



SAFETY DATA SHEET

98.5-100%

AMMONIUM SULPHATE

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

1.1. PRODUCT IDENTIFIER

Product name: Ammonium Sulphate
Product No.: AMSU
CAS-No.: 7783-20-2
EC No.: 231-984-1
REACH: 01-2119455044-46
Synonym: Ammonium sulfate (2:1), Diammonium sulfate, Sulfuric acid diammonium salt, Mascagnite, Actamaster, Dolamin
Chemical Formula: $(\text{NH}_4)_2\text{SO}_4$

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

Recommended use: As a fertiliser for alkaline soils lowering the pH of the soil and adding nitrogen;
Adjuvant for soluble insecticides, herbicides and fungicides;
As a flame retardant;
In the laboratory;
As a food additive;
As a wood preservative.

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: Not classified



Classification – EC 1272/2008: Acute toxicity, oral; Category 4 (H302)
Skin Corrosion/irritation; Category 2 (H315)
Serious Eye Damage/Irritation; Category 2A (H319)
Specific target organ toxicity, single exposure; Respiratory tract irritation; Category 3 (H335)

2.2. LABEL ELEMENTS



SIGNAL WORDS

Warning

RISK PHRASES

Not classified

HAZARD PHRASES

| | |
|------|----------------------------------|
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |

PROTECTION PHRASES

| | |
|----------------|---|
| P261 | Avoid breathing dust/fumes/gas/mist/vapours/spray |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing |

SAFETY PHRASES

None

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

67/548/EEC/1999/45/EC

Composition information – main constituents

| Substance name | Mol. Formula | REACH | Typical conc. (%w/w) | EINECS No. | CAS-No. | Classification |
|-------------------|---|------------------|----------------------|------------|-----------|----------------|
| Ammonium Sulphate | (NH ₄) ₂ SO ₄ | 01-2119455044-46 | 98.5-100% | 231-984-1 | 7783-20-2 | Not classified |

EC 1272/2008

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| Ammonium Sulphate | (NH ₄) ₂ SO ₄ | 01-2119455044-46 | 98.5-100% | 231-984-1 | 7783-20-2 | H302, H315, H319, H335 |

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

First-aid measures general: Consult a physician when you feel unwell. Show this safety data sheet to the doctor in attendance.

Inhalation: If exposed to excessive levels, remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Loosen tight clothing. Get medical attention if any discomfort continues. Do not induce vomiting.

Skin contact: Immediately flush skin with plenty of water and wash contact area with mild soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation persists.

Eye contact: Immediately hold eyelids apart and flush with plenty of water for at least 20 minutes. Get medical attention if irritation persists.



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

| | |
|----------------------|--|
| Inhalation: | Causes respiratory tract irritation. Coughing. |
| Ingestion: | Causes gastrointestinal tract irritation with nausea, vomiting and diarrhea. |
| Skin contact: | Irritation and redness. |
| Eye contact: | Irritation and redness. |

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

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Adjust extinguishing media to the surrounding fire. Use foam, dry powder, carbon dioxide, water spray or sand.

Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

The product is non-combustible but thermal decomposes on heating to form ammonia, nitrogen oxides and sulphur oxides.

5.3. ADVICE FOR FIRE-FIGHTERS

Wear full protective clothing must be worn in case of fire and self-contained positive pressure breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area.

For personal protection see section 8.1.



6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Contain the spill. Vacuum or sweep up material. Collect and transfer the product into a properly labelled and tightly closed container for disposal. Clean contaminated floors. Minimize generation of dust.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust. Do not inhale dust/smoke/mist. Ensure adequate ventilation of the working area. Wear personal protective equipment. Avoid contact with eyes and skin. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products. Remove contaminated clothing and shoes. Wash clothing before re-using. Avoid the formation or spread of mists in the air.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store at room temperature. Keep in a cool, dry, well ventilated area. Keep in original tightly closed containers. Keep away from food and drink. Keep away from moisture, heat, direct sunlight and other sources of ignition. Avoid incompatibles products: strong bases and strong oxidizers. Avoid dust generation.

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 (Ammonium Sulphate):

| CAS NO | Exposure limit | Value | Name of Agent |
|-----------|----------------|----------------------|---------------|
| 7783-20-2 | TWA – 8 Hrs | 10 mg/m ³ | dust |
| 7783-20-2 | STEL – 15 Min | Not available | Not available |

Engineering controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of the working day.



