



MSDS - Ammonium Chloride AF

Issued January 2, 2009

Section 1. Product Information

Trade Name: Ammonium Chloride

Distributed by Pestell Minerals & Ingredients, New Hamburg, ON Canada

24 Hour Emergency Telephone (Canutec): 613-996-6666

Section 2. Composition

Chemical Characterization

Components

CAS No	Description	% Min	% Max
12125-02-9	Untreated Ammonium Chloride	99.50	100.00
12125-02-9	Treated Ammonium Chloride (with anti-caking agent a or b)	99.0	99.90
2190-04-7	a - organic surfactants	0.02	0.03
7758-87-4	b - tricalcium phosphate	0.50	1.00

Section 3. Hazards Identification

Hazard Description:

Information pertaining to particular dangers for man and environment:

Harmful by inhalation, taken internally and in contact with skin. Irritating to eyes and skin.

Classification System:

NFPA Ratings (scale 0 - 4)

Health = 1

Fire = 0

Reactivity = 0

Section 4. First Aid Measures

General Information

Ammonium Chloride can cause discomfort on contact with any part of the body or if taken internally. Vaporized gases from Ammonium Chloride are considered toxic, as well as penetrating and pungent. When high concentrations do occur, those exposed should immediately leave the contaminated area.

Inhalation

Inhalation of excessive concentrations of vapor, fumes and/or dust produces irritation of the upper respiratory tract, resulting in coughing, excessive spitting and choking sensation. Reactions in humans have usually been limited to mild irritation or inflammation of the nose and throat.

After Skin Contact: Immediately remove contaminated clothing. Flush all affected areas with large amounts of water for at least 15 minutes. Obtain medical advice immediately.

After Eye Contact: Immediately flush eyes with large quantities of running water for at least 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface area of the eyes and lids with water. Obtain medical attention as soon as possible. Oils or ointments should not be used. Continue the flushing for an additional 15 minutes if a physician is not immediately available.

After Swallowing: DO NOT INDUCE VOMITING. Administer large volumes of warm water and call physician. If patient is unconscious, DO NOT give any medication or fluid orally.

After Inhalation: Remove from contaminated atmosphere. If breathing has ceased, clear the victims airways and start mouth to mouth artificial respiration, which may be supplemented by the use of a bag mask respirator or a manually triggered oxygen supply capable of delivering 1 liter/second or more. If the victim is breathing, oxygen may be administered from a demand type or continuous flow inhalator, preferably with a physicians advice. Contact a physician immediately.

Section 5. Fire Fighting Measures

Suitable Extinguishing Agents

Water, water fog, carbon dioxide (CO₂), dry chemical

Protective Equipment

Scott Air Pak or equivalent respiratory device

Special Fire Fighting Procedures, Unusual Fire or Explosion Hazards:

Ammonium Chloride is not in itself flammable or explosive, however, it vaporizes at a relatively low temperature of 339°C or 642°F. This temperature is easily achieved in a fire and as a result evolves fumes of nitrogen oxides, hydrogen chloride ions and ammonia gas; all of which are considered toxic. Firefighters exposed to these fumes should wear Scott Air Pak or equivalent.

Section 6. Accidental Release Measures

Safety Precautions

Wear protective equipment. Keep unprotected persons away. All personnel involved in a spill clean up should follow the recommendations and practices set forth below.

Measures for Environmental Protection

Spills or discharges into the environment involving large quantities of Ammonium Chloride should be controlled and cleaned up according to a pre-determined affirmative, written Spill Prevention and Control Program.

Measures for Cleaning/Collecting

Sweep up and recycle into process if contamination does not present a problem. Use appropriate protective equipment if dust is generated or contact with eyes or skin is expected. Flush residues and liquid to holding area for neutralization before discharge.

Measures for Disposal

Under Federal RCRA, it is the responsibility of the user of Product to determine, at the time of disposal, whether the Product falls under the RCRA as a hazardous waste. This is because Product uses, transformations, synthesis, mixtures, etc. may render the resulting end product hazardous.

Section 7. Handling and Storage

Handling

Ensure good ventilation/exhaustion at the workplace.

Storage

Store in cool, dry conditions in well sealed receptacles

Section 8. Exposure Controls/Personal Protection

Personal Protective Equipment

General protective and hygienic measures:

Keep away from foodstuffs, beverages, and feed. Immediately remove all soiled clothing.

