SECTION 1: IDENTIFICATION

Product Identifier: Ammonium Nitrate Solution
Product Names and Synonyms: Ammonium Nitrate Solution, ANS, ANSOL
Intended Use: As an ingredient in commercial explosives.
Intended Users: For use only under strictly controlled conditions and only by qualified personnel who are fully trained in the handling and use of this product.

Name, Address, and Telephone of the Responsible Party:

Austin Powder Company
25800 Science Park Dr.
Cleveland, OH 44122
216-464-2400 during normal business hours
877-836-8286 Toll Free 24/7
www.austinpowder.com

In Case of Emergency Call CHEMTREC – TOLL FREE 24/7
800-424-9300 DOMESTIC
1-703-527-3887 INTERNATIONAL AND MARINE

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

Code	Hazard Class	Hazard Category
H272	Oxidizing Liquid	3
H303	Acute Toxicity, oral	5
H315	Skin Corrosion / Irritation	2
H319	Serious eye damage / eye irritation	2A
H335	Specific target organ toxicity, single exposure; Respiratory tract irritation	3

Label Elements

Warning

Hazard Statements

May intensify fire; oxidizer
May be harmful if swallowed
Causes skin irritation
Causes eye irritation
May cause respiratory irritation

Precautionary Statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not breathe fumes.
Wear eye protection, protective gloves recommended.

IF SWALLOWED: Get immediate medical attention. DO NOT induce vomiting.
IF ON SKIN: Wash contact area with soap and water. If irritation occurs, get medical attention. Take off contaminated clothing and wash before reuse.
IF INHALED: Remove person to fresh air. Keep at rest in a position comfortable for breathing.

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 attention.
If exposed or concerned, or you do not feel well: Get medical attention.
Store locked-up in a ventilated space, in accordance with all applicable regulations.
Dispose of contents/container in accordance with all applicable regulations.

Other Hazards:

In case of fire: Extreme risk of explosion. Evacuate area.

Exposure reaction may be aggravated for those with pre-existing eye, skin, or respiratory conditions. Causes methemoglobinemia. Methemoglobinemia decreases the blood's ability to carry oxygen and results in symptoms such as dizziness, drowsiness, headache, shortness of breath, blue skin and lips, rapid heart rate, unconsciousness, and possibly death.

Unknown Acute Toxicity: Not available

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS No.	% (w/w)
Ammonium nitrate	CAS No. 6484-52-2	75-90

SECTION 4: FIRST AID MEASURES

General: This material may be hot during transportation and storage, up to 115°C (240°F); take the proper precautions. Never give anything by mouth to an unconscious person. If you feel unwell, get medical attention, show the label where possible.

Inhalation: When symptoms occur: move to open air, keep at rest and in a position comfortable for breathing. Get medical attention. Ventilate suspected area.

Skin Contact: Wash contact areas with soap and water. Remove contaminated clothing. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Get medical attention if irritation persists.

Ingestion: Rinse mouth. DO NOT induce vomiting. Get medical attention.

Most Important Symptoms and Effects both Acute and Delayed:

Inhalation: May cause irritation to the respiratory tract, symptoms include: sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Skin Contact: May cause mild skin irritation. Symptoms may include: redness, pain, swelling, itching, burning, dryness and dermatitis. May cause a more severe irritation or allergic reaction in sensitive individuals.

Eye Contact: May cause serious eye irritation. Symptoms may include redness, pain, swelling, itching, burning, tearing and blurred vision.

Ingestion: Ammonium nitrate ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by blue lips, tongue and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death

due to anoxia. If ingested, nitrates may be reduced to nitrites by bacteria in the digestive tract. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly shock.

Chronic Symptoms: May cause irritation to the respiratory tract.

Indication of Any Immediate Medical Attention and Special Treatment Needed:

If exposed, concerned or you don't feel well, get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

DO NOT fight fires involving Ammonium Nitrate. There is an extreme risk that ammonium nitrate involved in a fire may detonate, especially if confined. Evacuate the area in all directions for one (1) mile or more if any amount of ammonium nitrate is involved in a fire. Evacuation is recommended if the initial (incipient) fire, not involving ammonium nitrate, becomes intense. General extinguishers may be used on the initial fire, not involving ammonium nitrate, such as electrical equipment fires, tire fires or a general plant fire. Water may be used to cool ammonium nitrate not involved in the initial fire. Consult the most current Emergency Response Guidebook (ERG), Guide 140 for additional information.

