PRO™ CHEMICAL & DYE
126 Shove Street Fall River, MA 02724
1-800-228-9393 www.prochemicalanddye.com

Safety Data Sheet
Ammonium Sulfate

SECTION 1. PRODUCT AND COMPANY INDENTIFICATION

Product/Chemical Name: Ammonium Sulfate
Chemical Family: Inorganic ammonium salt
General use: Drinking water treatment, waste water treatment, food processing, fermentation, pharmaceuticals, and other manufacturing applications

Supplier:
PRO Chemical & Dye
126 Shove Street
Fall River, MA 02724

Emergency Telephone Numbers:
800-255-3924 ChemTel. (United States)
+ 1 01 813-248-0585 (Outside the United States)

SECTION 2. HAZARDS IDENTIFICATION

Signal Word: WARNING

Hazard Statements:
May cause respiratory irritation
Causes eye irritation

Precautionary Statements:
Do not get in eyes, on skin or on clothing
Avoid breathing dust.
IF ON SKIN: Wash with plenty of soap and water
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: get medical advice or attention
Collect spillage
Store in a closed container
Dispose of container in accordance with local, state, province and federal regulations.

SECTION 3. COMPOSITION /INFORMATION ON INGREDIENTS

Substance

Chemical name: Ammonium Sulfate CAS#: 7783-20-2 (99 -100%)

Synonyms: Ammonium Sulphate; Diammonium Sulfate; Granular Ammonium Sulfate; Aqua Aide™ Crystal, FCC Ammonium Sulfate, Purified Ammonium Sulfate, Reagent Ammonium sulfate, Technical Ammonium Sulfate

Impurities: NA. No impurities or additives which are themselves classified and which contribute to the classification of the substance.

SECTION 4. FIRST AID MEASURES

Inhalation of dust:

Remove person from source of exposure to fresh air. If breathing is difficult, administer oxygen. If not breathing, start CPR. Get medical attention immediately.

Skin contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing.

If irritation develops get medical attention.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open.

Get medical attention if irritation persists.

Ingestion:

If fully conscious, drink as much water as can be tolerated. DO NOT induce vomiting. Get medical attention.

Most Important Symptoms/Effects:

Inhalation:

Dust may irritate nose, throat, mucous membranes, and respiratory tract.

Skin contact:

Prolonged and repeated exposure may cause mild irritation.

Eye Contact:

May cause irritation. May cause pain and tearing.

Ingestion:

May cause irritation of the mouth, throat, gastrointestinal tract. May cause salivation, pain, nausea, vomiting, diarrhea.

SECTION 5. FIRE FIGHTING MEASURES

Flammability:

Product is not flammable and will not burn.

Suitable Extinguishing Media:

For fires in area, use appropriate extinguishing media.

Specific Hazards Arising from the Chemical:

In a fire, dried ammonium sulfate can decompose at temperatures above 455°F (235°C) and may release ammonia and sulfur oxides which are toxic and may be flammable.

Special protective equipment and Precautions for Firefighters:
Wear full protective fire fighting clothing including NIOSH approved self contained breathing apparatus.
Remain upwind of fire to avoid hazardous vapors and decomposition products.

SECTION 6. ACCIDENTIAL RELEASE MEASURES

General:
Site specific procedures to address accidental spills are necessary as dictated by facility design, location, staffing, containment structures, and regulatory requirements. Consult engineers if needed.

Personal Precautions, protective equipment and Emergency Procedures:
In the event of a spill, clear unnecessary personnel from spill area. If direct contact with spilled material is likely, use personal protective equipment recommended in Section 8.

Methods and Materials for Containment and Cleaning Up:
Sweep up spilled material and collect for reuse or disposal. Dispose of material in accordance with local, state, province, and federal regulations. DO NOT flush material with water.

SECTION 7. HANDLING AND STORAGE

Incompatible Chemicals:
Avoid contact with alkalis and basic (high pH) materials.

Containment:
Keep in closed containers.

General hygiene:
Do not eat, drink, take medication or smoke when direct contact is possible.
Always thoroughly wash hands after leaving a work area where contact is possible or has occurred.

Storage:
Keep containers closed and contents protected from dust, dirt, and moisture.
Have containers properly labeled for contents.

Temperature for storage:
Preferred storage temperature range is 4°C-43°C (40°F-90°F).

Ventilation:
Local ventilation and dust collection

Personal protection:
If direct contact with material is likely use personal protective equipment.

SECTION 8. EXPOSURE CONTROL/ PERSONAL PROTECTION

Exposure limits

Ingredient: ammonium soluble salts (nuisance dust)

OSHA PEL		ACGIH TLV		NIOSH TLV		NIOSH
TWA	STEl	TWA	STEl	TWA	STEl	IDlH
lSmg/m'	none est.	romg/m"	none est.	none est.	none est.	none est.

Respiratory - Ventilation:
Local ventilation and dust collection is typically used. Under normal conditions respiratory protective equipment is not needed. If work requires direct exposure to product dust, use appropriate, NIOSH approved respiratory protection. Consult engineers if necessary.

