SAFETY DATA SHEET
Ammonium Sulphate

Issued: 10/06/2019
Revision No: 1

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product Name: Ammonium Sulphate

Chemical Formula: (NH4)2SO4

CAS No.: 7783-20-2

EINECS No.: 231-984-1

REACH Registration No.: 01-2119455044-46

Relevant identified uses of the substance or mixture and uses advised against:

Identified use(s): Chemical agent

Uses advised against: Other non-specified industry.

Reason: Due to lack of related experience or data, the supplier cannot approve this use.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Product Definition: Substance

Regulation (EC) No. 1272/2008 (CLP): Not classified as hazardous.

Directive 67/548/EEC & Directive 1999/45/EC: Not classified as dangerous for supply/use.

Label elements:

According to Regulation (EC) No. 1272/2008 (CLP):

Trade name: Ammonium Sulphate

Hazard Pictogram: None.

Signal word(s): None.

Hazard statement(s): None.

Precautionary statement(s): None.

According to Directive 67/548/EEC & Directive 1999/45/EC:

Hazard Symbol: None.

Risk Phrases: None.

Safety Phrases: None.

[cont…]

Other hazards: None.

Additional Information: None.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture: EC Classification No. 1272/2008

Ingredient Name	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard pictogram(s) and Hazard statement(s)
Ammonium Sulphate	>99	7783-20-2	231-984-1	01-2119455044-46-XXXX	Non-hazardous

Additional Information: None

4. FIRST AID MEASURES

Description of first aid measures:

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin Contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Ingestion: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed: See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed: See Section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Suitable Extinguishing Media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media: None.

Special hazards arising from the substance or mixture:

Substance/Mixture: No specific fire or explosion hazard.

[cont…]

Hazardous thermal decomposition products: May include Nitrogen oxides, sulphur oxides and ammonia. Avoid breathing dusts, vapours or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.

Advice for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for firefighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear appropriate PPE as discussed in section 8. Keep unnecessary and unprotected personnel from entering area. Do not walk through or touch spilled material.
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions: Avoid dispersal of spilled material and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.

Methods and material for containment and cleaning up:

Small Spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large Spill: Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Reference to other sections: See Section 1 for emergency contact information. See Section 8 for appropriate PPE. See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid release to the environment. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

[cont…]

Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities:

Storage Recommendations: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Storage Temperature: Ambient.

Storage Life: Stable under normal conditions.

Incompatible materials: Alkalis, nitrites.

Specific end use(s): Not available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Occupational Exposure Limits: Not available.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere 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. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

[cont…]

Exposure controls:

Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. The assessment of potential dust hazards must be carried out based on handling and quantity. Safeguards according relevant regulations must be applied.

Personal protection equipment: PPE of an approved standard should be used when a risk assessment indicates this is necessary. Recommendations are included below.

Eye/face protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: Tightly fitting goggles CEN:EN166.

Skin protection (Hand protection/ Other): Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations. Recommended: (< 1 hour) Polyvinyl chloride - PVC , nitrile rubber . Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: In case of dust formation use respiratory equipment with filter type particle filter P1 according to DIN EN 143.

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental Exposure Controls: Avoid release to the environment. 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.

[cont…]

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Solid, crystalline powder.
Colour:	White
Odour:	Odourless.
Odour Threshold (ppm):	Not available.
pH (Value):	5.0, 10% solution in water
Melting Point (°C):	Not available.
Boiling point/boiling range (°C):	Not available.
Flash Point (°C):	Not available.
Evaporation rate:	Not available.
Flammability (solid, gas):	Not available.
Explosive limit ranges:	Not available.
Vapour Pressure (mm Hg):	Not available.
Vapour Density (Air=1):	Not available.
Density (kg/m3):	1770
Bulk Density (kg/m3):	1000
Solubility (Water):	754 g/l
Solubility (Other):	Not available.

Partition Coefficient (n-Octanol/water): Not available.

Auto Ignition Temperature (°C):	Not available.

Decomposition Temperature (°C): >235°C.

Viscosity (mPa.s):	Not available.
Explosive properties:	Not available.
Oxidising properties:	Not available.
Other information:	None.

10. STABILITY AND REACTIVITY

Reactivity: Stable under normal conditions. No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: Keep away from incompatible materials. May react under flame formation or even explosively at room temperature with nitrites.

Incompatible materials: Alkalis, nitrites

Hazardous Decomposition Product(s): Under normal conditions of storage and use, hazardous decomposition products should not be produced. In case of fire, Nitrogen oxides, Sulphur oxides and ammonia may be produced.

[cont…]

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Substance:

Respiratory or skin sensitization: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Potential Acute Health Effects:

Inhalation: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Eye contact: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics: No specific data.

Delayed and immediate effects, and also chronic effects:

Short term exposure: Not available.

Long term exposure: Not available.

Potential chronic health effects:

Product / ingredient name	Result	Species	Dose	Exposure
Ammonium Sulphate	NOAEC Inhalation Dusts and mists	Rat – Male	300 mg/m3	14 days; 8hrs/day

Other information: None.

12. ECOLOGICAL INFORMATION

Toxicity: No known significant effects or critical hazards.

Product / ingredient name	Result	Species	Dose	Exposure
Ammonium Sulphate	Acute EC50	Daphnia	168.8 mg/l	48 hrs
	Acute LC50	Fish – Oncorhynchus mykiss	53 mg/l	96 hrs
	Acute IC50	Algae – Chlorella vulgaris	2700 mg/l	18 days
	Chronic EC10	Fish – Lepomis macrochirus	5.29 mg/l	30 days
	Chronic EC10	Daphnia	3.12 mg/l	10 weeks

Persistence and degradability: Not available.

Bioaccumulative potential: Low potential (Log Pow: -5.1)

Mobility in soil: Not available. The product is soluble in water.

Results of PBT and vPvB assessment: Not available

Other adverse effects: No known significant effects or critical hazards. The product does not contain organically bound halogens which could lead to an AOX value in wastewater.

[cont…]

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: The generation of waste should be avoided or minimized wherever possible.

Product: Disposal of this product, solutions and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Avoid dispersal of spilled material and runoff. Avoid contact with soil, waterways, drains and sewers.

Packaging: Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Empty containers may retain some product residue.

Additional Information: Within the present knowledge of the supplier, this product is not classified as hazardous waste, as defined by EU Directive 2008/98/EC.

14. TRANSPORT INFORMATION

UN number: N/A.

Proper Shipping Name: N/A.

Transport hazard class(es): N/A.

Packing Group: N/A.

Environmental hazards: N/A.

Special precautions for user: N/A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: N/A.

Additional Information: N/A.

15. REGULATORY INFORMATION

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

EU regulations:

Authorisations and/or restrictions on use: EC Regulation (EC) No.11907/2006 (REACH) - Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles – Restriction 65.

National regulations: None known.

Chemical Safety Assessment: Available.

[cont…]

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

The following sections contain revisions or new statements, marked in italics: N/A

Additional change information:

LEGEND:

LTEL:	Long Term Exposure Limit
STEL:	Short Term Exposure Limit
DNEL:	Derived No Effect Level
PNEC:	Predicted No Effect Concentration
PBT:	Persistent, Bioaccumulative and Toxic
vPVB:	very Persistent and very Bioaccumulative

Risk Phrases and Safety Phrases: None.

Hazard statement(s) and Precautionary statement(s): None.

Hazard pictogram(s) and Hazard Symbol: None.

Legal disclaimer: The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.