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

**Regd Office:** Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

**Tel:** +91 250 2390032 / 2390989 / 2390990
**Email:** sales@oxfordlabchem.com /
info@oxfordlabchem.com
**Web:** www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

# MATERIAL SAFETY DATA SHEET

# CAFFEINE CITRATE purified

## MSDS CAS: 69-22-7

## Section 1: Chemical Product and Company Identification

**Section 1: Chemical Product**
**Product Name: Caffeine - Citrated**
**CAS#: 69-22-7**
**Synonym: Caffeine, Citrated**
**Chemical Name: Not applicable.**
**Chemical Formula:** $C_8H_{10}N_4O_2.C_6H_8O_7$

**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 |
|---|---|---|
| Caffeine | 58-08-2 | 50 |
| Citric acid | 77-92-9 | 50 |

**Toxicological Data on Ingredients: Caffeine: ORAL (LD50): Acute: 192 mg/kg [Rat]. 127 mg/kg [Mouse]. 224 mg/kg[ Rabbit]. Citric acid: ORAL (LD50): Acute: 5040 mg/kg [Mouse]. 3000 mg/kg [Rat].**

# Section 3: Hazards Identification

**Potential Acute Health Effects :**
**Very hazardous in case of skin contact (irritant), of eye contact (irritant). Hazardous in case of ingestion, of inhalation (lung irritant). 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: Classified 3 (Not classifiable for human.) by IARC [Caffeine]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Caffeine]. Mutagenic for bacteria and/or yeast. [Caffeine]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to heart, gastrointestinal tract, central nervous system (CNS), teeth. Repeated or prolonged exposure to the substance can produce target organs damage. 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: 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.**

**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.**

**Serious Inhalation: Not available.**

**Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.**

**Serious Ingestion: Not available.**

**Regd Office:** Unit no 12, 1st Floor, Neminath Industrial Estate No.6, Navghar, Vasai (East), Palghar - 410210. Maharashtra, INDIA.

**Tel:** +91 250 2390032 / 2390989 / 2390990
**Email:** sales@oxfordlabchem.com / info@oxfordlabchem.com
**Web:** www.oxfordlabchem.com



# Section 5: Fire and Explosion Data

**Flammability of the Product:** May be combustible at high temperature.
**Auto-Ignition Temperature** : The lowest known value is 1010°C (1850°F) (Citric acid).
**Flash Points:** CLOSED CUP: Higher than 93.3°C (200°F).
**Flammable Limits:** The greatest known range is LOWER: 0.28% UPPER: 2.29% (Citric acid)
**Products of Combustion:** These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
**Fire Hazards in Presence of Various Substances:**
Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.
**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:**
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
**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:**
Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

# Section 7: Handling and Storage

**Precautions:**
**Keep locked up.. 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 ingest. Do not breathe dust. 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, 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: Not available.**

# Section 9: Physical and Chemical Properties

**Physical state and appearance: Solid.**

| | |
|---|---|
| **Odor** | **: Not available** |
| **Taste** | **: Not available** |
| **Molecular Weight** | **: Not available** |
| **Color** | **: Not available** |

## Section 9: Physical and Chemical Properties (Continued)

**pH (1% soln/water)** : Neutral.
**Boiling Point** : Not available.
**Melting Point** : 238°C (460.4°F) based on data for: Caffeine. Weighted average: 195.5°C (383.9°F)
**Critical Temperature** : Not available.
**Specific Gravity** : Weighted average: 1.41 (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, diethyl ether.
**Solubility** : Soluble in cold water, hot water, diethyl ether. Partially soluble in acetone.

## 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 oxidizing agents, alkalis.
**Corrosivity** : Corrosive in presence of aluminum, of zinc, of copper. Non-corrosive in presence of glass. [Citric Acid]
**Special Remarks on Reactivity** : Incompatible with oxidizing agents, potassium tartrate, alkali, alkaline earth carbonates and bicarbonates, acetates, and sulfides. (Citric acid)
**Special Remarks on Corrosivity**: Not available.
**Polymerization** : Will not occur.

