

**MATERIAL SAFETY DATA SHEET****Product Name:** Calcium hypochlorite**CAS No.:** 7778-54-3**Version:** 0**1. Identification**

**Product Code** : 90356  
**Company Name** : Advent Chembio Private Limited  
**Address** : W-288, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE, NAVI MUMBAI - 400 701.  
**E-mail** : [info@adventchembio.com](mailto:info@adventchembio.com)  
**WEBSITE** : [www.adventchembio.com](http://www.adventchembio.com)  
**Company Phone Number** : 022-27690837

**2. Composition/Information on Ingredients**

| <b>Ingredient</b>    | <b>CAS No</b> | <b>Percent</b> |
|----------------------|---------------|----------------|
| CALCIUM HYPOCHLORITE | 7778-54-3     | 100 %          |

**3. Hazards Identification****Hazard classification****Physical hazards**

Oxidizing solids : Category 2

**Health hazards**

Acute toxicity (Oral) : Category 3

Skin corrosion/irritation : Category 1

Serious eye damage/eye irritation : Category 1

**Environmental hazards**

Acute hazards to the aquatic environment : Category 1

**Labels elements****Hazard symbol****Signal word** : Danger**Hazard statement** : May intensify fire; oxidizer.  
Toxic if swallowed.  
Causes severe skin burns and eye damage.  
Very toxic to aquatic life.**Precautionary statement****Prevention** : Keep away from heat/open flames/hot surfaces. - No smoking.  
Keep/Store away from clothing/combustible materials. Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands thoroughly after handling. Do not breathe

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- Response** : dust/fume/gas/mist/vapors/spray. Avoid release to the environment. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect spillage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : None.

**4. First Aid Measures**

- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person.
- Inhalation** : Move to fresh air. Get medical attention if symptoms persist. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
- Most important symptoms/effects, acute and delayed** : Irritating to eyes, respiratory system and skin.
- Indication of immediate medical attention and special treatment needed** : Treat symptomatically. Symptoms may be delayed.

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**General fire hazards** : Oxidizing material. In case of fire and/or explosion do not breathe fumes. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media** : Do not use water as an extinguisher. Foam. Water fog.

**Unsuitable extinguishing media** : Dry chemical. Straight Streams of Water.

**Specific hazards arising from the chemical** : Strong oxidizer. May intensify fire; oxidizer.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures** : Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Special protective equipment for fire-fighters** : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**6. Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures** : Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment.

**Methods and material for containment and cleaning up** : Remove sources of ignition. Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Use only non-sparking tools.

**Notification Procedures** : Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

**Environmental precautions** : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

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- Precautions for safe handling** : Do not taste or swallow. Wash hands thoroughly after handling. Avoid contact with eyes. Keep away from food, drink and animal feeding stuffs. Keep away from combustible material. Do not eat, drink or smoke when using the product. Do not smoke, use open fire or other sources of ignition. Use personal protective equipment as required. Observe good industrial hygiene practices. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Take any precaution to avoid mixing with combustibles. Wear fire/flame resistant/retardant clothing. Avoid contact with skin.
- Conditions for safe storage, including any incompatibilities** : Keep container tightly closed in a cool, well-ventilated place. Keep container dry. Store away from incompatible materials. Eliminate sources of ignition.

**8. Exposure Controls Personal Protection****Control parameters**

**Occupational exposure limits** : None of the components have assigned exposure limits.

**Appropriate engineering controls** : No data available.

**Individual protection measures, such as personal protective equipment**

**General information** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

**Eye/face protection** : Wear safety glasses with side shields (or goggles) and a face shield.

**Hand protection** : Chemical resistant gloves.

**Other** : Wear suitable protective clothing.

**Respiratory protection** : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Hygiene measures** : Provide eyewash station and safety shower. Do not eat, drink or smoke when using the product. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Wash contaminated clothing before reuse.

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|  |   |                                 |
|--|---|---------------------------------|
| <b>Appearance</b>                              | : | White Solid Crystals or powder. |
| <b>Odor</b>                                    | : | Strong chlorine odor .          |
| <b>pH</b>                                      | : | No data available.              |
| <b>Melting point/freezing point</b>            | : | 100 °C                          |
| <b>Initial boiling point and boiling range</b> | : | No data available.              |
| <b>Flash Point</b>                             | : | No data available               |
| <b>Vapor pressure</b>                          | : | No data available.              |
| <b>Vapor density</b>                           | : | 6.9 AIR=1                       |
| <b>Relative density</b>                        | : | 2.35 (20 °C)                    |
| <b>Solubility in water</b>                     | : | No data available.              |
| <b>Solubility (other)</b>                      | : | No data available.              |
| <b>Formula</b>                                 | : | Ca.2ClO                         |
| <b>Molecular Weight</b>                        | : | 142.98 g/mol.                   |

**10. Stability and Reactivity**

|   |   |  |
|---|---|--|
| <b>Reactivity</b>                         | : | Reacts with water. Contact with acid liberates toxic gas.  |
| <b>Chemical stability</b>                 | : | Thermally unstable.  |
| <b>Possibility of hazardous reactions</b> | : | Hazardous polymerization does not occur.   |
| <b>Conditions to avoid</b>                | : | Heat, sparks, flames. Moisture. Contact with incompatible materials.   |
| <b>Incompatible materials</b>             | : | Reducing agents. Flammable/combustible material. Organic compounds. Water. Amines. Ammonia. Nitrogen Oxides. |
| <b>Hazardous decomposition products</b>   | : | Oxygen. Chlorine. Chlorinated compounds. By heating and fire, toxic vapors/gases may be formed.              |

