

MATERIAL SAFETY DATA

Ammonium Chloride

1. Product and Company Identification

<u>Supplier</u> Evans Enterprises, LLC 20125 W. 105th St Olathe, Kansas 66061 Telephone Number: (913) 764-7766	<u>Manufacturer</u> Evans Enterprises, LLC 20125 W. 105th St Olathe, Kansas 66061 Telephone Number: (913) 764-7766
<u>Supplier Emergency Contacts & Phone Number</u> INFOTRAC: (800) 535-5053 Evans Enterprises, LLC: (913) 764-7766	<u>Manufacturer Emergency Contacts & Phone Number</u> INFOTRAC: (800) 535-5053 Evans Enterprises, LLC: (913) 764-7766

Issue Date: 3/15/2013

MSDS Number: 108

Product Name: Ammonium Chloride

Chemical Family: Inorganic Salts

Chemical Formula: NH₄Cl

2. Composition/ Information on Ingredients

Component Name	Percent by Weight of Total Volume	CAS Number
Ammonium Chloride	97— 99	12125-02-9
Water	1— 3	7732-18-5

3. Hazards Identification

Eye Hazards

Acute exposure may cause severe redness and irritation. Chronic exposure may cause conjunctivitis.

Skin Hazards

Acute exposure may cause redness and irritation. Chronic exposure may cause irritation.

Ingestion Hazards

Acute exposure may produce nausea, vomiting, and gastric irritation. Large doses (more than six grams) may also cause systemic ammonia toxicity. Symptoms may include heavy breathing, blue skin, dullness, restlessness, convulsions and coma.

Inhalation Hazards

Inhalation of some ammonium salts may cause irritation of the mouth, nose, and throat. Severe exposure may cause wheezing, chest pain, and delayed pulmonary edema. Chronic, repeated exposure may cause irritation.

Product Overview

White crystalline powder with a slight ammonia odor.

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4. First Aid Measures

Eye

Wash eyes immediately with large amounts of water occasionally lifting upper and lower eyelids until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

Skin

Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water (approximately 15-20 minutes) until no evidence of chemical remains. Get medical attention.

Ingestion

If victim is conscious, immediately give 2-4 glasses of water and induce vomiting by touching finger to back of throat. Contact local Poison Control Center or seek medical attention immediately.

Inhalation

Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point: none °F

Fire and Explosion Hazards

Negligible fire or explosion hazard

Extinguishing Media

Dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray or fog, or alcohol foam.

Fire Fighting Instructions

Move containers from fire area if possible. Do not scatter spilled material with more water than needed for fire control. Dike fire control water for later disposal.

Positive pressure self-contained breathing apparatus (SCBA) should be used when there is a potential for inhalation of vapors and /or fumes.

Extinguish with agents indicated. Avoid breathing hazardous vapors. Keep upwind.

If solids are overheated, (above 500-550 deg F) HCl and NH₃ may be evolved.

6. Accidental Release Measures

For soil spills: Sweep or shovel material into containment and reuse in process if possible. Wash contaminated area with water, if approved by local, state, and federal environmental agencies.

For water spills: Add suitable agent to neutralize spilled material to pH 7.

Use activated carbon to absorb spilled substance that is dissolved. Use mechanical dredges or lifts to extract immobilized masses of pollution and precipitates. Under Federal RCRA, it is the responsibility of the user of the Product to determine, at the time of disposal, whether the product falls under the RCRA as a hazardous waste.

Stop leak if possible without a risk. For small spills, take up with sand, sawdust, or other absorbent material and place into containers for later disposal.

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7. Handling and Storage

Handling and Storage Precautions

Handling:

Ensure good ventilation/exhaustion at the workplace .

Requirements to be met by storerooms and receptacles

Store in a cool dry condition in well sealed receptacles

8 Exposure Controls/Personal Protection

Engineering Controls

Provide local exhaust ventilation system to meet exposure limits.

Eye/Face Protection

Employee must wear splash-proof or dust resistant safety goggles and a face shield to prevent contact with this substance.

Where there is any possibility that an employee's eye may be exposed to this substance, the employer shall provide an eye-wash fountain within the immediate work area for emergency use.

Skin Protection

Employee must wear appropriate protective (impervious) clothing, gloves, and equipment to prevent repeated or prolonged skin contact with this substance.

Respiratory Protection

10,000 mg/m³ fumes: Supplied-air respirator to meet published exposure limits.

Dust or Mist: Dust/mist respirator

Firefighting: Self-contained breathing apparatus with a full face piece. Operated in positive pressure mode.

Ingredient(s) - Exposure Limits

Ammonium Chloride

ACGIH: 10mg/m³ (8-hr TWA)
20 mg/m³ (15-min STEL)
OSHA 10 mg/m³ (8-hr PEL)
20mg/m³ (15-min) STEL)

9 Physical and Chemical Properties

Appearance

Crystalline solid

Color

White

Odor

Odorless.