EYE PROTECTION



FACE SHIELD



RESPIRATOR



PROTECTION WEAR



HAND PROTECTION

Protective equipment: Use protective tightly fitting safety goggle (European standard - EN 166), face shield, gloves (European standard - EN 374) and long sleeved clothing to prevent skin, body and eyes exposure.

Respiratory equipment: Not required in adequately ventilated areas. For exposure above the TLV, use NIOSH approved dust respirator for needed protection. A self contained breathing apparatus should be used in emergencies situations or instances where the exposure levels are not known.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Wear impervious protective clothing; including long sleeved shirt and pants, boots, lab coat, apron or coveralls, as appropriate, to minimize skin contact. Wear appropriate protective work gloves when handling material to prevent skin contact. The glove material has to be impermeable and resistant to the product. Protective gloves should be replaced at first signs of wear. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Wash and dry hands.

Eye/Face protection: Face shield. Indirectly vented chemical safety goggles are recommended for protection against nuisance dust. Ensure eye bath is to hand.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------|---|
| Appearance: | Fine hygroscopic granules or crystals |
| Colour: | White |
| Odour: | Odourless |
| Initial boiling point (°C): | No data available |
| Melting point (°C): | 235 °C ((455 °F) decomposition starts) |
| Freezing point: | No data available |
| Relative density: | 1.77 g/cm ³ |
| Specific gravity / density: | Not available |
| Vapour density: | Not available |
| Vapour pressure: | Not available |
| Flash point (°C): | Not available |
| Molecular mass: | 132.14 g/mol |
| Auto-ignition temperature: | Not applicable |
| Oxidizing properties: | Not available |
| Decomposition temperature: | Not available |
| Molecular formula: | (NH ₄) ₂ SO ₄ |

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Ammonium Sulphate is stable under normal conditions of use, storage and transport.

10.2. CHEMICAL STABILITY

This product is stable under normal conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

When heated can decompose. May liberate toxic gases.

10.4. CONDITIONS TO AVOID

Keep away from food and drink. Keep away from moisture, heat, direct sunlight and other sources of ignition. Avoid dust generation.



10.5. INCOMPATIBLE MATERIALS

May liberate toxic gases. Keep away from incompatibles such as strong bases and strong oxidizers.

Others material to avoid: peroxides, potassium chlorate, potassium nitrate, sodium nitrate, sodium hypochlorite, metal chlorates. Avoid contact or mixing with calcium carbonate (lime) or cement products, due to release of ammonia vapour. Corrosive to carbon steel, copper and copper alloys.

10.6. HAZARDOUS DECOMPOSITION

The product is non-combustible but thermal decomposes on heating to form ammonia, nitrogen oxides and sulphur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

| | |
|----------------------|---|
| TOXIC DOSE | LD50 Oral – Rat – 2840 mg/kg LD50 Dermal – Mouse – 640 mg/kg |
| Inhalation: | Causes respiratory tract irritation. Coughing. |
| Ingestion: | Causes gastrointestinal tract irritation with nausea, vomiting and diarrhea. |
| Skin contact: | Irritation and redness. |
| Eye contact: | Irritation and redness. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Aquatic Toxicity:

Toxicity to freshwater fish: LC50: 39 to 44 mg/l, 96h (Oncorhynchus mykiss)

Toxicity to water flea: EC50: 423 mg/l, 24h (Daphnia magna)

12.2. PERSISTENCE AND DEGRADABILITY

Readily biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

Low potential for bioaccumulation.

**12.4. MOBILITY**

No data available.

12.5. RESULTS OF PBT AND vPvB ASSESSMENT

No data available.

12.6. OTHER ADVERSE EFFECTS

Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of ammonium 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. Incineration or burial in licensed facilities may be appropriate. 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. Dispose of container and unused contents in accordance with applicable member state and local requirements.

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

SECTION 14: TRANSPORT INFORMATION**IMDG**

| | |
|----------------------------|-----|
| UN number | N/A |
| UN proper shipping name | N/A |
| Transport hazard class(es) | N/A |
| Packing group | N/A |

ADR/RID

| | |
|----------------------------|-----|
| UN number | N/A |
| UN proper shipping name | N/A |
| Transport hazard class(es) | N/A |
| Packing group | N/A |

IATA

| | |
|-------------------------|-----|
| UN number | N/A |
| UN proper shipping name | N/A |



| | |
|----------------------------|-----|
| Transport hazard class(es) | N/A |
| Packing group | N/A |

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

A Chemical Safety Assessment has been carried out for this substance.

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.