

Ammonium Nitrate

SECTION 1. IDENTIFICATION

Product Identifier	Ammonium Nitrate
Other Means of Identification	None
Product Code(s)	AM5410, AM5420
Product Family	Inorganic Solid
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0758

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Oxidizing solid - Category 3; Eye irritation - Category 2A

Label Elements



Signal Word:
Warning

Hazard Statement(s):

May intensify fire; oxidizer.
Causes serious eye irritation.

Precautionary Statement(s):

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep or store away from clothing and other combustible materials.
Take any precaution to avoid mixing with combustibles.
Wash hands and skin thoroughly after handling.
Wear protective gloves/eye protection/face protection.

Response:

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/attention.
In case of fire: Use appropriate foam to extinguish.
If eye irritation persists: Get medical advice or attention.

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Disposal:
Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Ammonium nitrate	6484-52-2	98 - 100	Ammonium(I) nitrate (1:1)
Magnesium nitrate	10377-60-3	<0.1 - 0.7	Magnesium dinitrate dihydrate
Water	7732-18-5	<0.1 - 0.5	Dihydrogen Oxide

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

None known.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use flooding quantities of water spray or fog. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

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Oxidizer. May intensify fire. Heating increases the release of toxic vapour. Heating may cause a fire or explosion. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: corrosive, flammable ammonia; corrosive, oxidizing nitrogen oxides.

Special Protective Equipment and Precautions for Fire-fighters

Oxidizer. Prevent contact with flammable and combustible materials. Use extreme caution. Evacuate area. Fight fire from a protected, explosion-resistant location or maximum distance possible. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Dike spilled product to prevent runoff. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area. Dike and recover contaminated water for appropriate disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Wear personal protective equipment to avoid direct contact with this chemical. Only use where there is adequate ventilation. Avoid generating dusts. Keep away from clothing and other combustible materials. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Protect from sunlight. Store in a closed container. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ammonium nitrate	Not established		Not established			
Magnesium nitrate	Not established		Not established			
Water	Not established		Not established			

Consult local authorities for provincial exposure limits. Consult local authorities for state exposure limits.

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Individual Protection Measures

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Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Basic Physical and Chemical Properties**

Appearance	Colourless white crystals.
Odour	Odourless
Odour Threshold	Not applicable
pH	5.43 (0.8% solution)
Melting Point/Freezing Point	155.0 - 169.4 °C (311.0 - 336.9 °F) (melting); 155.0 - 169.4 °C (311.0 - 336.9 °F) (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	1.725 at 20 °C
Solubility	Very soluble in water; Highly soluble in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	-4.39 (estimated)
Auto-ignition Temperature	Not applicable
Decomposition Temperature	> 200 °C (392 °F)
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY**Reactivity**

May cause or intensify fire.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Reacts in the presence of High heat.

Conditions to Avoid

Incompatible materials. Open flames, sparks, static discharge, heat and other ignition sources. Sunlight. Temperatures above 200.0 °C (392.0 °F)

Incompatible Materials

Metals (e.g. aluminum), reducing agents (e.g. hydroquinone), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide), strong oxidizing agents (e.g. perchloric acid), halogens (e.g. chlorine).

Hazardous Decomposition Products

Corrosive, flammable ammonia; corrosive, oxidizing nitrogen oxides.

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SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ammonium nitrate	> 88.8 mg/L (rat) (4-hour exposure)	2217 mg/kg (rat)	Not available
Magnesium nitrate	Not available	Not available	Not available
Water	Not available	> 89840 mg/kg (rat)	Not available

Skin Corrosion/Irritation

No information was located.

Serious Eye Damage/Irritation

There is limited evidence of serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause nose and throat irritation.

Ingestion

May be harmful.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ammonium nitrate	Not evaluated	Not Listed	Not Listed	
Magnesium nitrate	Not Listed	Not designated	Not Listed	Not Listed
Water	Not Listed	Not Listed	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1942	AMMONIUM NITRATE, with not more than 0.2 percent total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance	5.1 - Oxidizer	II
Canadian TDG	UN1942	AMMONIUM NITRATE with not more than 0.2 percent total combustible material, including any organic substance calculated as carbon, to the exclusion of any other added substance	5.1 Oxidizing Substances	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 0 Flammability - 0 Instability - 3

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

Date of Preparation October 31, 2016

Date of Last Revision October 31, 2016

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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