

# SAFETY DATA SHEET

Order Number

Customer Number

## 1. Identification of the substance/preparation and of the company/undertaking

**Product name** : Ammonium Sulfate  
**Catalog #** : 168355  
**Chemical formula** :  $(\text{NH}_4)_2\text{SO}_4$   
**Supplier** : EMD Biosciences, Inc.  
 10394 Pacific Center Court  
 San Diego, CA 92121  
 (858)450-5558/(800)854-3417  
 FAX: (858)453-3552  
**Synonym** : ammonium sulfate; sulfuric acid, diammonium salt; diammonium sulfate

**Emergency telephone number** : Call Chemtrec®  
 (800)424-9300 (within U.S.A.)  
 (703)527-3887 (outside U.S.A.)

## 2. Composition / information on ingredients

**Substance/Preparation** : Substance

Chemical name*	CAS No.	EC Number	Symbol	R-Phrases
ammonium hydrogen sulfate	7783-20-2	231-984-1	-	-

## 3. Hazards identification

**Physical/chemical hazards** : Not applicable.  
**Human health hazards** : No specific hazard.

## 4. First-aid measures

### First-Aid measures

**Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.  
**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.  
**Skin Contact** : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.  
**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.  
**Aggravating conditions** : Repeated or prolonged exposure is not known to aggravate medical condition.

## 5. Fire-fighting measures

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

### Extinguishing Media

**Suitable** : SMALL FIRE: Use DRY chemical powder.  
 LARGE FIRE: Use water spray, fog or foam. Do not use water jet.  
**Hazardous thermal (de)composition products** : These products are nitrogen oxides (NO, NO2...), sulfur oxides (SO2, SO3...).  
**Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.  
**Protection of fire-fighters** : Be sure to use an approved/certified respirator or equivalent.

## 6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
- Small Spill and Leak** : Use appropriate tools to put the spilled solid in a convenient waste disposal container.
- Large Spill and Leak** : Use a shovel to put the material into a convenient waste disposal container.

## 7. Handling and storage

- Handling** : Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, alkalis.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 20°C (68°F).
- Packaging materials**
- Recommended use** : Use original container.

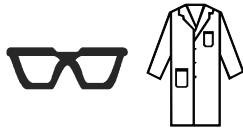
## 8. Exposure controls/personal protection

- Engineering measures** : 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.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
Ammonium Sulfate	<b>Ministry of Labor (KR, 1997).</b> STEL: 20 mg/m <sup>3</sup> 15 minute(s). TWA: 10 mg/m <sup>3</sup> 8 hour(s).

### Personal protective equipment

- Skin and body** : Lab coat.
- Eyes** : Safety glasses.
- Protective Clothing (Pictograms)** :



## 9. Physical and chemical properties

- Physical state** : Solid. (Crystalline solid.)
- Color** : Not available.
- Molecular Weight** : 132.1 g/mole
- Melting Point** : Decomposition temperature: 235.06°C (455.1°F)
- Solubility** : Easily soluble in cold water.
- Flash point** : Not available.
- Explosive properties** : 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.

## 10. Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Hygroscopic; keep container tightly closed. Reacts with sodium, potassium and their alloys.
- Materials to avoid** : Reactive with oxidizing agents, alkalis.
- Hazardous Decomposition Products** : These products are nitrogen oxides (NO, NO2...), sulfur oxides (SO2, SO3...).

## 11. Toxicological information

- RTECS #** : **BS4500000**
- Local effects**
- Skin irritation** : Not available.
- Acute toxicity** : Acute oral toxicity (LD50): 2840 mg/kg [Rat].
- Chronic toxicity** : Repeated or prolonged exposure is not known to aggravate medical condition.
- Other Toxic Effects on Humans** : Not available.  
Not considered to be toxic for humans.

Not available.

Not available.

#### Specific effects

- Carcinogenic effects** : Classified None. by NIOSH.
- Mutagenic effects** : Not available.
- Reproduction toxicity** : Not available.
- Teratogenic effects** : Not available.

## 12. Ecological information

- Ecotoxicity** : Ecotoxicity in water (LC50): (LC50): 6.6  
mg/l [Mortality], 96 hours [Fish (Oncorhynchus mykiss)].
- Toxic to aquatic organisms.
- Toxicity of the Products of Biodegradation** : The product itself and its products of degradation are not toxic.

## 13. Disposal considerations

- Methods of disposal; Waste of residues; Contaminated packaging** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## 14. Transport information

#### International transport regulations

##### Land - Road/Railway

- ADR/RID Class** : Not controlled under ADR (Europe).

##### Sea

- IMDG Class** : Not controlled under IMDG.

##### Air

- IATA-DGR Class** : Not controlled under IATA.
- Special Provisions for Transport** : Not applicable.

## 15. Regulatory information

#### EU Regulations

- Risk Phrases** : This product is not classified according to the EU regulations.

#### U.S. Federal Regulations

- TSCA 8(b) inventory: ammonium hydrogen sulfate
- SARA 302/304/311/312 extremely hazardous substances: No products were found.
- SARA 302/304 emergency planning and notification: No products were found.
- SARA 302/304/311/312 hazardous chemicals: ammonium hydrogen sulfate
- SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ammonium hydrogen sulfate: Immediate (Acute) Health Hazard
- SARA 313 toxic chemical notification and release reporting: ammonium hydrogen sulfate
- Clean Water Act (CWA) 307: No products were found.
- Clean Water Act (CWA) 311: No products were found.
- Clean air act (CAA) 112 accidental release prevention: No products were found.
- Clean air act (CAA) 112 regulated flammable substances: No products were found.
- Clean air act (CAA) 112 regulated toxic substances: No products were found.

- HCS Classification** : Not controlled under the HCS (United States).

- State Regulations** :

Pennsylvania RTK: ammonium hydrogen sulfate: (environmental hazard, generic environmental hazard)

Massachusetts RTK: ammonium hydrogen sulfate

New Jersey: ammonium hydrogen sulfate

#### WHMIS (Canada)

- : Not controlled under WHMIS (Canada).
- CEPA DSL: ammonium hydrogen sulfate

## 16. Other information

**Hazardous Material  
Information System  
(U.S.A.)**

Health	2
Fire Hazard	1
Reactivity	0
Personal Protection	A

**National Fire  
Protection Association  
(U.S.A.)**



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*Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. \*\*This product is intended for research use only.\*\**

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