

AMMONIUM NITRATE

AMN

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Nitram		Solid pellets or flakes White to light gray or brown	Odorless
Sinks and mixes with water.			
<p>Call Fire department. Keep people away. Evacuate area in case of large discharge. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>May cause fire and explode on contact with combustibles. CONTAINERS MAY EXPLODE IN FIRE. POISONOUS GASES MAY BE PRODUCED WHEN HEATED. Wear self-contained breathing apparatus. Evacuate surrounding area. Combat fires from protected location with unmanned hose holder or monitor nozzle. Flood discharge area with water. Cool exposed containers with water. Continue cooling after fire has been extinguished.</p>		
Exposure	<p>CALL FOR MEDICAL AID. DUST Irritating to eyes, nose, and throat. If inhaled, may cause coughing or difficult breathing. Move to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p>		
Water Pollution	<p>Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>		

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge
Do not burn

2. CHEMICAL DESIGNATIONS

- 2.1 **CG Compatibility Group:** Currently not available; Ammonia
2.2 **Formula:** NH₄NO₃
2.3 **IMO/UN Designation:** 5.1/2067
2.4 **DOT ID No.:** 1942
2.5 **CAS Registry No.:** 6484-52-2
2.6 **NAERG Guide No.:** 140
2.7 **Standard Industrial Trade Classification:** 51481

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Wear self-contained breathing apparatus
3.2 **Symptoms Following Exposure:** Irritation of eyes and mucous membranes. Absorption via ingestion or inhalation causes urination and acid urine. Large amount causes systemic acidosis and methemoglobinemia (abnormal hemoglobin).
3.3 **Treatment of Exposure:** Remove from exposure-symptoms reversible.
3.4 **TLV-TWA:** Not listed.
3.5 **TLV-STEL:** Not listed.
3.6 **TLV-Ceiling:** Not listed.
3.7 **Toxicity by Ingestion:** Currently not available
3.8 **Toxicity by Inhalation:** Currently not available
3.9 **Chronic Toxicity:** Currently not available
3.10 **Vapor (Gas) Irritant Characteristics:** Not pertinent
3.11 **Liquid or Solid Characteristics:** None
3.12 **Odor Threshold:** Not pertinent
3.13 **IDLH Value:** Not listed.
3.14 **OSHA PEL-TWA:** Not listed.
3.15 **OSHA PEL-STEL:** Not listed.
3.16 **OSHA PEL-Ceiling:** Not listed.
3.17 **EPA AEGL:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:** Not flammable
4.2 **Flammable Limits in Air:** Not flammable
4.3 **Fire Extinguishing Agents:** Use flooding amounts of water in early stages of fire. When large quantities are involved in massive fires, control efforts should be confined to protecting from explosion.
4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
4.5 **Special Hazards of Combustion Products:** Decomposes, giving off extremely toxic oxides of nitrogen.
4.6 **Behavior in Fire:** May explode in fires. Supports combustion of common organic fuels.
4.7 **Auto Ignition Temperature:** Not flammable
4.8 **Electrical Hazards:** Not pertinent
4.9 **Burning Rate:** Not flammable
4.10 **Adiabatic Flame Temperature:** Not pertinent
4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent
4.12 **Flame Temperature:** Not pertinent
4.13 **Combustion Molar Ratio (Reactant to Product):** Currently not available
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
5.2 **Reactivity with Common Materials:** No reaction
5.3 **Stability During Transport:** If heated strongly, decomposes, giving off toxic gases and gases which support combustion. Undergoes detonation if heated under confinement.
5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
5.5 **Polymerization:** Not pertinent
5.6 **Inhibitor of Polymerization:** Not pertinent

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** Currently not available
6.2 **Waterfowl Toxicity:** Currently not available
6.3 **Biological Oxygen Demand (BOD):** Currently not available
6.4 **Food Chain Concentration Potential:** None
6.5 **GESAMP Hazard Profile:**
Bioaccumulation: 0
Damage to living resources: 1
Human Oral hazard: 1
Human Contact hazard: 0
Reduction of amenities: 0

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Pure grade; fertilizer grade (33.5% nitrogen)
7.2 **Storage Temperature:** Currently not available
7.3 **Inert Atmosphere:** Currently not available
7.4 **Venting:** Currently not available
7.5 **IMO Pollution Category:** D
7.6 **Ship Type:** 2
7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Oxidizer
8.2 **49 CFR Class:** 5.1
8.3 **49 CFR Package Group:** III
8.4 **Marine Pollutant:** No
8.5 **NFPA Hazard Classification:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 0 |
| Flammability (Red)..... | 0 |
| Instability (Yellow)..... | 3 |
| Special (White)..... | OX |
- 8.6 **EPA Reportable Quantity:** Not listed
8.7 **EPA Pollution Category:** Not listed
8.8 **RCRA Waste Number:** Not listed
8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
9.2 **Molecular Weight:** 80.05
9.3 **Boiling Point at 1 atm:** Not pertinent; 230-278°F
9.4 **Freezing Point:** 337.8°F = 169.9°C = 443.1°K
9.5 **Critical Temperature:** Not pertinent
9.6 **Critical Pressure:** Not pertinent
9.7 **Specific Gravity:** 1.72 at 20°C (solid)
9.8 **Liquid Surface Tension:** Not pertinent
9.9 **Liquid Water Interfacial Tension:** Not pertinent
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
9.12 **Latent Heat of Vaporization:** Not pertinent
9.13 **Heat of Combustion:** Not pertinent
9.14 **Heat of Decomposition:** Not pertinent
9.15 **Heat of Solution:** Not pertinent
9.16 **Heat of Polymerization:** Not pertinent
9.17 **Heat of Fusion:** Currently not available
9.18 **Limiting Value:** Currently not available
9.19 **Reid Vapor Pressure:** Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	122.200		N O T		N O T		N O T
36	126.500		P E R T I N E N T		P E R T I N E N T		P E R T I N E N T
38	130.799						
40	135.000						
42	139.299						
44	143.599						
46	147.799						
48	152.099						
50	156.400						
52	160.599						
54	164.900						
56	169.199						
58	173.400						
60	177.699						
62	182.000						
64	186.199						
66	190.500						
68	194.799						
70	199.000						
72	203.299						
74	207.599						
76	211.799						
78	216.099						
80	220.400						
82	224.599						
84	228.900						