**11. Toxicological Information****Information on likely routes of exposure**

|                     |   |  |
|---------------------|---|--|
| <b>Ingestion</b>    | : | Toxic if swallowed.  |
| <b>Inhalation</b>   | : | May be harmful if inhaled. May cause irritation to the respiratory system. |
| <b>Skin contact</b> | : | Causes severe skin burns.  |
| <b>Eye contact</b>  | : | Causes serious eye damage.   |

**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)**

|                       |   |                         |
|-----------------------|---|-------------------------|
| <b>Oral Product</b>   | : | LD 50 (Rat): 850 mg/kg. |
| <b>Dermal Product</b> | : | No data available.      |

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|  |   |  |
|--|---|--|
| <b>Inhalation Product</b>  | : | No data available  |
| <b>Repeated dose toxicity Product</b>  | : | No data available.   |
| <b>Skin corrosion/irritation Product</b>   | : | Causes severe skin burns.                                  |
| <b>Serious eye damage/eye irritation Product</b>                                 | : | Causes serious eye damage.                                 |
| <b>Respiratory or skin sensitization Product</b>                                 | : | Not a skin sensitizer.                                     |
| <b>Carcinogenicity Product</b>   | : | This substance has no evidence of carcinogenic properties. |
| <b>IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE</b> | : | No carcinogenic components identified.                     |
| <b>US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE</b>       | : | No carcinogenic components identified.                     |
| <b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050</b>         | : | No carcinogenic components identified.                     |
| <b>Germ cell mutagenicity In vitro Product</b>                                   | : | No mutagenic components identified.                        |
| <b>In vivo Product</b>   | : | No mutagenic components identified.                        |
| <b>Reproductive toxicity Product</b>   | : | No components toxic to reproduction.                       |
| <b>Specific target organ toxicity - single exposure Product</b>                  | : | None known   |
| <b>Specific target organ toxicity - repeated exposure Product</b>                | : | None known   |
| <b>Aspiration hazard Product</b>   | : | Not classified   |
| <b>Other effects</b>   | : | None known.  |

### 12. Ecological Information

#### Ecotoxicity

##### Acute hazards to the aquatic environment :

|   |   |  |
|---|---|--|
| <b>Fish Product</b>                                 | : | No data available.   |
| <b>Specified substance(s): CALCIUM HYPOCHLORITE</b> | : | LC 50 (Northern pipefish ( <i>Syngnathus fuscus</i> ), 96 h): 0.27 mg/l Mortality<br>LC 50 (Golden shiner ( <i>Notemigonus crysoleucas</i> ), 96 h): 0.27 mg/l Mortality<br>LC 50 (Striped bass ( <i>Morone saxatilis</i> ), 96 h): 0.5 mg/l Mortality<br>LC 50 (Carp ( <i>Cyprinus carpio</i> ), 96 h): 0.399 - 0.983 mg/l Mortality<br>LC 50 (Fathead minnow ( <i>Pimephales promelas</i> ), 96 h): 0.641 - 1.101 mg/l Mortality |
| <b>Aquatic invertebrates Product</b>                | : | No data available.   |
| <b>Specified substance(s): CALCIUM HYPOCHLORITE</b> | : | EC 50 (Rotifer ( <i>Philodina acuticornis</i> ), 24 h): 0.08 mg/l Intoxication<br>EC 50 (Rotifer ( <i>Philodina acuticornis</i> ), 48 h): 0.07 mg/l Intoxication   |

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EC 50 (Blue crab (*Callinectes sapidus*), 48 h): 0.97 mg/l  
Intoxication  
EC 50 (Blue crab (*Callinectes sapidus*), 48 h): 1.4 mg/l  
Intoxication  
EC 50 (Rotifer (*Philodina acuticornis*), 96 h): 0.07 mg/l  
Intoxication

**Chronic hazards to the aquatic environment :**

**Fish Product** : No data available.  
**Aquatic invertebrates Product** : No data available.  
**Toxicity to Aquatic Plants Product:** : No data available.  
**Persistence and degradability**  
**Biodegradation Product** : There are no data on the degradability of this product.  
**BOD/COD ratio Product** : No data available.  
**Bioaccumulative potential**  
**Bioconcentration factor (BCF) Product** : No data available on bioaccumulation.  
**Partition coefficient n-octanol / water (log Kow) Product** : No data available.  
**Mobility in soil** : The product is water soluble and may spread in water systems.  
**Other adverse effects** : Very toxic to aquatic life.

### 13. Disposal consideration

**Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.  
**Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.

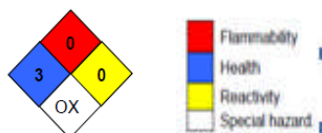
### 14. Transport information

|             | UN No.  | UN proper shipping name           | Hazard Class(es) | Packaging group | Marine Pollutant |
|-------------|---------|-----------------------------------|------------------|-----------------|------------------|
| <b>DOT</b>  | UN 1748 | Calcium hypochlorite mixtures dry | 5.1              | II              | No               |
| <b>IMDG</b> | UN 1748 | Calcium hypochlorite mixtures dry | 5.1              | II              | No               |
| <b>IATA</b> | UN 1748 | Calcium hypochlorite mixtures dry | 5.1              | II              | No               |

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This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture  
No Data Available.

**16. Other Information****NFPA Hazard ID**

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; OX-Oxidizing agent.

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