

MATERIAL SAFETY DATA SHEET



TITAN BIOTECH LIMITED

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AMMONIUM CHLORIDE, Extra Pure

Section 1: Chemical Product Identification

Product Name: AMMONIUM CHLORIDE, Extra Pure.

Product Code: 241.

CAS#: 12125-02-9.

Synonym: Ammonium muriate; Amchlor; Ammoneric.

Chemical Name: Ammonium Chloride.

Chemical Formula: NH_4Cl .

Formula Weight: 53.49.

Section 2: Composition and Information on Ingredients

Composition:

Name: Ammonium Chloride.

Toxicological Data on Ingredients:

Classification according to Regulation (EC) No 1272/2008.

Acute toxicity, Oral (Category 4), H302

Eye irritation (Category 2), H319

Section 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. Repeated exposure to this product may result in damage to the vascular system

Section 4: First Aid Measures

Eye Contact: Flush eyes with water as a precaution.

Skin Contact: Wash off with soap and plenty of water.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Serious Inhalation: Not Available.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not Available.

MATERIAL SAFETY DATA SHEET

Flash Points: Not Available.

Flammable Limits: Not Available.

Products of Combustion: nitrogen oxides (NO_x), Hydrogen chloride gas.

Fire Hazards in Presence of Various Substances: No specific information is available regarding the flammability of this compound in the presence of various materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Remarks on Fire Hazards: Not Available.

Special Remarks on Explosion Hazards: Not Available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust.

Storage: Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminant below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not Available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid, powder.

Odor: Not Available.

Taste: Not Available.

Molecular Weight: 53.49.

Color: White.

pH: Not available.

Boiling Point: Not Available.

Melting Point: Not Available.

Critical Temperature: Not Available.

Specific Gravity: Not Available.

Vapor Pressure: Not available.

MATERIAL SAFETY DATA SHEET

Vapor Density: Not Available.
Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: Not available.
Ionicity (in Water): Not available.
Dispersion Properties: Not available
Solubility: Soluble in water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Avoid excessive heat and light.
Incompatibility with various substances: Strong oxidizing agents.
Corrosivity: Non-corrosive in presence of glass.
Special Remarks on Reactivity: Not Available.
Special Remarks on Corrosivity: Not Available.
Polymerization: Not Available.

Section 11: Toxicological Information

Routes of Entry: Ingestion, Inhalation.
Toxicity to Animals:
LD₅₀: Oral - Rat - 1650 mg/kg.
Chronic Effects on Humans: Not Available.
Other Toxic Effects on Humans: Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), of inhalation.
Special Remarks on Toxicity to Animals: Not available.
Special Remarks on Chronic Effects on Humans: Not Available.
Special Remarks on other Toxic Effects on Humans: Not Available.

Section 12: Ecological Information

Ecotoxicity: Not available.
BOD and COD: Not available.
Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation: Not Available.
Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).
Identification: Not applicable.
Special Provisions for Transport: Not applicable.

MATERIAL SAFETY DATA SHEET

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Ammonium Chloride.

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): Not Applicable.

This product is not classified according to the EU regulations. Not applicable.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves, Lab coat, Safety glasses, Dust respirator - be sure to use an approved/certified respirator or equivalent.

Section 16: Other Information

References: Full text of H AND R-Statements.

H302 - Acute toxicity, Oral (Category 4),

H319 - Eye irritation (Category 2).

Other Special Considerations: Not available.

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