



SAFETY DATA SHEET

ALUMINIUM SULPHATE POWDER

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: Aluminium Sulphate Powder
Product No.: ASP
CAS-No.: 10043-01-3
EC No.: 233-135-0
REACH: 01-2119531538-36
Synonym: Aluminum sulphate, Aluminium sulfate, Cake alum, Filter alum, Papermaker's alum, Sulfate d'aluminium
Chemical Formula: $\text{Al}_2(\text{SO}_4)_3 \cdot n\text{H}_2\text{O}$

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: In water treatment as a coagulating agent;
In paper manufacturing;
A foaming agent in fire fighting foam;
In animal feed as a bactericide;
As a mordant in dyeing and printing textiles;
To reduce the pH of garden soil;
In the construction industry, it is used as waterproofing agent and accelerator in concrete.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk



SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: Irritant (Xi) R41

Classification – EC 1272/2008: Serious Eye Damage; Category 1 (H318)

2.2. LABEL ELEMENTS



SIGNAL WORDS

Danger

RISK PHRASES

R41 Risk of serious damage to eyes

HAZARD PHRASES

H318 Causes serious eye damage

PROTECTION PHRASES

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

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 or doctor/ physician

SAFETY PHRASES

S22 Do not breathe dust

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S28 After contact with skin, wash immediately with plenty of water

S37/39 Wear suitable gloves and eye/face protection

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

67/548/EEC/1999/45/EC

Composition information – main constituents

Substance name	Mol. Formula	REACH	EINECS No.	CAS-No.	Classification
Aluminium Sulphate Powder	$Al_2(SO_4)_3 \cdot nH_2O$	01-2119531538-36	233-135-0	10043-01-3	Xi; R41

EC 1272/2008

Composition information – main constituents

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SECTION 4: FIRST AID MEASURES**4.1. DESCRIPTION OF FIRST AID MEASURES**

First-aid measures general: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. No hazards which require special first aid measures.

Inhalation: Remove to fresh air and loosen clothing. Seek medical attention if symptoms are severe.

Ingestion: DO NOT INDUCE VOMITING. If confined to the mouth area give large quantities of water as a mouthwash, ensure the water is now swallowed. If substance has been swallowed, give 250ml of water to dilute of stomach. In severe cases seek medical attention.

Skin contact: Remove contaminated clothing, wash skin thoroughly with plenty of water for minimum 15 minutes. In severe cases seek medical attention.

Eye contact: Wash out thoroughly with water or saline solution for a minimum of 15 minutes. Seek medical attention.



4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation:	Harmful by inhalation.
Ingestion:	Harmful if swallowed.
Skin contact:	May cause irritation and dermatitis to skin.
Eye contact:	May cause serious irritation to eyes.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically. Symptoms may be delayed. Can cause corneal burns.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: High volume water jet.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. ADVICE FOR FIRE-FIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Do not breathe vapour.

6.2. ENVIRONMENTAL PRECAUTIONS

Dilute with plenty of water. Should not be released into the environment. Do not allow to enter sewers/surface or ground water. Send for recovery or disposal in suitable receptacles.



6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid the generation of dusts during clean-up. After removal flush contaminated area thoroughly with water. Send for recovery or disposal in suitable receptacles. This material and its container must be disposed of as hazardous waste. Ensure adequate ventilation.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with eyes, on skin. Avoid dust formation and aerosols. Do not mix with other chemicals. When using do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and at the end of the work day. Take off all contaminated clothing immediately. Store in a cool dry place. Handle with care as an acid.

For precautions see section 2.2.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in cool, dry conditions (in humid conditions the product will absorb moisture from the atmosphere and this will eventually cause caking and loss of free flowing properties) in well sealed receptacles.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Aluminium Sulphate Powder):

CAS NO	Exposure limit	Value	Name of Agent
10043-01-3	TWA – 8 Hrs	2 mg/m ³	soluble aluminium salts
10043-01-3	STEL – 15 Min	6 mg/m ³	soluble aluminium salts

Engineering controls:

Good general ventilation should be used. Ventilation should effectively remove and prevent build up of any aerosols or mists generated from the handling of the product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.



EYE PROTECTION



RESPIRATOR



FACE SHIELD



PROTECTION WEAR



HAND PROTECTION

Protective equipment:

Use protective gloves, goggles and long sleeved clothing.

Respiratory equipment:

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Skin and body protection:

Wear protective gloves. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. Wear long sleeved clothing.

Eye/Face protection:

Use a safety goggles or face shield affording complete eye protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Powder
Colour:	White, crystalline
Odour:	Odourless
Initial boiling point (°C):	No data available
Melting point (°C):	770°C decomposes
Freezing point:	No data available
Relative density:	1.69g/cm ³



Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	342.15 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not available
Decomposition temperature:	Not available
Molecular formula:	$\text{Al}_2(\text{SO}_4)_3 \cdot n\text{H}_2\text{O}$

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Solution is acids and may react with metal to liberate flammable hydrogen gas. No decomposition if used according to specification. Dangerous reactions with bases i.e. chlorites, hypochlorites, sulphites, cyanides and sulphides. Avoid contact with most common metals (aluminium, copper, zinc and their alloys. Can liberate toxic and corrosive fumes of SO_2 and SO_3 under extreme conditions when boiled to dryness or heated above 600°C .

10.2. CHEMICAL STABILITY

Stable under normal temperature conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous polymerisation does not occur but may corrode metals in presence of moisture. Hydrolyzes to form Sulphuric Acid.

10.4. CONDITIONS TO AVOID

Avoid spread of dust, moisture. Avoid heat and sources of ignition.

10.5. INCOMPATIBLE MATERIALS

Strong oxidizing agents, bases, aluminium, metals, alkalis.

10.6. HAZARDOUS DECOMPOSITION

Oxides of sulphur, oxides of aluminium, oxides of carbon.



SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE	LD50 Oral – Rat – 2000-5000 mg/kg LD50 Dermal – Rabbit – 5000 mg/kg
Inhalation:	Harmful by inhalation.
Ingestion:	Harmful if swallowed.
Skin contact:	May cause irritation and dermatitis to skin.
Eye contact:	May cause serious irritation to eyes.

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Aquatic Toxicity:

Toxicity to fish: LC50: 1000 mg/l, 96h (Danio)

Toxicity to daphnia magna: EC50: 160 mg/l, 48h

12.2. PERSISTENCE AND DEGRADABILITY

The product solely consists of inorganic compounds which are not biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

No data available.

12.4. MOBILITY

The product is soluble in water.

12.5. RESULTS OF PBT AND vPvB ASSESSMENT

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. OTHER ADVERSE EFFECTS

Do not flush into surface water or sanitary sewer system.



SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of Aluminium Sulphate should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Should not be released into the environment. Do not discharge into waterways or sewer systems. Mixing with other materials or other alterations to pure product may significantly change the characteristics of the material. Empty packaging can have residues and are subject to proper waste disposal. Do not re-use empty containers. Keep product and empty container away from heat and sources of ignition. Disposal together with normal waste is not allowed. Waste should be treated as controlled waste. Special disposal required according to local regulations. Contact waste disposal services.

Uncleaned packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

UN number	3260
UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.
Transport hazard class(es)	8
Packing group	III

ADR/RID

UN number	3260
UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.
Transport hazard class(es)	8
Packing group	III

IATA

UN number	3260
UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s.
Transport hazard class(es)	8
Packing group	III

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).



Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2 CHEMICAL SAFETY ASSESSMENT

For this product a chemical safety assessment was not carried out.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.