Eye - Skin wash:
Have appropriate eye wash and safety shower stations available in the work area.
Eyes:
Use protective eye glasses with side shields or goggles to prevent direct contact.
Skin:
Wear long *sleeve* shirt, full length trousers, and gloves. No open-toed footwear. For spill cleanup, use gloves and NIOSH approved dust mask.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid white crystals
Odor: No odor
Odor Threshold: NA
pH: 5.0 - 6.0 (5% solution)
Melting/Freeze point: NA
Boiling point-range: NA
Flash point: NA
Evaporation rate: NA
Flammability: Not flammable.
Upper/lower flammability limits: NA
Vapor pressure: NA
Vapor density: NA
Relative Density (Bulk Density): 66 - 69 lbs./cu. ft.
Water Solubility: 74.4g/lOOml @ 20°C (68°F)
Partial coefficient: n-octanol/water: NA
Auto ignition: NA
Decomposition temperature: >235^{0}C (455°F)
Viscosity: NA

SECTION 10. STABILITY AND REACTIVITY

Reactivity:
No data available
Chemical stability:
Product is chemically stable under normal ambient temperature and conditions while stored or used.
Possibility of Hazardous Reactions:
Product will not polymerize.
Conditions to avoid:
Keep away from incompatibles.
Incompatible Materials:
Strong alkalis, strong acids, strong oxidizing agents, chlorates, nitrates, hypochlorites, mild steel, iron, and non-ferrous metals. Consult engineers if necessary.
Hazardous decomposition products:
At temperatures above 235°C (455°F) ammonia and sulfur oxide gasses are released. These gasses are toxic, corrosive and are oxidizers. Ammonia and sulfur trioxide are fire hazards.

SECTION 11. TOXICOLOGICAL INFORMATION

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Ammonium sulfate (7783-20-2)

Oral LDSO Rat 2840 mg/kg

HEALTH EFFECTS

Inhalation - Acute Exposure

Inhalation may cause slight irritation of mucous membranes.

Inhalation - Chronic Exposure

Repeated or prolonged exposure may cause irritation ofthe mucous membranes.

Skin Contact - Acute Exposure

May cause slight irritation.

Skin Contact - Chronic Exposure

May cause irritation.

Eye Contact - Acute Exposure

May cause irritation, pain and tearing.

Eye Contact - Chronic Exposure

May cause irritation, pain and tearing.

Ingestion - Acute Exposure

May cause irritation of the mouth, throat, gastrointestinal tract. May cause salivation, pain, nausea, vomiting, diarrhea.

Ingestion - Chronic Exposure

No data available.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic):

Ammonium sulfate (7783-20-2)

Fish: LCSO Atlantic Salmon: 306817 ug/L

Invertebrate: LCSO Daphnia magna: 218,400 ug/L

Persistence and degradability:

No information available

Bioaccumulation potential:

This product is not expected to bioaccumulate.

Mobility in Soil:

No information available.

Other adverse effects:

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA Hazardous waste: Not listed.

Neutralization:

No neutralization required.

Contaminated packaging:
Packaging and storage containers that cannot be thoroughly cleaned must be disposed of in accordance with local, state, province, and federal regulations.

SECTION 14. TRANSPORTATION INFORMATION

Land (DOT), Sea (IMDG), Air (ICAO/IATA)
UN number: NA
Shipping name: NA
Hazard class: NA
Packing group: NA
Environmental hazards: Marine pollutant: no; Hazardous substance: no
Special precautions: None known

SECTION 15. REGULATORY INFORMATION

RCRA Hazardous waste: Not listed.
CERCLA Hazardous substance: No
CERCLA Reportable Quantity (RQ): NA
SARA 311/312 Categories:
Acute (Immediate) health effects: No
Chronic (delayed) health effects: No
Sudden release of pressure hazard: No
Reactivity hazard: No
Fire hazard: No
SARA 313 Toxic Chemical listing: Not listed
SARA Extremely hazardous substance (EHS): Not listed
OSHA Air (29CFR 1910.10000, table Z-I, Z-IA): Not listed
OSHA Special Regulated Substance (29CFR 1910): Not listed
California prop 65 chemical: No
United States TSCA Section Inventory Status: Product exempt or listed on the TSCA Inventory.
State regulations: State specific regulations have not been determined by GAC Chemical Corporation. Consult engineers if necessary.

SECTION 16. OTHER INFORMATION

NSF/ANSI60 Drinking Water Treatment Chemicals:
Maximum use 25mg/L

HMIS Rating:
Health: 1
Flammability: 0
Reactivity: 0
NFPA Rating:
Health: 1
Fire: 0
Reactivity: 0
Special: NA

Preparatory statement:
The information in this Safety Data Sheet (50S) is correct to the best of our knowledge, information we have available, and belief as of the publication date. The information is designed solely as guidance for handling, storage, transportation, release, and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in any process unless specified in the text.

Date Sources for the SDS:
Literature, databases, practice, publications, own tests, regulations

Revision:
February 2015 replaces all earlier