OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

CERIC AMMONIUM NITRATE SOLUTION N/20
(0.05 N)
MSDS CAS:

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product
Product Name: Ceric Ammonium Nitrate, 0.05N
CAS#:
Synonym:
Chemical Name: Ceric Ammonium Nitrate, 0.05N
Chemical Formula: Not applicable.

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	2.73
Water	7732-18-5	91.1
Nitric acid, fuming	7697-37-2	6.13

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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. Nitric acid, fuming: VAPOR (LC50): Acute: 244 ppm 0.5 hours [Rat].**

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive), of eye contact (corrosive). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death.Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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. The substance may be toxic to upper respiratory tract, eyes, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

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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 immediately.

Section 4: First Aid Measures (Continued)

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

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 immediately.

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.
WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate 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.**

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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:
Slightly explosive in presence of reducing materials, of organic materials, of metals, of alkalis. Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: **Not applicable.**

Special Remarks on Fire Hazards: **Not applicable.**

Special Remarks on Explosion Hazards:
Reacts exlposively with metallic powders, carbides, cyanides, sulfides, alkalies and turpentine. Can react explosively with many reducing agents. Arsine, phosphine, tetraborane all oxidized explosively in presence of nitric acid. Cesium and rubidium acetylides explode in contact with nitric acid. Explosive reaction with Nitric Acid + Nitrobenzene + water. Detonation with Nitric Acid + 4-Methylcyclohexane. (Nitric acid, fuming)

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:
Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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Section 7: Handling and Storage

Precautions:

Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. 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 alkalis. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

Storage:

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

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Face shield. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor 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:

Nitric acid, fuming TWA: 2 STEL: 4 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 2 STEL: 4 (ppm) [Australia] TWA: 2 STEL: 4 from NIOSH TWA: 5 STEL: 10 (mg/m3) from NIOSH TWA: 2 STEL: 4 (ppm) from OSHA (PEL) [United States] TWA: 5 STEL: 10 (mg/m3) from OSHA (PEL) [United States]Consult local authorities for acceptable exposure limits.

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Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor	: Not available.
Taste	: Not available.
Molecular Weight	: Not available.
Color	: Clear Yellow.
pH (1% soln/water)	: Acidic.
Boiling Point	: The lowest known value is 83°C (181.4°F) (Nitric acid, fuming). Weighted average: 98.93°C (210.1°F)
Melting Point	: May start to solidify at -41.6°C (-42.9°F) based on data for: Nitric acid, fuming.
Critical Temperature	: Not available.
Specific Gravity	: Weighted average: 1.02 (Water = 1)
Vapor Pressure	: The highest known value is 6.4 kPa (@ 20°C) (Nitric acid, fuming). Weighted average: 2.56 kPa (@ 20°C)
Vapor Density	: The highest known value is 2.3 (Air = 1) (Nitric acid, fuming). Weighted average: 0.73 (Air = 1)
Volatility	: Not available.
Odor Threshold	: The highest known value is 0.29 ppm (Nitric acid, fuming)
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.
Dispersion Properties	: See solubility in water, diethyl ether.
Solubility	: Easily soluble in cold water, hot water. Soluble in diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances:

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Reactive with alkalis. Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, acids.

Section 10: Stability and Reactivity Data (Continued)

Corrosivity:
Highly corrosive in presence of aluminum, of copper. Non-corrosive in presence of glass, of stainless steel(304), of stainless steel(316).

Special Remarks on Reactivity:
A strong oxidizer. Reacts violently with alcohol, organic material, turpene, charcoal. Violent reaction with Nitric acid + Acetone and Sulfuric acid. Incompatible with combustible materials, metallic powders, hydrogen sulfide, carbides, alcohols. Nitric Acid will react with water or steam to produce heat and toxic, corrosive and flammable vapors. (Nitric acid, fuming) Also incompatible with powdered aluminum, boron phosphide, cyanides, esters, phospham, phosphorus, sodium cyanide, sodium hypophosphite, stannous chloride, thiocyanates. (Ceric ammonium nitrate)

Special Remarks on Corrosivity:
In presence of traces of oxides, it attacks all base metals except aluminum and special chromium steels. It will attack some forms of plastics, rubber, and coatings. Nitric Acid corrodes almost all metals except gold, and white gold, forming nitrates. No corrosive effect on bronze. No corrosivity data for zinc, and steel (Nitric acid, fuming).

Polymerization: **Will not occur.**

Section 11: Toxicological Information

Routes of Entry: **Absorbed through skin. Eye contact. Inhalation. Ingestion.**

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

Chronic Effects on Humans:
Contains material which may cause damage to the following organs: upper respiratory tract, eyes, teeth.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive).

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Special Remarks on Toxicity to Animals:
LDL - Lowest Published Lethal Dose [Human] - Route: Oral; Dose: 430 mg/kg (Nitric acid, fuming)

Section 11: Toxicological Information (Continued)

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects (effects on newborn and fetotoxicity) based on animal data. (Nitric acid, fuming)

Special Remarks on other Toxic Effects on Humans: **Not available.**

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.

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Section 14: Transport Information

Land transport (ADR-RID)
Proper shipping name : NITRIC ACID, other than red fuming, with > 20% but < 65% acid nitric
UN N° : 2031
H.I. nr : 80
ADR - Class : 8
Labelling - Transport : 8 : Corrosive substance.

Sea transport (IMDG) [English only]
Proper shipping name : NITRIC ACID, other than red fuming, with > 20% but < 65% acid nitric
UN N° : 2031
IMO-IMDG - Class or division : 8 : Corrosive substance
IMO-IMDG - Packing group : II

Air transport (ICAO-IATA) [English only]
Proper shipping name : NITRIC ACID, other than red fuming, with > 20% but < 65% acid nitric
UN N° : 2031
IATA - Class or division : 8 : Corrosive substance.
IATA - Packing group : II

Section 15: Other Regulatory Information

Federal and State Regulations: **New York release reporting list: Nitric acid, fuming Rhode Island RTK hazardous substances: Nitric acid, fuming Pennsylvania RTK: Nitric acid, fuming Florida: Nitric acid, fuming Minnesota: Nitric acid, fuming Massachusetts RTK: Nitric acid, fuming New Jersey: Nitric acid, fuming TSCA 8(b) inventory: Ceric ammonium nitrate; Water; Nitric acid, fuming SARA 302/304/311/312 extremely hazardous substances: Nitric acid, fuming SARA 313 toxic chemical notification and release reporting: Nitric acid, fuming 6.12738% CERCLA: Hazardous substances.: Nitric acid, fuming: 1000 lbs. (453.6 kg);**

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:
WHMIS (Canada): CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

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Section 15: Other Regulatory Information (Continued)

DSCL (EEC): R34- Causes burns. 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. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):
Health Hazard: 3
Fire Hazard: 0
Reactivity: 0
Personal Protection: E

National Fire Protection Association (U.S.A.):
Health: 3
Flammability: 0
Reactivity: 0
Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

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