

MATERIAL SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

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Standard Reference Materials Program
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RM Number: 8550
MSDS Number: 8550
RM Name: USGS25 (Nitrogen Isotopes
in Ammonium Sulfate)

Date of Issue: 17 October 2012

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

Description: A unit of Standard Reference Material (SRM) 8550 consists of 0.4 g of ammonium sulfate salt.

Substance: Ammonium Sulfate

Other Designations: Ammonium Sulfate (diammonium sulfate, sulfuric acid diammonium salt)

2. HAZARDS IDENTIFICATION

NFPA Ratings (Scale 0–4): Health = 2 Fire = 0 Reactivity = 0

Physical Hazards: None listed

Major Health Hazards: Ammonium sulfate is classified as an irritant.

Potential Health Effects

Inhalation: Short-term (acute) exposure to dust may irritate the respiratory tract and result in coughing, sore throat, difficulty breathing or lung congestion. Long-term (chronic) exposure may result in respiratory tract irritation.

Skin Contact: Skin contact may result in irritation. Repeated exposure to irritants may cause dermatitis.

Eye Contact: Direct contact may cause irritation with redness and pain. Repeated exposure may result in conjunctivitis.

Ingestion: Ingestion of ammonium sulfate may result in irritation of the gastrointestinal tract. No information listed for chronic exposure.

Listed as a Carcinogen/Potential Carcinogen:

	<u>Yes</u>	<u>No</u>
In the National Toxicology Program (NTP) Report on Carcinogens	<u> </u>	<u> X </u>
In the International Agency for Research on Cancer (IARC) Monographs	<u> </u>	<u> X </u>
By the Occupational Safety and Health Administration (OSHA)	<u> </u>	<u> X </u>

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Components	CAS Number	EC Number (EINECS)	Nominal Concentration (mass fraction)
Ammonium Sulfate	7783-20-2	231-984-1	100 %

EC Classification (assigned): Not determined.

EC Risk (R): None listed.

EC Safety (S): None listed.

EC Risk/Safety Phrases: See Section 15, "Regulatory Information".

4. FIRST AID MEASURES

Inhalation: If adverse effects occur, remove to uncontaminated area. Seek medical attention if needed.

Skin Contact: Wash exposed skin with copious amounts of water for at least 15 minutes. Remove any contaminated clothing.

Eye Contact: Immediately flush eyes with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Ingestion of this material is not likely under normal conditions. If swallowed, contact local poison control or seek medical attention.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Negligible fire and explosion hazard.

Extinguishing Media: Use extinguishing agents appropriate for the surrounding fire.

Fire Fighting: Wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA).

Flash Point (°C): Not applicable.

Method Used: Not applicable.

Autoignition Temp. (°C): Not applicable.

Flammability Limits in Air

Upper Explosion Limit (UEL): Not applicable.

Lower Explosion Limit (LEL): Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Occupational Release: Avoid generating dust. Collect spilled material and place in an appropriate container for disposal.

Disposal: Refer to Section 13, "Disposal Considerations".

7. HANDLING AND STORAGE

Storage: Store and handle in accordance with all current regulations and standards.

Safe Handling Precautions: See Section 8, "Exposure Controls and Personal Protection".

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. No occupational exposure limits have been established for this material.

Ventilation: Use a local exhaust ventilation system.

Respirator: If workplace conditions warrant a respirator, a respiratory protection plan that meets OSHA 29 CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Wear safety goggles. An eye wash station should be readily available near areas of use.

Personal Protection: Wear appropriate protective clothing and gloves to prevent skin exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Component: Ammonium Sulfate

Physical State: Solid

Appearance and Odor: Ammonia odor; colorless to gray powder.

Molecular Formula: (NH₄)₂SO₄

Molar Mass: 132.13 g/mol

Density: 1.769 g/cm³

Water Solubility: 71 % at 0 °C

10. STABILITY AND REACTIVITY

Stability: X Stable Unstable

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: Acids, bases, chlorates, nitrates, oxidizers, metals.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Ammonia, oxides of nitrogen, oxides of sulfur.

Hazardous Polymerization: Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Entry: X Inhalation Skin X Ingestion

Toxicity Data:

Rat, Oral LD₅₀: 2840 mg/kg

Target Organs: Respiratory tract, eyes, skin, gastrointestinal tract.

Medical Conditions Aggravated by Exposure: Eye disorders, skin disorders, respiratory disorders, allergies.

Mutagen/Teratogen: No information listed.

Health Effects (Acute and Chronic): See Section 3, "Hazards Identification" for potential health effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Fish: Rainbow Trout (*Oncorhynchus mykiss*) LC₅₀ 32.2 mg/L - 41.9 mg/L flow-through (96 h)
Rainbow Trout (*Oncorhynchus mykiss*) LC₅₀ 5.2 mg/L - 8.2 mg/L semi-static (96 h)

Invertebrate: Water flea (*Daphnia magna*) EC₅₀ 423 mg/L (24 h)

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated.

15. REGULATORY INFORMATION

U.S.: REGULATIONS

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Sections 302 (40 CFR 355.30): Not regulated.

SARA Title III Sections 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 313 (40 CFR 372.65): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE: Yes

CHRONIC: No

FIRE: No

REACTIVE: No

PRESSURE: No

STATE REGULATIONS:

California Proposition 65: Not listed.

CANADIAN REGULATIONS:

WHMIS Information: Not provided for this material.

EUROPEAN REGULATIONS

EC Classification: Not determined.

EC Risk Phrases: None listed.

EC Safety Phrases: None listed.

NATIONAL INVENTORY STATUS:

U.S. Inventory (TSCA): Listed on inventory.

TSCA 12 (b) Export Notification: Not listed.

16. OTHER INFORMATION

Sources: ChemADVISOR, Inc., MSDS *Ammonium Sulfate*, 10 June 2011.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data in the MSDS. The certified values for this material are given in the NIST Report of Investigation.