



## MSDS - Ammonium Sulphate

Revision May 1, 2011

### Section 1. Product Information

Product Name: Ammonium Sulphate

Synonyms: Ammonium Sulfate, Diammonium Sulfate

Distributed by Pestell Minerals & Ingredients, New Hamburg, ON Canada

**24 Hour Emergency Telephone (Canutec): 613-996-6666**

### Section 2. Hazardous Ingredients

Ammonium Sulfate 95% CAS # 7783-20-2

Immediate Acute Effects: LD50 (oral/rat): 3000 mg/kg

Skin Irritation: A single dermal dose of 0.5 g elicited transient (reversible) mild dermal irritation in the rabbit.

### Section 3. Physical Data

Appearance & Odour: Odourless, colourless to dark brown crystals or granules

Physical State: Solid

Molecular Weight: 132.14

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

Specific Gravity (water=1.0): 1.77

Solubility in Water (weight %): 38% solution at 20°C

pH: 5.5

Boiling/Melting Point: Not applicable

Vapor Pressure/Density: Not applicable

Evaporation Rate: Not applicable

% Volatiles: Not applicable

Flash Point: Not applicable

### Section 4. Fire and Explosion Data

**Extinguishing Media:** Any standard agent may be used. If involved in a fire, flood with water.

#### Unusual Fire and Explosion Hazards

Decomposes at elevated temperatures to produce toxic fumes of ammonia and sulfur oxides. If mixed with strong oxidizers such as ammonium nitrate or potassium salts (nitrite, nitrate or chlorate), a vigorous reaction or explosion

may occur.

### Special Fire Fighting Precautions

Since toxic gases may be released violently at high temperatures, fire fighters should wear full protective clothing and NIOSH approved self-contained breathing apparatus. Use water to keep fire-exposed containers cool.

## Section 5. Reactivity Data

Stability: Stable under normal conditions. Avoid temperatures above 280°C - decomposes

Incompatibilities: Oxidizers; e.g. potassium salts - nitrite, nitrate, chlorate; also chlorine and hypochlorite. Avoid contact with zinc, copper and copper bearing materials.

Remarks on Corrosivity: Hydrolysis (wetting) will create a highly corrosive condition for aluminum, zinc, copper and brass alloys. There will be a slight corrosive action to mild steel and 304 stainless steel. Non corrosive to 316 stainless steel.

Hazardous Decomposition Products: Ammonia and sulfur trioxide and sulfur dioxide gases

Hazardous Polymerization: Will not occur

Flash Point: Not applicable

Flash Point Method: Not applicable

Auto-ignition Temperature: Not applicable

Upper/Lower Flammability: Not applicable

Flame Propagation Rate: Not applicable

OSHA Flammability Class: Not flammable

## Section 6. Toxicological Properties

Immediate Acute Effects: LD50 (oral/rat): 3000 mg/kg

Skin Irritation: A single dermal dose of 0.5 g elicited transient (reversible) mild dermal irritation in the rabbit.

Delayed (Subchronic and Chronic) Effects: Eye irritation: A single ocular dose of 100 mg elicited transient (reversible) moderate ocular irritation in the rabbit.

There was no evidence of skin sensitization seen in guinea pig.

Dust may cause irritation to skin, eyes, nose, throat and lungs. Avoid breathing dust.

Ammonium Sulfate: OSHA PEL: Nuisance dust = 15 mg/m<sup>3</sup>/TLV Respirable

**Skin:** Irritation may result from prolonged skin contact.

**Eyes:** Contact with dust or mist may cause eye irritation.

**Inhalation:** Dust inhalation may irritate nose, throat and lungs.

**Ingestion:** Not generally considered toxic. If swallowed, irritation may develop in the mouth, oesophagus, stomach, etc. The sulfate ion may cause purging.

**Delayed Effects:** None known

## Section 7. Preventive Measures

### Accidental Release Measures

In case of spill or other release, (always wear recommended personal protective equipment), shovel up large spills (dry chemical) for use or disposal. Sweep up small spills and maximize recovery. Flush residue with water if permitted by applicable disposal regulations. Spill and releases may have to be reported to Federal and/or local authorities.

### Handling and Storage

**Normal Handling:** (Always wear recommended personal protective equipment). Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep containers closed and avoid rough handling. Follow good personal hygiene and housekeeping practices.

**Storage Recommendations:** Store in a cool, dry place away from oxidizers, such as chlorates, nitrates and nitrites.

**Disposal Considerations:** One use of ammonium sulfate is as a fertilizer, therefore, waste ammonium sulfate might be used as a fertilizer. If discarded to waterways, it may promote eutrophication. Disposal must be in accordance with applicable disposal regulations. Users should consult with appropriate regulatory agencies before discharging or disposing of waste material.

### Exposure Controls/Personal Protection

**Engineering Controls:** Provide local exhaust if dusty conditions prevail.

**Skin Protection:** To minimize skin contact, wear long sleeved shirt, trousers and gloves for routine product handling and use.

**Eye Protection:** Under dusty or misty conditions, wear chemical safety goggles. Do not wear contact lenses.

**Respiratory Protection:** Where dusty or misty conditions require it, use a NIOSH approved dust or mist respirator for needed protection.

## Section 8. First Aid Measures

**Skin:** Wash promptly with soap and water and flush with water until chemical is removed. Remove any contaminated clothing and wash before reuse. Get medical attention for irritation.

**Eyes:** Flush promptly with plenty of water for at least 15 minutes. Get medical attention.

**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen if a qualified operator is available. Get medical attention for irritation or discomfort.

**Ingestion:** If conscious, drink 2 to 4 glasses of water and induce vomiting by touching back of throat with finger.

## Section 9. Transport Information

US DOT Hazard Class: Not regulated

US DOT ID Number: Not applicable

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