**OXFORD LAB FINE CHEM LLP**
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

# MATERIAL SAFETY DATA SHEET

# CERIC AMMONIUM NITRATE 98%

## (Ammonium Ceric Nitrate)

## Extra Pure

## MSDS CAS: 16774-21-3

## Section 1: Chemical Product and Company Identification

**Section 1: Chemical Product**

**Product Name: Ceric ammonium nitrate**
**CAS#: 16774-21-3**
**Synonym: Ammonium hexanitratocerate (IV);**
**Diammonium Hexanitratocerate**
**Chemical Name: Ammonium Cerium (IV) Nitrate**
**Chemical Formula: $(NH_4)_2Ce(NO_3)_6$**

**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,**
**Navghar, Vasai (East). Palghar - 401 210.**
**Mumbai, Maharashtra, INDIA.**
**Tel: 91-250-2390989**
**Tel/Fax: 91-250-2390032**

## Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS # | % by Weight |
|---|---|---|
| Ceric ammonium nitrate | 16774-21-3 | 100 |

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# Section 2: Composition and Information on Ingredients (Continued)

**Toxicological Data on Ingredients: Ceric ammonium nitrate LD50: Not available. LC50: Not available.**

# Section 3: Hazards Identification

**Potential Acute Health Effects:**
**Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.**

**Potential Chronic Health Effects:**
**CARCINOGENIC EFFECTS: Not available.**
**MUTAGENIC EFFECTS: Not available.**
**TERATOGENIC EFFECTS: Not available.**
**DEVELOPMENTAL TOXICITY: Not available.**
**The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.**

# 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 medical attention.**

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

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# Section 4: First Aid Measures (Continued)

**Serious Inhalation:**
**Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.**

**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 available.**

**Flash Points:** **Not applicable.**

**Flammable Limits:** **Not applicable.**

**Products of Combustion:** **Not available.**

**Fire Hazards in Presence of Various Substances:** **of combustible materials of organic materials**

**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:** **Contact with combustible or organic materials may cause fire.**

**Special Remarks on Explosion Hazards:** **Not available.**

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# Section 6: Accidental Release Measures

**Small Spill:**
**Use appropriate tools to put the spilled solid in a convenient waste disposal container.**

**Large Spill:**
**Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.**

# Section 7: Handling and Storage

**Precautions:**
**Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents, combustible materials, organic materials.**

**Storage:**
**Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalies, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers.**

# 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: Not available.**

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## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Crystals solid.)

| | |
|---|---|
| **Odor** | : Characteristic. (Slight.) |
| **Taste** | : Not available. |
| **Molecular Weight** | : 548.26 g/mole. |
| **Color** | : Yellow-Orange. |
| **pH (1% soln/water)** | : Not available. |
| **Boiling Point** | : Not available. |
| **Melting Point** | : Melting Point: 107 deg. C - 108 deg. C. Decomposition temperature: >87°C (188.6°F) |
| **Critical Temperature** | : Not available. |
| **Specific Gravity** | : Not available. |
| **Vapor Pressure** | : Not available. |
| **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. |
| **Solubility** | : Easily soluble in cold water, hot water. Soluble in dilute acids. Solubility in water: 141 g/100 ml water @ 25 deg. C |

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.
**Conditions of Instability:** Excess heat, Incompatible materials

**Incompatibility with various substances:**
Reactive with reducing agents, combustible materials, organic materials.

**Corrosivity:** Non-corrosive in presence of glass.

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# Section 10: Stability and Reactivity Data (Continued)

**Special Remarks on Reactivity:**
**Slowly decomposes to ceric oxide at temperatures above 87 deg. C. Also incompatible with powdered aluminum, boron phosphide, cyanides, esters, phospham, phosphorus, sodium cyanide, sodium hypophosphite, stannous chloride, thiocyanates.**

**Special Remarks on Corrosivity:** **Not available.**

**Polymerization:** **Will not occur.**

# Section 11: Toxicological Information

**Routes of Entry:** **Inhalation. Ingestion**

**Toxicity to Animals:** **LD50: Not available. LC50: Not available.**

**Chronic Effects on Humans:** **Causes damage to the following organs: lungs, mucous membranes.**

**Other Toxic Effects on Humans:**
**Hazardous in case of skin contact (irritant), of ingestion, 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:**
**Acute Potential Health Effects: Skin: Causes skin irritation with redness, itching and pain. Eyes: Causes eye irritation with redness, itching and pain. Inhalation: Causes respiratory tract irritation. Symptoms may include coughing, and shortness of breath. May cause systemic effects similar to those for ingestion. Ingestion: Ingestion of large doses of nitrates causes gastrointestinal tract irritation with nausea, vomiting, abdominal cramps, diarrhea (possibly bloody, from gastrointestinal hemorrhage). Under some circumstances, when the nitrate is converted by bacteria in the stomach to nitrite, it may also cause methemoglobinemia, cyanosis (a bluish discoloration of the skin due to deficient oxygenation of the blood), convulsions and death. Methemoglobinemia is characterized by dizziness, weakness, fatigue, convulsions (seizures), drowsiness, headache, shortness of breath, cyanosis, rapid heart rate (tachycardia) or slow heart rate (bradycardia), hypotension, chocolate brown colored blood, unconciousness.**

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# 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 product itself and its products of degradation are not toxic.**

**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)**
**Proper shipping name : NITRATES, INORGANIC, N.O.S. (AMMONIUM CERIC NITRATE 98%)**
**UN N° : 1477**
**H.I. nr : 50**
**ADR - Class : 5.1**
**Labelling - Transport : 5.1 : Oxidizing substances.**

**Sea transport (IMDG) [English only]**
**Proper shipping name : NITRATES, INORGANIC, N.O.S. (AMMONIUM CERIC NITRATE 98%)**
**UN N° : 1477**
**IMO-IMDG - Class or division : 5.1 : Oxidizing substances.**
**IMO-IMDG - Packing group : II**

**Air transport (ICAO-IATA) [English only]**
**Proper shipping name : NITRATES, INORGANIC, N.O.S. (AMMONIUM CERIC NITRATE 98%)**

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# Section 14: Transport Information

**UN N° : 1477**
**IATA - Class or division : 5.1 : Oxidizing substances.**
**IATA - Packing group : II**

# Section 15: Other Regulatory Information

**Federal and State Regulations:** **TSCA 8(b) inventory: Ceric ammonium nitrate**

**Other Regulations:**
**OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.**

**Other Classifications:**
**WHMIS (Canada): CLASS C: Oxidizing material.**
**DSCL (EEC): R8- Contact with combustible material may cause fire. R36/38- Irritating to eyes and skin. S17- Keep away from combustible material. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28- After contact with skin, wash immediately with plenty of water. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.**

**HMIS (U.S.A.):**
**Health Hazard: 2**
**Fire Hazard: 0**
**Reactivity: 0**
**Personal Protection: E**

**National Fire Protection Association (U.S.A.):**
**Health: 1**
**Flammability: 1**
**Reactivity: 0**
**Specific hazard:**

**Protective Equipment:**
**Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.**

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# Section 16 - Additional Information

**References: Not available.**

**Other Special Considerations: Not available.**

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