Extinguishing Media

Suitable Extinguishing Media: None.

Unsuitable Extinguishing Media: For fires near ammonium nitrate solution, dry chemical, foams, steam and smothering devices are not effective, can lead to possible explosion and must not be used.

Special Hazards Arising from the Substance or Mixture

Fire Hazard: There is an extreme risk that ammonium nitrate involved in a fire may detonate. In a fire, the water portion of the solution boils off quickly, leaving solid or molten ammonium nitrate.

Advice for Firefighters

Precautionary Measures: It is recommended that the amount and location of ammonium nitrate solution stored near a fire be determined prior to committing firefighters to fight the fire.

Firefighting Instructions: When fighting the initial fire, not involving ammonium nitrate, firefighters should follow standard firefighting procedures for the materials involved.

Hazardous Combustion No unusual combustion products are expected. However, toxic fumes will be present.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Contact the manufacturer or CHEMTREC. No smoking, open flames or flame/spark producing items in the area. This material may be hot during transportation and storage, up to 115ºC (240ºF), take the proper precautions.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Isolate the area from unnecessary personnel.

For Emergency Personnel

Protective Equipment: Provide cleanup crew with proper PPE.

Emergency Procedures: Ventilate area.

Emergency Precautions: Stop the discharge if safe to do so. Ventilate area.

Methods and Material for Containment and Cleaning Up: Contact manufacturer or CHEMTREC.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards when Processed: Any proposed use of this product in elevated temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. A "hot work" program consistent with OSHA requirements at 29 CFR 1910.252 must be used when performing hot work on ammonium nitrate process equipment, storage areas or containers related to the intended use.

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

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: May be corrosive to metals. Smoking, open flames, and unauthorized sparking or flame-producing devices are prohibited.

Storage Conditions: Storage areas should be inspected regularly by an individual trained to identify potential hazards and ensure that all safety and security control measures are being properly implemented. All ammonium nitrate storage sites must comply with ATF, OSHA or NRCAN regulations.

Incompatible Materials: Avoid contamination with combustible or flammable materials, strong acids, strong bases, strong oxidizing agents, reducing agents, chlorinated compounds, copper (any alloys like bronze and brass), metal powders and peroxides.

Special Rules on Packaging: Packaging in accordance with USDOT or NRCAN regulations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits:

Ammonium nitrate, CAS No. 6484-52-2		
USA ACGIH (nuisance dust)	ACGIH TWA (mg/m^3)	10 mg/m^3 – Inhalable particulate
USA OSHA (nuisance dust)	OHSA PEL (TWA) (mg/m^3)	5 mg/m^3 – Respirable (particulate)

Exposure Controls:

Appropriate Engineering Controls: Product should be handled and used under strictly controlled conditions. Emergency eye wash fountains and safety showers should be available in the vicinity of any potential exposure, but are not required.

Personal Protective Equipment:

Hand Protection: Chemical and heat resistant gloves.

Eye Protection: Safety glasses with side shields or safety goggles.

Respiratory Protection: Approved respiratory protection should be worn when recommended by a risk assessment or if irritation is experienced.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Physical and Chemical Properties:

Appearance:	Clear liquid
Odor:	Slight ammonia odor
Odor threshold:	Not available
Vapor density:	Not relevant
pH:	4-6
Freezing point (Crystal point):	75% solution – 40°C (105°F) 90% solution – 95°C (202°F)
Initial boiling point and boiling range:	Not available
Flash point:	Not relevant
Evaporation rate:	Not available
Flammability:	Will not burn
Upper / lower flammability or explosive limits:	Not available
Vapor pressure:	Not available
Bulk Density:	75% solution – 1.35 g/cc (11.3 lb/gal) 90% solution – 1.41 g/cc (11.8 lb/gal)
Solubility (for ammonium nitrate in water):	118 g/100 ml @ 0°C (32°F)
Partition coefficient: n-octol/water:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	210°C (410°F)
Viscosity:	Not relevant
Explosive properties:	Mass detonation hazard when involved in a fire
Explosion Data – Sensitivity to Mechanical Impact:	Not sensitive to mechanical impact
Explosion Data – Sensitivity to Static Discharge:	Not sensitive to static discharge

SECTION 10: STABILITY AND REACTIVITY

Reactivity and Chemical Stability: Stable and non-reactive under normal conditions of transportation, storage, handling and use.