## Section 11: Toxicological Information

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

**Regd Office:** Unit no 12, 1st Floor, Neminath Industrial Estate No.6, Navghar, Vasai (East), Palghar - 410210. Maharashtra, INDIA.

**Tel:** +91 250 2390032 / 2390989 / 2390990
**Email:** sales@oxfordlabchem.com / info@oxfordlabchem.com
**Web:** www.oxfordlabchem.com



**Toxicity to Animals:** **Acute oral toxicity (LD50): 356 mg/kg [Mouse]. [Caffeine, citrated]**

## Section 11: Toxicological Information (Continued)

**Chronic Effects on Humans:**
**CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Caffeine]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Caffeine]. Mutagenic for bacteria and/or yeast. [Caffeine]. Contains material which may cause damage to the following organs: heart, gastrointestinal tract, central nervous system (CNS), teeth.**

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

**Special Remarks on Toxicity to Animals:**
**LDL [Human] - Route: Oral; Dose: 192mg/kg LDL [Woman] - Route: Oral; Dose; 400 mg/kg LDL [Child] - Route: Oral; Dose: 320 mg/kg (Caffeine)**

**Special Remarks on Chronic Effects on Humans:** **May cause adverse reproductive effects (fetotoxicity, maternal (parnutrition) and birth defects. May affect genetic material (mutagenic). May cause cancer (tumorgenic) based on animal data. (Caffeine).**

**Special Remarks on other Toxic Effects on Humans:** **Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation. Inhalation: Causes respiratory tract and mucous membrane irritation. Ingestion: Harmful if swallowed. May cause digestive tract irritation with epigastric pain, abdominal cramps, nausea, vomiting and diarrhea. Due to caffeine content, it may affect respiration, blood, metabolism, heart (cardiovascular system), kidney (urinary system), brain, behavior/central nervous system (central nervous stimulant). Due to citric acid content, it may cause errosion of teeth, and hypocalcemia.**

## 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.**

**Regd Office:** Unit no 12, 1st Floor, Neminath Industrial Estate No.6, Navghar, Vasai (East), Palghar - 410210. Maharashtra, INDIA.

**Tel:** +91 250 2390032 / 2390989 / 2390990
**Email:** sales@oxfordlabchem.com / info@oxfordlabchem.com
**Web:** www.oxfordlabchem.com



**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:** TSCA 8(b) inventory: Caffeine; Citric acid

**Other Regulations:**
OSHA: 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-2B: Material causing other toxic effects (TOXIC).
**DSCL (EEC):**
Harmful if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R40- Possible risks of irreversible effects. R63- Possible risk of harm to the unborn child. S2- Keep out of the reach of children. Wear suitable protective clothing and gloves. S46- If swallowed, seek medical advice immediately and show this container or label.

**Regd Office:** Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

**Tel:** +91 250 2390032 / 2390989 / 2390990
**Email:** sales@oxfordlabchem.com /
info@oxfordlabchem.com
**Web:** www.oxfordlabchem.com



## Section 15: Other Regulatory Information (Continued)

**HMIS (U.S.A.):**
**Health Hazard: 3**
**Fire Hazard: 1**
**Reactivity: 0**
**Personal Protection: E**
**National Fire Protection Association (U.S.A.):**
**Health: 2**
**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.**

## Section 16 - Additional Information

**References: Not available.**

**Other Special Considerations: Not available.**

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

**Regd Office:** Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

**Tel:** +91 250 2390032 / 2390989 / 2390990
**Email:** sales@oxfordlabchem.com /
info@oxfordlabchem.com
**Web:** www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

# *Disclaimer:*

**********

**The information contained herein in good faith but makes no representations as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.**

**Oxford Lab Fine Chem LLP makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Oxford Lab Fine Chem LLP will not be responsible for damages resulting from use of or reliance upon this information.**