OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

CERIC SULPHATE SOLUTION N/10

(0.1 N Volumetric Solution)

MSDS CAS:

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: Ceric Sulfate, 0.1N
CAS#:
Synonym:
Chemical Name: Not available.
Chemical Formula: Not available.

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
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Ceric sulfate	13590-82-4	4.4
Sulfuric acid	7664-93-9	4.4
Water	7732-18-5	91.2

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Section 2: Composition and Information on Ingredients (Continued)

Toxicological Data on Ingredients: **Ceric sulfate LD50: Not available. LC50: Not available. Sulfuric acid: ORAL (LD50): Acute: 2140 mg/kg [Rat.]. VAPOR (LC50): Acute: 255 ppm 4 hour(s) [Rat.].**

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (corrosive), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation. 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.

Potential Chronic Health Effects:

Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation.
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. 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 an 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:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

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Section 4: First Aid Measures (Continued)

Skin Contact:
If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

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

Inhalation:
Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

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. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

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.**

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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: **Not applicable.**

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

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. 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. 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.

Section 7: Handling and Storage

Precautions:
Keep locked up Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapour/spray. Never add water to this product 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 metals, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fibreboard drum using a strong polyethylene inner package.

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Section 7: Handling and Storage (Continued)

Storage:

May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package. Corrosive materials should be stored in a separate safety storage cabinet or room.

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. Full suit. 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:

Sulfuric acid TWA: 1 STEL: 3 (mg/m3) from ACGIH Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor	**: Not available.**
Taste	**: Not available.**
Molecular Weight	**: Not available.**
Color	**: Not available.**
pH (1% soln/water)	**: Acidic.**
Boiling Point	**: The lowest known value is 100°C (212°F) (Water). Weighted average: 108.74°C (227.7°F)**

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Section 9: Physical and Chemical Properties (Continued)

Melting Point	**: May start to solidify at 10.49°C (50.9°F) based on data for: Sulfuric acid.**
Critical Temperature	**: Not available.**
Specific Gravity	**: Weighted average: 1.06 (Water = 1)**
Vapor Pressure	**: The highest known value is 17.535 mm of Hg (@ 20°C) (Water). Weighted average: 16.73 mm of Hg (@ 20°C)**
Vapor Density	**: The highest known value is 3.4 (Air = 1) (Sulfuric acid). Weighted average: 0.75 (Air = 1)**
Volatility	**: Not available.**
Odor Threshold	**: Not available.**
Water/Oil Dist. Coeff.	**: The product is much more soluble in water.**
Ionicity (in Water)	**: Not available.**
Dispersion Properties	**: See solubility in water.**
Solubility	**: Easily soluble in cold water, hot water. Insoluble in methanol, diethyl ether, n-octanol.**

Section 10: Stability and Reactivity Data

Stability: **The product is stable.**

Instability Temperature: **Not available.**

Conditions of Instability: **Not available.**

Incompatibility with various substances:
Reactive with metals, alkalis. Slightly reactive to reactive with organic materials, acids.

Corrosivity:
Corrosive in presence of steel, of aluminum, of zinc, of copper. Slightly corrosive to corrosive in presence of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.

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Section 10: Stability and Reactivity Data (Continued)

Special Remarks on Reactivity:
Reacts violently with water especially when water is added to the product. (Sulfuric acid)

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

Polymerization: **No.**

Section 11: Toxicological Information

Routes of Entry: **Dermal contact. Eye contact. Ingestion.**

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 2140 mg/kg [Rat.]. (Sulfuric acid). Acute toxicity of the vapor (LC50): 255 ppm 4 hour(s) [Rat.]. (Sulfuric acid).

Chronic Effects on Humans:
The substance is toxic to lungs, mucous membranes. The substance is not toxic to blood, kidneys, liver.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (corrosive), of ingestion. Slightly hazardous in case 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.**

BOD5 and COD: **Not available.**

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Section 12: Ecological Information (Continued)

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 as toxic as the original product.**

Special Remarks on the Products of Biodegradation: **Not available.**

Section 13: Disposal Considerations

Waste Disposal :

Section 14: Transport Information

Land transport (ADR-RID)

Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Ceric sulfate, solution) (Sulfuric acid)
UN N° : 3264
ADR - Class : 8
Labelling - Transport : CLASS 8: Corrosive liquid.
ADR - Group : II

Sea transport (IMDG) [English only]

Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Ceric sulfate, solution) (Sulfuric acid)
UN N° : 3264
IMO-IMDG - Class or division : CLASS 8: Corrosive liquid.
IMO-IMDG - Packing group : II

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Section 14: Transport Information (Continued)

Air transport (ICAO-IATA) [English only]

Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Ceric sulfate, solution) (Sulfuric acid)
UN N° : 3264
IATA - Class or division : CLASS 8: Corrosive liquid.
IATA - Packing group : II

Section 15: Other Regulatory Information

Federal and State Regulations: **TSCA 8(b) inventory: Ceric sulfate; Sulfuric acid; Water**

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.
DSCL (EEC): R35- Causes severe burns.

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

National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 0
Reactivity: 0
Specific hazard:

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

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Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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