

PRODUCT INFORMATION

<p>BETHLEHEM STEEL CORPORATION Bethlehem, PA 18016-7699</p> <p>For Additional Information, Contact: (215) 684-5733</p>	 <p><i>Quality Service Competitiveness</i></p>	<p>Date Issued: September, 1989</p> <p>Emergency Phone Numbers: BETHLEHEM STEEL (215) 694-7290</p> <p>CHEMTREC (Day or Night) 1-800-424-9300</p>
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Product Name: Ammonium Sulfate **Synonym(s):** Dolamin
Mascagnite
Diammonium Sulfate

Formula: (NH₄)₂ SO₄ **Chemical Family:** Inorganic Salt

HAZARDOUS INGREDIENT AND TOXICOLOGICAL DATA

HAZARDOUS INGREDIENTS	CAS No. (LIN No.)	Wt. %	OSHA-PEL Transitional Limits (mg/m ³)	OSHA-PEL Final Rule Limits (mg/m ³)	ACGIH-TLV (mg/m ³)	LD ₅₀ (Species-Route)	LC ₅₀ (Species-Route)
Ammonium Sulfate	7783-20-2 (NE)	99.8	NE	NE	NE	610mg/kg (Mouse/I.P.)	NE

PHYSICAL DATA

Physical State:	Specific Gravity:	Appearance and Odor:
Solid	1.7 (@ 60°F)	Brownish-gray to white crystals; odorless
Vapor Pressure:	Boiling Point:	Vapor Density:
NA	NA	NA
Melting Point:	Evaporation Rate:	Solubility in Water:
Decomposes above 280°C	NA	70g/100ml (Appreciable)
Volatile by Volume:	pH:	
NA	3.9 (10% solution)	

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FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method): NA	Lower Explosive Limit: NA	Upper Explosive Limit: NA
Autoignition Temperature: NA	Fire Hazard: Strong Oxidizer	Explosion Hazard: Low probability of explosion in dust form when exposed to heat or flame.
Extinguishing Media: Small fires: Dry chemical, water spray or foam. Large fires: Use water spray, fog or alcohol foam.	Special Fire Fighting Procedures: Move containers from fire area if possible to do so without risk. Do not use water directly on material. If large amounts of combustible materials are involved, use water spray or fog in flooding amounts. Avoid breathing dusts and fumes from burning material. Wear self-contained breathing apparatus (SCBA).	
Unusual Fire and Explosion Hazards: NA		

REACTIVITY DATA

Stability: Stable	Incompatibilities (Materials to avoid): Explodes when mixed with potassium and sodium-potassium alloys. May also explode when mixed with potassium chlorate, potassium nitrate, and potassium nitrite. Vigorous reaction with flame when mixed with potassium nitrite.
Hazardous Thermal Decomposition Products: Ammonia, sulfur oxides, sulfuric acid, oxides of nitrogen and other possible gases.	Polymerization: Will not occur.

HEALTH HAZARD DATA

Health Effects/Signs and Symptoms:
Exposure to the eyes, skin, or respiratory tract to the dust can result in a slight irritation. Inhalation of the dust may produce constriction of lung air passages. In animal studies, ammonium sulfate aerosols caused a slight decrease in lung function (i.e., pulmonary flow resistance compliance). Considered to be between slightly and moderately toxic by the oral route. Large doses may increase secretion of urine and systemic ammonia poisoning. Ingestion can also result in irritation of the surface lining of the digestive tract.

Usual Route(s) of Entry:
Inhalation

Medical Conditions Possibly Aggravated:
In animal experiments, ammonium sulfate dust aggravated artificially-induced emphysema. Individuals with chronic diseases or disorders should consult a physician regarding workplace exposure.

Carcinogen Information:
Not considered to be a carcinogen by NTP, OSHA, or IARC.

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FIRST AID AND MEDICAL EMERGENCY PROCEDURES**Eye Contact:**

Wash thoroughly with large amounts of water for at least 15 minutes. Seek medical attention.

Skin Contact:

Flush exposed areas with large amounts of water. In case of chemical burns cover area with sterile dry dressing. Seek medical attention.

Inhalation:

Remove from excessive exposure levels. Seek medical attention. Give artificial respiration if breathing has stopped.

Ingestion:

Call Poison Control Center immediately. If conscious, dilute by administering one glass of water. Seek medical attention promptly. Do not induce vomiting.

PREVENTIVE MEASURES**Engineering Controls (Ventilation, etc.):**

Ventilation should be sufficient to maintain dust levels below the applicable exposure limit.