Possibility of Hazardous Reactions: Polymerization will not occur.

Conditions to Avoid: Open flame and elevated temperatures.

Incompatible Materials: Avoid contamination with combustible or flammable materials, strong acids, strong bases, strong oxidizing agents, reducing agents, chlorinated compounds, copper (any alloys like bronze and brass), metal powders and peroxides.

Hazardous Decomposition Products: No unusual fumes or decomposition products expected. However, toxic fumes will be present.

SECTION 11: TOXICOLOGY INFORMATION

Acute Toxicity: See section 2

LD50 and LC50 Data: Not classified

Skin Corrosion/Irritation: May cause skin irritation

Eye Damage/Irritation: May cause serious eye irritation

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Aspiration Hazard: Not classified

Symptoms/Injuries after Inhalation: Harmful if inhaled, causes methemoglobinemia. Symptoms may include headache, dizziness, nausea and a loss of coordination.

Symptoms/Injuries after Skin Contact: May cause mild skin irritation. Symptoms may include: redness, pain, swelling, itching, burning, dryness and dermatitis. May cause a more severe or allergic reaction in sensitive individuals.

Symptoms/Injuries after Eye Contact: May cause serious eye irritation. Symptoms may include redness, pain, swelling, itching, burning, tearing and blurred vision.

Symptoms/Injuries after Ingestion: Burning sensation. Abdominal pain. Abdominal cramps. Vomiting. Ammonium nitrate ingestion may cause methemoglobinemia.

Chronic Symptoms: Although none are expected under normal conditions, inhalation exposure may cause methemoglobinemia and may damage respiratory tract.

LD50 and LC50 Data (ingredients):

Ammonium nitrate, CAS No. 6484-52-2	
LD50 Oral Rat	2,217 mg/kg of body weight
LC50 Inhalation Rat	> 88.8 mg/l/4h

SECTION 12: ECOLOGY INFORMATION

Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Call manufacturer or CHEMTREC.

SECTION 14: TRANSPORTATION INFORMATION

Agency	UN Number	Proper Shipping Name	Hazard Class	Label Codes	PG	Marine Pollutant	Other
US DOT	UN2426	Ammonium nitrate, liquid, *(hot concentrated solution).*	5.1	5.1	--	No	ERG-140
Canadian TDG	UN2426	Ammonium nitrate liquid, *(hot concentrated solution).*	5.1	5.1	--	No	--
IMDG (Vessel)	UN1942	Ammonium nitrate, liquid	5.1	5.1	--	No	EmS-No, Fire: F-H Spillage: S-Q
IATA (Air)	Contact the manufacturer						

SECTION 15: REGULATORY INFORMATION

US Federal Regulations:

Emergency Planning and Community Right-To-Know Act (EPCRA), a/k/a Superfund Amendments and Reauthorization Act (SARA) Title III
Toxic Substances Control Act (TSCA)
TSCA Section 8

Ammonium nitrate, CAS No. 6484-52-2

SARA Section 311/312	Reactive Hazard Fire Hazard Health Hazard
TSCA	Listed on the United States TSCA inventory

Canadian Regulations:

Domestic Substances List (DSL)
Workplace Hazardous Materials Information System (WHMIS)

Ammonium nitrate, CAS No. 6484-52-2

DSL	Listed on the Canadian DSL
WHMIS Classification	Class C – Oxidizing Substance Class D, Division 2, Subdivision B – Toxic material causing other toxic effects.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF LAST REVISION

This SDS was prepared in accordance with US (29 CFR 1900.1200) and Canadian (WHMIS 2015) requirements.

SDS: P-2 Initial Issue Date: 6/1/2015 Last Revision Date: 06/03/2015 Version: 5

Party Responsible for the Preparation of this Document:
Austin Powder Company
Cleveland, OH 44122
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This information is based on Austin Powder Company's current knowledge and is intended to describe the product for the purposes of health and safety requirements only. It should not be construed as guaranteeing any specific property of the product.