



LABORATORY CHEMICALS AND CONSUMABLES
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MATERIAL SAFETY DATA SHEET

AMMONIUM SULPHATE

1. Chemical Product and Company information.

Product name: Ammonium Sulfate

Contact Information:

Radchem cc
PO Box 166982
Brackendowns
Alberton 1454
Telephone : **011 867 3726 / 2864**

Emergency Telephone Numbers:

2. Hazard Identification

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

3. Composition / information on ingredients

CAS #: 7783-20-2

Synonym: Sulphuric Acid, Diammonium Salt

Chemical Name: Ammonium Sulphate

Chemical Formula: $(\text{NH}_4)_2\text{SO}_4$

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

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



Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

5. Fire-fighting measures

Flammability of the Product: May be combustible at high temperature.

Fire Hazards in Presence of Various Substances: Flammable in presence of oxidizing materials. Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Explosive in presence of oxidizing materials.

Fire Fighting Media and Instructions: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: A mixture of ammonium sulphate and potassium chlorate decomposes with incandescence when heated. When a little ammonium sulphate is added to fused potassium nitrite, a vigorous reaction occurs attended by flame. Non combustible. This substance itself does not burn, but may decompose upon heating to produce corrosive and/or toxic fumes.

Special Remarks on Explosion Hazards: If accidentally mixed with oxidizers like potassium chlorate, potassium nitrate or potassium nitrite, there is an explosion hazard during fire. A mixture of ammonium sulphate and ammonium nitrate can easily be exploded by potassium or sodium-potassium alloy.

6. Accidental release measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. Handling and storage

Precautions: Keep away from heat. Keep away from sources of ignition. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self



contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

9. Physical and chemical properties

Physical state and appearance: Solid. (Crystals solid.)

Odour: Odourless.

Taste: Not available.

Colour: Brownish gray to white

Boiling Point: Not available.

Melting Point: 280°C

Critical Temperature: Not available.

Specific Gravity: 1.98 (Water = 1)

Vapour Density: Not applicable.

Volatility: Not available.

Odour Threshold: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Soluble in cold water. Insoluble in acetone.

10. Stability and reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials.

Incompatibility with various substances: Highly reactive with oxidizing agents. Reactive with alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Incompatible with the following: Potassium + ammonium nitrate, potassium chlorate, potassium nitrate, potassium nitrite, sodium hypochlorite, sodium/potassium alloy + ammonium nitrate. Substance should not contact either zinc or copper bearing materials. Reacts with alkali to release ammonia.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

11. Toxicological information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 640 mg/kg [Mouse].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Lowest Published Lethal Dose/Conc: LDL [Domestic animal - Goat, Sheep) - Route: Oral; Dose: 3500 mg/kg



Special Remarks on Chronic Effects on Humans: It may be a possible mutagen. It has been tested for mutagenicity, but so far tests have been inconclusive or test information has not been made available.

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: When ingested, its osmolarity can draw water from the body into the bowel, acting as a laxative. However, if enough is absorbed systemically it may produce Ammonia poisoning. Symptoms may include gastrointestinal (digestive) tract irritation with nausea, vomiting, hypermotility, diarrhoea. May also affect eyes (Mydriasis), behaviour/central nervous system (somnia, tremor, convulsions, muscle contraction or spasticity), and respiratory system (respiratory stimulation, dyspnoea). Also, with ingestion of large doses of Ammonium Sulphate arises the possibility of sufficient absorption to produce diuresis, an excessive discharge of urine, and kidney damage (renal tubular disorder, abnormal renal function). Chronic Potential Health Effects: One Russian occupational standard study discussed chronic exposure effects which may include cardiac contraction, neurotoxicity, and hypertension. This has not been confirmed in other ammonium sulphate exposed workers.

12. Ecological information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

DOT Classification: Not a DOT controlled material.

Identification: : Not applicable

Special Provisions for Transport: Not available.

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