Work Practices (Handling and Storage, etc.):

Should be handled in ways to minimize generation of airborne emission and to prevent spills. Maintain all surfaces as free as practical of accumulation of material. Do not smoke or consume food or beverages in the workplace. Wash hands before eating, drinking, or smoking and after handling. Change contaminated clothing before leaving work premises.

Eye Protection:

Use safety glasses and/or other protective eyewear as specified by a qualified safety professional where risk of eye injury is present.

Skin Protection:

Long-sleeved work clothing should be worn when working with this material. Gloves and protective clothing as specified by an industrial hygienist or safety professional are recommended in dusty atmospheres. Neoprene, nitrile and polyvinyl chloride are examples of materials which have been reported to provide relatively good protection against penetration by this chemical. Exposed skin area should be washed thoroughly after use. Shower and change into clean work clothing at the end of the work shift.

Respiratory Protection:

When engineering controls are not sufficient to lower dust levels below the applicable exposure limits, use a NIOSH-approved respirator which protects against dusts and mists as specified by an industrial hygienist or qualified safety professional in accordance with manufacturer instructions and use limitations.

SPILL, LEAK, AND DISPOSAL INFORMATION**Procedures to Follow if Material is Released or Spilled:**

Material should be swept or vacuumed into appropriate containers.

Waste Disposal Method:

This material can be recycled for further use, disposed in an appropriately permitted waste landfill, or disposed by other methods which are in accordance with local, state, and federal regulations.

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ADDITIONAL OR MISCELLANEOUS INFORMATION

This material contains trace amounts of pyridine (CAS #110-26-1). Pyridine vapor has a disagreeable odor and is a mild irritant to the eyes, skin, and mucous membranes. Long-term excessive exposure may cause systemic effects to the liver, kidney, and bone marrow. Exposure to pyridine vapors from this product is not normally of any industrial hygiene significance.

SARA NOTIFICATION

This product contains a chemical or chemicals subject to the reporting requirements of Section 313 of TITLE III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR, Part 372.

SARA/TITLE III HAZARD CATEGORIES:

- Immediate (acute) Health Reactive
 Delayed (chronic) Health Sudden Release of Pressure
 Fire

Abbreviations:

ACGIH-TLV = American Conference of Governmental Industrial Hygienists Threshold Limit Value
 C = Ceiling Concentration
 CAS No. = Chemical Abstract Service Number
 GT = Greater Than
 INH = Inhalation
 I.P. = Intraperitoneal
 I.V. = Intravenously
 LC50 = Lethal Concentration for 50% of Animal Species Tested
 LD50 = Lethal Dose for 50% of Animal Species Tested
 LT = Less Than
 NA = Not Applicable
 NE = Not Established
 mg/kg = Milligrams of Chemical per Kilogram of Animal Weight
 mg/m³ = Milligram per Cubic Meter of Air
 OSHA-PEL = Occupational Safety and Health Administration-Permissible Exposure Limit
 ppm = Parts per Million
 UK = Unknown (No applicable information was found)
 UN Number = United Nations Number

Our objective in sending this information is to help you protect the health and safety of your personnel and to comply with the OSHA Hazard Communication Standard and Title III of the Superfund Amendment and Reauthorization Act of 1986. BETHLEHEM MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING TRADE.

PREPARATION DATE OF MSDS

Prepared By:

BETHLEHEM STEEL CORPORATION
Human Resources
Health and Safety Services

Phone Number:

(215) 694-1492

Date:

SEPTEMBER, 1989

Jul 12 1993 13:44 MATHTEL Systems, Inc.

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AMMONIUM SULFATE CAUTION



Hazards: Excessive exposure to dust may adversely affect the respiratory system.

Recommended Handling Procedures:

- Avoid creating excessive dust. Mechanical ventilation and/or personal protective equipment (i.e., eye protection, protective clothing, and NIOSH-approved respiratory protection) may be necessary during material handling or dust generating activities.
- Handle material to prevent spills.
- Wash hands before eating, drinking, or smoking and after handling.

FIRST AID AND MEDICAL EMERGENCY PROCEDURES

Eye Contact:

Wash thoroughly with large amounts of water for at least 15 minutes. Seek medical attention.

Skin Contact:

Flush exposed areas with large amounts of water. In case of chemical burns cover area with sterile dry dressing. Seek medical attention.

Inhalation:

Remove from excessive dust exposure levels. Seek medical attention. Give artificial respiration if breathing has stopped.

Ingestion:

Call Poison Control Center immediately if conscious, dilute by administering one glass of water. Seek medical attention promptly. Do not induce vomiting.

For more detailed health and safety information, read the Material Safety Data Sheet (MSDS) for this product.

Bethlehem Steel Corporation, Bethlehem, PA 18016 (Effective Date: 9/89) Telephone No. (215) 694-5733