fish** $LC_{50}$, 96 hours: 10 mg/l, Fish

**Acute toxicity - aquatic invertebrates** $EC_{50}$, 48 hours: 10 mg/l, Daphnia magna

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**Acute toxicity - aquatic plants** $IC_{50}$, 72 hours: 10 mg/l, Algae

## 12.2. Persistence and degradability

**Persistence and degradability** The product is potentially degradable. The surfactant(s) contained in this product complies(comply) with the biodegradability criteria as laid down in The Detergents Regulations (as amended).

**Ecological information on ingredients.**

**hydrofluoric acid 5.3%**

**Persistence and degradability** The product contains inorganic substances which are not biodegradable.

**Phosphoric Acid 4.3%**

**Persistence and degradability** The product contains mainly inorganic substances which are not biodegradable. The other substances in the product are expected to be readily biodegradable.

**C9-C11 Alcohol ethoxylate (6)**

**Persistence and degradability** The product is biodegradable. This surfactant complies with the biodegradability criteria as laid down in The Detergents Regulations (as amended).

## 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation.

**Partition coefficient** Not available.

**Ecological information on ingredients.**

**hydrofluoric acid 5.3%**

**Bioaccumulative potential** The product does not contain any substances expected to be bioaccumulating.

**Phosphoric Acid 4.3%**

**Bioaccumulative potential** The product does not contain any substances expected to be bioaccumulating.

**C9-C11 Alcohol ethoxylate (6)**

**Bioaccumulative potential** The product does not contain any substances expected to be bioaccumulating.

## 12.4. Mobility in soil

**Mobility** The product is water-soluble and may spread in water systems. The product is non-volatile.

**Ecological information on ingredients.**

**hydrofluoric acid 5.3%**

**Mobility** The product is soluble in water.

**Phosphoric Acid 4.3%**

**Mobility** The product is soluble in water.

**C9-C11 Alcohol ethoxylate (6)**

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**Mobility** The product is soluble in water.

## 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

**Ecological information on ingredients.**

**hydrofluoric acid 5.3%**

**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current UK criteria.

**Phosphoric Acid 4.3%**

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

**C9-C11 Alcohol ethoxylate (6)**

**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current UK criteria.

## 12.6. Other adverse effects

**Other adverse effects** None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

**Disposal methods** Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

**Waste class** The waste code classification is to be carried out according to the European Waste Catalogue (EWC).

## SECTION 14: Transport information

**General** For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

### 14.1. UN number

**UN No. (ADR/RID)** 1790

**UN No. (IMDG)** 1790

**UN No. (ICAO)** 1790

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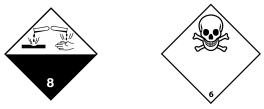
## 14.2. UN proper shipping name

| | |
|---|---|
| **Proper shipping name (ADR/RID)** | HYDROFLUORIC ACID with not more than 60% hydrogen fluoride |
| **Proper shipping name (IMDG)** | HYDROFLUORIC ACID with not more than 60% hydrogen fluoride |
| **Proper shipping name (ICAO)** | HYDROFLUORIC ACID with not more than 60% hydrogen fluoride |
| **Proper shipping name (ADN)** | HYDROFLUORIC ACID with not more than 60% hydrogen fluoride |

## 14.3. Transport hazard class(es)

| | |
|---|---|
| **ADR/RID class** | 8 |
| **ADR/RID subsidiary risk** | 6.1 |
| **ADR/RID label** | 8 & 6.1 |
| **IMDG class** | 8 |
| **IMDG subsidiary risk** | 6.1 |
| **ICAO class/division** | 8 |
| **ICAO subsidiary risk** | 6.1 |

**Transport labels**




## 14.4. Packing group

| | |
|---|---|
| **ADR/RID packing group** | II |
| **IMDG packing group** | II |
| **ICAO packing group** | II |

## 14.5. Environmental hazards

**Environmentally hazardous substance/marine pollutant**

No.

## 14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

| | |
|---|---|
| **IMDG Code segregation group** | 1. Acids |
| **EmS** | F-A, S-B |
| **Emergency Action Code** | 2X |
| **Hazard Identification Number (ADR/RID)** | 86 |
| **Tunnel restriction code** | (E) |

## 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

| | |
|---|---|
| **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not applicable. |

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## SECTION 15: Regulatory information

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

**National regulations**

Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

**Guidance**

Introduction to Local Exhaust Ventilation HS(G)37.

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### Inventories

**EU - EINECS/ELINCS**

All the ingredients are listed or exempt.

## SECTION 16: Other information

**Abbreviations and acronyms used in the safety data sheet**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC50: Lethal Concentration to 50 % of a test population.
LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).
$EC_{50}$: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

**Classification abbreviations and acronyms**

Met. Corr. = Corrosive to metals
Acute Tox. = Acute toxicity
Eye Dam. = Serious eye damage
Skin Corr. = Skin corrosion

**General information**

This product has been manufactured under ISO 9001 and ISO 14001 Quality and Environmental Management Systems.

**Classification procedures according to SI 2019 No. 720**

Acute Tox. 2 - H310: Acute Tox. 3 - H331: Acute Tox. 3 - H301: Eye Dam. 1 - H318: Skin Corr. 1B - H314: : Calculation method. Met. Corr. 1 - H290: : Expert judgement.

**Training advice**

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

**Revision comments**

NOTE: Lines within the margin indicate significant changes from the previous revision.

**Issued by**

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**Revision date**

21/10/2019

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| | |
|---|---|
| **Revision** | 12 |
| **Supersedes date** | 11/09/2019 |
| **SDS number** | 10015 |
| **SDS status** | Approved. |
| **Hazard statements in full** | H290 May be corrosive to metals.<br>H300 Fatal if swallowed.<br>H301 Toxic if swallowed.<br>H302 Harmful if swallowed.<br>H310 Fatal in contact with skin.<br>H314 Causes severe skin burns and eye damage.<br>H318 Causes serious eye damage.<br>H330 Fatal if inhaled.<br>H331 Toxic if inhaled.<br>H335 May cause respiratory irritation. |