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9. Physical and Chemical Properties (continued from page 3)

Boiling Point: 644 °F, 340 °C
Melting Point: 644 °F, 340 °C
Specific Gravity: ... 1.57 @ 68° F
Molecular Wt: 53.50
Vapor Pressure: N/A
Vapor Density:.....N/A
pH:4.5-6.0
Solubility:.....26% @ 15 °C

10. Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Should not occur

Conditions to Avoid (Stability)

Ammonium Perchlorate in combination with Potassium Chlorate.
Avoid heating above the melting point where sublimation occurs.

Incompatible Materials

Acids (ammonia is released), alkalis (hydrogen chloride is released), and their associated carbonates. Ammonium Chloride reacts with lead and silver salts to form a fulminating compound. Ammonium Chloride reacts with ammonium compounds, bromine pentafluoride, bromine trifluoride, hydrogen cyanide, iodine heptafluoride, nitrates (potentially explosive combinations may be formed), and potassium chlorate.

Hazardous Decomposition Products

Ammonia and hydrogen chloride gases. Violent decomposition of ammonium nitrate in presence of Ammonium Chloride.

11. Toxicological Information

Miscellaneous Toxicological Information

500 mg/24 hours eye rabbit-severe irritation; 1650 mg/kg oral rat LD50; 100 mg/kg oral rabbit LD50; 30 mg/kg intramuscular rat LD50; 485 mg/kg intraperitoneal mouse LD50; 500 mg/kg subcutaneous mouse LDlo; 78 mg/kg intravenous rabbit LDlo.

Carcinogen status: none

Conditions Aggravated by Exposure

Workers with pre-existing kidney or liver functions should be considered particularly susceptible for ingestion poisoning.

12. Ecological Information

Notify local health and wildlife officials and operators of any nearby water intakes of contamination or discharge into leading waterways.

Per 49 CFR Sec. 172.101 Ammonium Chloride is not listed as a marine pollutant in Appendix B.

Per EPA 712-C-96-164, EPA 712-C-96-114, ASTM E729-96 and ASTM E1218-97a, Ammonium Chloride does not fall within ACUTE 1, CHRONIC 1 or CHRONIC 2 IMDG categories.

13. Disposal Considerations

Wherever possible recycle or reclaim as much as possible. Final disposal must be in accordance with local, state, and federal environmental regulations.

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14. Transportation Information

DOT regulations: When in quantities of 5,000 lbs. or more per package, ammonium chloride is regulated under DOT's Hazardous Materials Regulations as a 'Hazardous Substance'. Under this scenario, ammonium chloride must be transported using the proper shipping description: UN3077. Environmentally hazardous, solid, n.o.s. 9 (contains ammonium chloride) PG III. Additionally, for Class 9, a Class 9 Placard and Haz Mat certified driver are not required for domestic transportation, including that portion of international transportation which occurs within the United States. However, bulk packaging of 5,000 lbs. or more MUST be marked with the appropriate identification number on a Class 9 Placard, an orange panel or a white square-on-point display configuration.

Proper Shipping Name: Ammonium Chloride

DOT Shipping Label: Not required (in packages less than 5,000 lbs.)

Hazard Class: Non Hazardous (in packages less than 5,000 lbs.)

DOT Identification Number: CAS 12125-02-9

IATA: N/A

IMO: N/A

15. Regulatory Information

U.S. Regulatory Information

TSCA: CAS# 12125-02-9 is listed on the TSCA inventory.

CAA: This material does not contain any hazardous air pollutants nor does it contain any Class 1 or Class 2 Ozone depleters.

CWA: This substance is listed as a Hazardous Substance under the Clean Water Act but is not considered a priority pollutant nor a toxic pollutant.

OSHA: This material is not considered highly hazardous by OSHA.

SARA Hazard Classes

Acute Health Hazard
Chronic Health Hazard

State Regulations

Ammonium Chloride can also be found on the state right-to-know lists of Florida and Minnesota.

Ingredient(s)- State Regulations

AMMONIUM CHLORIDE
New Jersey-Workplace Hazard
Pennsylvania- Workplace Hazard
California- Proposition 65
Massachusetts- Hazardous Substance

Canadian Regulatory Information

Ammonium Chloride is listed on Canada's DSL/NDSL list and has a WHMIS classification of D2B.

Ingredient(s)-Canadian Regulatory Information

AMMONIUM CHLORIDE
WHMIS- Ingredient disclosure list.

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15. Regulatory Information (continued from page 5)

European Union (EU) Regulatory Information

Hazard Symptoms: XN

Risk Phrases: R 22 Harmful if swallowed

R 36 Irritating to eyes

Safety Phrases: S 22 Do not inhale dust.

NFPA, NPCA-HMIS

NPCA-HMIS Rating

Health : 2

Flammability : 0

Reactivity : 0

Personal Protection : J

16. Other Information

Reference Documentation

Information based on "Hazardous Chemicals Desk Reference" by Sax and Lewis, RTECS of NIOSH, Fisher Scientific, and Heritage Research Group.

Disclaimer

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Evans Enterprises, LLC

(11/19/2013)