Material Safety Data Sheet

Ammonium nitrate
MSDS# 01290

Section 1 - Chemical Product and Company Identification

MSDS Name: Ammonium nitrate
Catalog Numbers:
20586-0000, 20586-0010, 20586-1000, 20586-5000, 42335-0000, 42335-0010,
A/5920/60, A/5920/62, A/5920/71
Synonyms:
Nitric acid, ammonium salt; Norway saltpeter.
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call:(01509) 231166
Emergency Number, Europe:01509 231166

Section 2 - Composition, Information on Ingredients

CAS#: 6484-52-2
Chemical Name: Ammonium nitrate
%: > 98
EINECS#: 229-347-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritating to eyes, respiratory system and skin. Contact with combustible material may cause fire. Explosive when mixed with combustible material. Hygroscopic (absorbs moisture from the air).

Potential Health Effects
Eye:
Causes eye irritation.

Skin:
Causes skin irritation.

Ingestion:
Ingestion of large amounts may cause gastrointestinal irritation. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood.

Inhalation:
Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood. Inhalation can cause systemic acidosis and methemoglobinemia.

Chronic:
May cause methemoglobinemia, which is characterized by
chocolate-brown colored blood, headache, weakness, dizziness, breath
shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. May cause digestive tract disturbances.

Section 4 - First Aid Measures

Eyes:
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:
Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:
Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. May explode under confinement and high temperatures, especially if contaminated.

Extinguishing Media:
Use water spray to cool fire-exposed containers. Use flooding quantities of water as spray.

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.,) away from spilled material.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep away from heat, sparks and flame. Keep from contact with clothing and other combustible materials. Do not pressurize,
cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing dust. Inform laundry personnel of contaminant's hazards. Avoid localized heating of ammonium nitrate, potentially leading to development of high temperature areas. Ensure that ammonium nitrate is not exposed to strong shock waves from explosives. Avoid low pH (acidic) conditions.

Storage:
Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acids. Keep away from reducing agents. Avoid storage on wood floors.

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits
CAS# 6484-52-2:

Personal Protective Equipment
Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: white to gray to brown
Color: odorless
Odor: 5.4 (0.1 M solution)
Vapor Pressure: Negligible.
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: 169 deg C (336.20 F)
Autoignition Temperature: Not applicable
Flash Point: Not available
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Soluble
Solubility in water:
Specific Gravity/Density: 1.725 @ 25 C
Molecular Formula: NH4NO3
Molecular Weight: 80.04

Section 10 - Stability and Reactivity
Chemical Stability:
Stable at room temperature in closed containers under normal storage and handling conditions. Risk of explosion if heated under confinement. Deliquescent (tending to absorb atmospheric water vapor and become liquid).

Conditions to Avoid:
- Dust generation, contamination, heating in a confined space.

Incompatibilities with Other Materials
- Strong reducing agents, strong acids, finely powdered metals, organic matter, chlorides, combustible materials.

Hazardous Decomposition Products
- Oxides of nitrogen.

Hazardous Polymerization
- Has not been reported.

Section 11 - Toxicological Information

RTECS#:  
CAS# 6484-52-2: BR9050000
LD50/LC50:  
RTECS: CAS# 6484-52-2: Oral, rat: LD50 = 2217 mg/kg;.
Carcinogenicity:  
- Ammonium nitrate -
  Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:  
- See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

IATA
- Shipping Name: AMMONIUM NITRATE
- Hazard Class: 5.1
- UN Number: 1942
- Packing Group: III

IMO
- Shipping Name: AMMONIUM NITRATE
- Hazard Class: 5.1
- UN Number: 1942
- Packing Group: III

RID/ADR
- Shipping Name: AMMONIUM NITRATE
- Hazard Class: 5.1
- UN Number: 1942
- Packing Group: III

Section 15 - Regulatory Information

European/International Regulations
- European Labeling in Accordance with EC Directives

Hazard Symbols: XI 0
Risk Phrases:  
- R 36/37/38 Irritating to eyes, respiratory system and skin.
- R 8 Contact with combustible material may cause fire.
- R 9 Explosive when mixed with combustible material.
Safety Phrases:
S 17 Keep away from combustible material.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)
CAS# 6484-52-2: 1

Canada
CAS# 6484-52-2 is listed on Canada's DSL List
US Federal
TSCA
CAS# 6484-52-2 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date:
12/12/1997
Revision #6 Date
5/16/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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