OXFORD LAB FINE CHEM LLP

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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

AMMONIUM CHLORIDE AR

MSDS CAS: 12125-02-9

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: AMMONIUM CHLORIDE AR
CAS#: 12125-02-9
C.I. No.: Not applicable.
Synonym: Ammonium Chloratum; Ammonium Chloridum; Ammonium Muriate; Sal Ammonia; Salmiac
Chemical Name: Ammonium Chloride
Chemical Formula: NH_4Cl

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet:

Company identification: **OXFORD LAB FINE CHEM LLP**
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
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Tel: 91-250-2390989
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Ammonium Chloride	12125-02-9	100

Toxicological Data on Ingredients: Ammonium chloride: ORAL (LD50): Acute: 1650 mg/kg [Rat.]. 1300 mg/kg [Mouse].

Section 3: Hazards Identification

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

Potential Chronic Health Effects: CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.
Auto-Ignition Temperature: Not applicable.
Flash Points: Not applicable.
Flammable Limits: Not applicable.

Section 5: Fire and Explosion Data (Continued)

Products of Combustion: Not available.
Fire Hazards in Presence of Various Substances: Not applicable.
Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions: Not applicable.
Special Remarks on Fire Hazards: Reaction between Ammonium Chloride and Bromine pentafluoride at ambient or slightly elevated temperature is violent, and ignition often occurs.
Special Remarks on Explosion Hazards: Explosive reaction between bromine trifluoride and ammonium halides.

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. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions: Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

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 contaminants 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: **TWA: 10 STEL: 20 (mg/m3) from ACGIH (TLV) [United States] Inhalation TWA: 10 STEL: 20 (mg/m3) [United Kingdom (UK)] Inhalation TWA: 10 STEL: 20 (mg/m3) from NIOSH [United States] Inhalation TWA: 10 STEL: 20 (mg/m3) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.**

Section 9: Physical and Chemical Properties

Physical state and appearance	**: Solid. (Solid crystalline powder.)**
Odor	**: Odorless. (Slight.)**
Taste	**: Cooling, Saline.**
Molecular Weight	**: 53.49 g/mole**
Color	**: White**
pH (1% soln/water)	**: 5.5 [Acidic.]**
Boiling Point	**: 520°C (968°F)**
Melting Point	**: Decomposition temperature: 338°C (640.4°F)**
Flash Point	**: Not available.**
Critical Temperature	**: Not available.**
Specific Gravity	**: 1.53 (Water = 1)**
Vapor Pressure	**: Not applicable**
Vapor Density	**: Not available.**
Volatility	**: Not available.**
Odor Threshold	**: Not available.**
Water/Oil Dist. Coeff.	**: Not available**
Ionicity (in Water)	**: Not available.**
Dispersion Properties	**: See solubility in water, methanol.**

Section 9: Physical and Chemical Properties (Continued

Solubility : Soluble in cold water, hot water, and methanol. Insoluble in diethyl ether, acetone. Almost insoluble in ethyl acetate. Very slightly soluble in Ethanol; Solubility in Ethanol: 0.6 g/100 ml water at 19 deg. C. Solubility in Water: 29.7 g/100ml water at O deg. C 75.8 g/100 ml water at 100 deg. C 37.8 lbs./100 lbs. water at 70 deg. F 28.3% (w/w) in water at 25 deg. C Soluble in liquid ammonia.

Section 10: Stability and Reactivity Data

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Incompatible materials, moisture.
Incompatibility with various substances: Reactive with oxidizing agents, acids, alkalis.
Corrosivity: Extremely corrosive in presence of copper. Corrosive in presence of steel, of stainless steel (304). Slightly corrosive in presence of aluminum, of stainless steel (316).
Special Remarks on Reactivity: Incompatible with lead and silver salts. It can react violently with ammonium nitrate and potassium chlorate. Also incompatible with bromine trifluoride, ammonium halides, bromine pentafluoride, alkalis and their carbonates. At fire temperature, ammonium chloride may dissociate into ammonia and hydrogen chloride. Hygroscopic; keep container tightly closed.
Special Remarks on Corrosivity: Severe corrosive effect on brass and bronze.
Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.
Toxicity to Animals: Acute oral toxicity (LD50): 1300 mg/kg [Mouse].
Chronic Effects on Humans: Not available.
Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant, sensitizer), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals: Lowest Published Lethal Dose: LDL [Human Infant] - Route: Oral; Dose: 2000 mg/kg
Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic) Animal: passes through the placental barrier.
Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: It can cause skin irritation which is usually mild. Eyes: Causes moderate eye irritation. It may cause Salt Cataract, increased ocular pressure, and degeneration of the retina Inhalation: It can cause respiratory tract and mucous membrane irritation which is usually mild. Ingestion: May be harmful if swallowed. May cause digestive tract irritation with nausea and vomiting, and thirst. May affect behavior/central nervous system

Section 11: Toxicological Information (Continued)

(Headache, somnolence, confusion, drowsiness, tremor, convulsions, coma), eyes (Mydriasis), cardiovascular system (bradycardia), respiration (respiratory stimulation, apnea, hyperventilation, pulmonary edema). May cause serious metabolic acidosis with h y p o k a l e m i a . T r a n s i e n t hyperglycemia and glycosuria may also occur. Chronic Potential Health Effects: Skin: Prologned or repeated contact may cause dermatitis, an allergic reaction. Inhalation: Prolonged or repeated inhalation may affect the kidneys. Ingestion: Prolonged or repeated ingestion may affect metabolism (anorexia, metabolic acidosis) and urinary system (enlargement of kidneys). Inhalation: Prolonged or repeated inhalation may cause bronchospasm (asthma)

Section 12: Ecological Information

Ecotoxicity: Not available.
BOD5 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: The products of degradation are less toxic than the product itself.
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

Land transport (ADR-RID)
General Information: Not Regulated

Sea transport (IMDG) [English only]
General Information: Not Regulated

Air transport (ICAO-IATA) [English only]
General Information: Not Regulated

Section 15: Other Regulatory Information

Federal and State Regulations: **Illinois toxic substances disclosure to employee act: Ammonium chloride Illinois chemical safety act: Ammonium chloride New York release reporting list: Ammonium chloride Rhode Island RTK hazardous substances: Ammonium chloride Pennsylvania RTK: Ammonium chloride Minnesota: Ammonium chloride Massachusetts RTK: Ammonium chloride Massachusetts spill list: Ammonium chloride New Jersey: Ammonium chloride New Jersey spill list: Ammonium chloride Louisiana spill reporting: Ammonium chloride California Director's List of Hazardous Substances: Ammonium chloride TSCA 8(b) inventory: Ammonium chloride CERCLA: Hazardous Substances. Ammonium chloride: 5000 lbs. (2268 kg)**
Other Regulations: **EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.**

Other Classifications:
WHMIS (Canada): **Not controlled under WHMIS (Canada).**
DSCL (EEC):
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. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.**

Section 16 - Additional Information

References: **Not available.**

Other Special Considerations: **Not available.**

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