MATERIAL SAFETY DATA SHEET

AMMONIUM NITRATE

HiDAN

High Density Ammonium Nitrate

Product Specifications provided by
Coastal Chem, Inc.
A Subsidiary of El Paso Corporation

Dyno Nobel Inc.

8305 Otto Road, Cheyenne, Wyoming 82009

HiDAN **Ammonium Nitrate**

Dyno Nobel Inc.
8305 Otto Road
Cheyenne, WY 82009
(307) 637-2700

CAS # 6484-52-2
UN1942
STCC # 4918310
DNNA # 1142H

Ammonium Nitrate: Product Identification

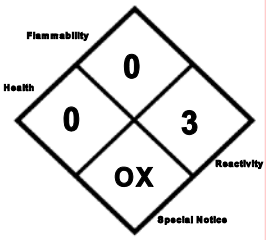
Trade Name: Ammonium Nitrate
Synonyms: **HiDAN**; High Density Ammonium Nitrate; Agricultural Grade Ammonium Nitrate; Prilled Ammonium Nitrate; 35-0-0.
Chemical Family: Inorganic salt
Chemical I.D. No.: UN1942; STCC # 4918310
Chemical Formula: NH_4NO_3
DOT Hazard Class: 5.1
Label Required: Oxidizer

Ammonium Nitrate: Composition

Ingredients	CAS Number	Wt%	OSHA PEL[1]	ACGIH SETL[2]	NIOSH IDLH[3]	ACGIH TLV[4]	Units
Ammonium Nitrate	6484-52-2	> 99.7	N.A.	N.A.	N.A.	15	mg/m^3
Proprietary Inorganic Conditioning Agents	7783-28-0 & 12007-89-5	< 0.2	N.A.	N.A.	N.A.	N.A.	ppm
Proprietary Organic Conditioning Agents	57-11-4 & 67254-74-4	< 0.1	N.A.	N.A.	N.A.	N.A.	ppm

1 = Permissible Exposure Limit (8-Hr. Time Weighted Average)
2 = Short Term Exposure Limit (15 Minute Exposure)
3 = Immediately Dangerous to Life and Health
4 = Threshold Limit Value: 15 mg/m^3 Total Nuisance Dust (8-Hr. Time Weighted Average)
N.A. = Not Available

Ammonium Nitrate: NFPA Code



0 **Health Hazard (Blue):**
No hazard.

0 **Flammability Hazard (Red):**
Will not burn.

3 **Reactivity Hazard (Yellow):**
Can detonate or explode but requires organic contaminant plus strong initiating force or heating under confinement.

OX **Special Notice (White):**
Oxidizer

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Ammonium Nitrate: Physical and Chemical Properties

Melting Point: 330°F
Decomposition Temperature: 350-410°F
Nitrogen content: 35.0% (pure)
Solubility in H_20: 118g / 100g @ 32°F
Weight: 60 lb./cu.ft. @ 68°F
Odor: Slight Ammonia Odor
Appearance: White Sphere (Prill)

N.A. (Not Available)

Ammonium Nitrate: Fire and Explosion Data

Flash Point: N.A.
Flammable Limits in Air %/Vol.: Lower: N.A., Upper: N.A.
Autoignition Temperature: N.A.
Extinguishing Media: Water

Special Fire Fighting Procedure:

Spray large amounts of water. Firefighters should wear self-contained breathing apparatus to protect from poisonous gas, and full bunker gear to protect from molten salt splatter.

Unusual Fire or Explosion Data:

If heated to decomposition will participate in fire as oxidizer. If contacting organic, should be considered explosive.

Ammonium Nitrate: Reactivity Data

Stability: Stable inorganic salt, infinitely soluble in water, can be made explosive with additional chemicals. Decomposes at high temperature.

Hazardous Polymerization: Will not occur

Conditions to avoid / Incompatibility:

Reducing agents, active metals, strong acids, chlorides, phosphorus, sulfur, strong alkalis, and organic solvents.

Hazardous Decomposition Products:

Oxides of Nitrogen (Nitrogen Dioxide, Nitric Oxide).

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Ammonium Nitrate: Health Hazard Data

Carcinogenicity:

NTP: NO
IARC Monographs: NO
OSHA Regulated: NO

Occupational Exposure Limits:

OSHA Permissible Exposure Limit (PEL): None established for Ammonium Nitrate.

ACGIH Short-term Exposure Limit (STEL): None established for Ammonium Nitrate.

