

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier

Product Name: Ammonium Sulfate

Product Code: AS

Synonyms: Ammonium Sulphate; Diammonium sulfate

Intended Use of the Product

Agricultural and industrial. For professional use only.

Name, Address, and Telephone of the Responsible Party

Company

Rentech Nitrogen Pasadena, LLC

2001 Jackson Rd

Pasadena, TX 77506

713-920-5331

www.rentechinc.com

Emergency Telephone Number

Emergency number : CHEMTREC 800-424-9300 (within US); 202-366-4488 (outside US)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 4 (Oral) H302

Eye Irrit. 2A H319

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H302 - Harmful if swallowed
H319 - Causes serious eye irritation

Precautionary Statements (GHS-US)

: P264 - Wash hands and forearms thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P312 - If swallowed, call a doctor if you feel unwell.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330 - If swallowed, rinse mouth.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards Not available

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Ammonium sulfate	(CAS No) 7783-20-2	98	Acute Tox. 4 (Oral), H302
Aluminum sulfate	(CAS No) 10043-01-3	2	Met. Corr. 1, H290

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			Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
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Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Seek immediate medical advice.

Skin Contact: Brush off loose particles from skin. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

Eye Contact: Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Rinse mouth.

Most Important Symptoms and Effects Both Acute and Delayed

General: Harmful if swallowed. Eye irritation.

Inhalation: May cause respiratory irritation. Symptoms may be delayed.

Skin Contact: May cause skin irritation.

Eye Contact: Causes serious eye irritation.

Ingestion: Harmful if swallowed.

Chronic Symptoms: Repeated or prolonged skin contact may cause dermatitis and defatting.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not get water inside containers. Do not apply water stream directly at source of leak.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not get water inside containers. Do not apply water stream directly at source of leak.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Sulphur oxides. Nitrogen oxides.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

For Non-Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

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Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Do not allow to enter drains or water courses. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Handle in accordance with good industrial hygiene and safety procedures.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in original container or corrosive resistant and/or lined container. Store in a dry, cool and well-ventilated place. Store away from other materials.

Incompatible Materials: Reducing agents, organic materials, alkalis, moisture, strong acids, strong bases, strong oxidizers.

Specific End Use(s)

Agricultural and industrial. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment: Gloves. Protective goggles.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: White granules
Odor	: Not available
Odor Threshold	: Not available
pH	: 3 - 4
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: - 235 °C (-391 °F)
Freezing Point	: Not available
Boiling Point	: > 280 °C (536 °F)
Flash Point	: Not available

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Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: 0.913 (water = 1)
Specific Gravity	: 0.913
Solubility	: Soluble in water
Log Pow	: Not available
Log Kow	: Not available
Viscosity, Kinematic	: Not available
Viscosity, Dynamic	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not available
Explosion Data – Sensitivity to Static Discharge	: Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Stable at standard temperature and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Extremely high or low temperatures. Protect from moisture.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Ammonia. Nitrogen oxides. Sulfur compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity : Harmful if swallowed.

LD50 and LC50 Data Not available

Skin Corrosion/Irritation: Not classified (pH: 3 – 4)

Serious Eye Damage/Irritation: Causes serious eye irritation. (pH: 3 – 4)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Potential Adverse Human Health Effects and Symptoms: Harmful if swallowed.

Symptoms/Injuries After Inhalation: May cause respiratory irritation. Symptoms may be delayed.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation.

Symptoms/Injuries After Ingestion: Harmful if swallowed.

Chronic Symptoms: Repeated or prolonged skin contact may cause dermatitis and defatting.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data

Ammonium sulfate (7783-20-2)	
LD50 Oral Rat	2000 mg/kg
ATE (oral)	2000.000 mg/kg body weight

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Aluminum sulfate (10043-01-3)	
LD50 Oral Rat	1930 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ammonium sulfate (7783-20-2)	
LC50 Fish 1	5.2 - 8.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	423 mg/l (Exposure time: 24 h - Species: Daphnia magna)
LC 50 Fish 2	32.2 - 41.9 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	14 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Aluminum sulfate (10043-01-3)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Carassius auratus)
EC50 Daphnia 1	136 mg/l (Exposure time: 15 min - Species: Daphnia magna)
LC 50 Fish 2	37 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static])

Persistence and Degradability

Ammonium Sulfate	
Persistence and Degradability	Not established.

Bioaccumulative Potential

Ammonium Sulfate	
Bioaccumulative Potential	Not established.

Ammonium sulfate (7783-20-2)	
Log Pow	-5.1 (at 25 °C)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG

UN Number Not regulated for transport

UN Proper Shipping Name Not regulated for transport

Additional Information Not regulated for transport

Transport by sea Not regulated for transport

Air transport Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Ammonium Sulfate	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

Ammonium sulfate (7783-20-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Aluminum sulfate (10043-01-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

US State Regulations

Ammonium sulfate (7783-20-2)	
U.S. - California - SCAQMD - Toxic Air Contaminants With Proposed Risk Values	
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)	

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U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Aluminum sulfate (10043-01-3)

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Polluting Materials List
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Canadian Regulations

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WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects



Ammonium sulfate (7783-20-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.
Listed on the Canadian Ingredient Disclosure List

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

Aluminum sulfate (10043-01-3)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Indication of Changes : 09/11/2013

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1

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Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Met. Corr. 1	Corrosive to metals Category 1
H290	May be corrosive to metals
H302	Harmful if swallowed
H318	Causes serious eye damage
H319	Causes serious eye irritation

Party Responsible for the Preparation of This Document

Technical Manager of Rentech Nitrogen Pasadena, LLC

Phone Number: 713-920-5475

The information contained in this Material Safety Data Sheet (MSDS) relates only to the specific product(s) designated herein. The information and recommendations are based upon data believed to be current as of the date of this MSDS and was obtained from sources believed to be accurate. However, this information is furnished without warranty, representations, or license of any kind, express or implied, with respect to accuracy, correctness, or completeness and neither Rentech Nitrogen, LLC nor its marketing affiliates assume any legal responsibility for use or reliance upon same.

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