Wash hands before breaks and at the end of work. Avoid contact with eyes and skin.

Clothing, gloves, footwear and safety glasses must be worn at all times by personnel exposed to or handling Ammonium Chloride.

Section 9. Physical and Chemical Properties

Formula: NH_4Cl

Form: Crystalline Solid

Color: White

Odor: Odorless

Change in condition	Value/Range	Unit	Method
Melting point/Sublimation	339°C or 642°F		
Decomposition	529°C or 968°F		
Flash Point	None		
Ignition Temperature:	Will not ignite		
Auto Ignition:	Will not ignite		
Danger of Explosion	Not explosive		
Explosion Limits			
Lower	N/A		
Upper	N/A		
Vapor Pressure	N/A		
Density	900 g/L		
Solubility in/Miscibility with Water	20°C (37g/100g H ₂ O)		
Solvent Content: Organic Solvents	N/A		
Specific Gravity	1.567 @ 20°C		
pH of 5% solution @ 20°C	4.3 - 5.5		

Section 10. Stability and Reactivity

Product is stable

Thermal Decomposition: Heated to decomposition it will emit fumes of HCl and ammonia gas

Dangerous Reactions

Explosive reaction with potassium chlorate or bromine trifluoride

Violent reaction with bromine pentafluoride. Reaction with hydrogen

Cyanide may create explosive nitrogen trichloride

Dangerous Products of Decomposition: HCl and Ammonia

Section 11. Toxicological Information

<i>Mutagenic Effects</i>	N/A
<i>Cytogenic Analysis</i>	hamster: fibroblast; 400mg/L; FCT0D7 22,623,84 (Food Chemical Toxical)
<i>OSHA Standard Air</i>	None
<i>ACGIH Limit Values</i>	TWA 10 mg/m ³ . STEL 20mg/m (Fume Only)
<i>TOSCA</i>	Reported in TOSCA Inventory 1986
Primary Irritant Effect	
<i>Skin Contact</i>	Irritant to Skin
<i>Eye Contact</i>	Severe eye irritant (500mg/24hrs. rabbit)
<i>Skin Absorption</i>	No data available
<i>Inhalation</i>	Irritant to mucous membranes
<i>Ingestion</i>	Moderate Toxicity: (LD 50:1650 mg/kg rat) (LD 50:1000 mg/kg rabbit)
<i>Overexposure Acute Effects</i>	May cause severe eye irritation. Dusts and mists can irritate skin mucous membranes and upper respiratory tract
<i>Overexposure Chronic Effects</i>	May cause inflammation of mucous membranes in respiratory tract and on skin
<i>Sensitization</i>	Moderate to skin

Section 12. Ecological Information

Environmental Fate: Biodegradability does not apply to inorganic compounds. No other data available.

Environmental Effects:

24 Hour LC 50 (Daphnia) 5.1 mg/L NH₃

24 Hour LC 50 (Trout) 0.70 mg/L NH₃

24 Hour LC 50 (Goldfish) 7.2 mg/L NH₃

24 Hour LC 50 (Bluegill) 1.4 mg/L NH₃

Section 13. Disposal Considerations

Recommendations: Under Federal RCRA, it is the responsibility of the user of Product to determine at the time of disposal, whether the product falls under the RCRA as a hazardous waste. This is because Product uses, transformations, synthesis, mixtures, etc. may render the resulting end product hazardous.

Section 14. Transport Information

DOT Regulations

CAS Number: 2125-02-9

DOT Shipping Name: Ammonium Chloride

IATA: No restrictions

IMO: No restrictions

DOT Class: Non hazardous (in packages less than 5000lbs)

DOT Labels: None required

DOT Markings: None required

DOT Placard: None required

UN Number: None

Section 15. State/Federal Regulations

EPA Requirements

CERCLA (40CFR3Z)

Reportable quantity: 5000lbs

RCRA Waste Number: None

SARA Title III (313): Not listed

SARA Title III (311- 312 CFR 370): Acute

Clean Air Act: Not listed

U.S. TOSCA status: Listed 1986

Canada Domestic Substance List: Ammonium Chloride #00040006

New Jersey Right to Know: #0093

Disclaimer

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