NIOSH Immediately Dangerous to Life and Health (IDLH): None established for Ammonium Nitrate.

ACGIH Threshold Limit Value (TLV): 15 mg/m^3 Total Nuisance Dust (8 Hr. Time Weighted Average).

Acute Effects of Overexposure:

Eyes: Dust may cause redness, pain and irritation to eye.

Skin: Dust may irritate skin resulting in reddening of the skin and possible dermatitis.

Inhalation: Dust is Irritating to mucous membranes, respiratory tract, causing sore throat, coughing, difficult breathing and severe lung congestion. Delayed reactions may result in pulmonary edema and chemical pneumonitis.

Ingestion: May cause gastric irritation, nausea, abdominal spasms and faintness. Large doses may cause systemic acidosis and methemoglobinemia.

Chronic Effects of Overexposure:

No chronic health effects have been found for Ammonium Nitrate.

Additional Medical and Toxicological Information:

May aggravate preexisting dermatitis and lung conditions.

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Ammonium Nitrate: Emergency First Aid Procedures

Eye contact: Immediately flush with large amounts of water, including under the eyelids. If pain persists seek medical attention, preferably an Ophthalmologist. Speed and thoroughness in rinsing eyes are important to avoid permanent injury.

Skin Contact: Immediately remove contaminated clothing and shoes. Wash affected areas with soap and flush with large amounts of water. Seek medical attention if irritation develops..

Inhalation: Remove to fresh air. If breathing has stopped, apply artificial respiration. Keep warm and at rest. Get medical attention immediately.

Ingestion: Do not induce vomiting. If vomiting occurs, keep head below hips to help prevent aspiration. Get medical attention immediately. Treat for methemoglobinemia.

Ammonium Nitrate: Special Protection Information

Eye Protection: Ammonium Nitrate is a water soluble salt and will dissolve with mucosal membrane contact (eyes). Remove contact lenses and wear safety glasses, chemical goggles or face shield where contact with dust or micro particles may occur.

Skin Protection: Ammonium Nitrate is a water soluble salt and will dissolve with perspiration contact. Wearing of appropriate protective clothing and gloves is suggested if epidermal sensitivity develops.

Inhalation: Ammonium Nitrate is a water soluble salt and will dissolve with mucosal membrane contact (lungs). Use approved respiratory protective equipment for cleaning large spills or upon entry into large tanks, vessels, and other designated confined space areas or in any situations where airborne concentrations may exceed occupational exposure limits (15 mg/m^3).

Ventilation: Provide adequate general and local exhaust ventilation to attain occupational exposure limits, particularly in a confined space area.

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Ammonium Nitrate: Spill or Leak

Spill Procedures: Shovel spilled material into containers for disposal. Do not flush to surface water. Spilled chemical can be used as fertilizer (35-0-0).

Consult DOT "Emergency Response Guidebook" - Guide 140

Ammonium Nitrate: Waste Disposal

Procedure: Dispose through a licensed waste disposal company. Follow federal, state and local regulations.

Ammonium Nitrate: Special Precautions and Comment

Storage Precautions: Store away from incompatible materials or sources of heat and ignition. Empty containers may contain Ammonium Nitrate residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flames, sparks or other sources of ignition; they may evolve poisonous gas and cause injury or death.

Consult the Fertilizer Institute publication:

Fertilizer Grade Ammonium Nitrate: Properties and Recommended Methods for Packaging, Handling, Transportation, Storage and Use.

Ammonium Nitrate: EPA SARA Title III Information

EPCRA Section 311/312 Hazard Categorization:

Acute	Chronic	Fire	Pressure	Reactive

EPCRA & CAA Hazardous Substances:

Ingredient	CAS No.	% / wt.	CAA 112(r)	302 TPQ lb.	304 RQ lb.	313 TRI
none listed						

Key: **CAA 112(r) = Toxic Substance with potential for airborne release**
Sec. 302 TPQ = Extremely Hazardous Substances (EHS) Threshold Planning Quantity
Sec. 304 RQ = EHS and CERCLA Reportable Quantity if spilled

Sec. 313 TRI =Toxic Chemicals to be reported on Toxic Release Inventory if spilled

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Ammonium Nitrate: Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of this company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

DYNO NOBEL INC. **Chief Chemist &** **Laboratory Manager**	**DATE REVIEWED:**
Charles R. Barnhart, M.S.	October 1, 2002