Calcium Hypochlorite (65%) – Safety Data Sheet

1. Identification

Product Identifier: Calcium Hypochlorite (65 - 68%)

Other means of identification: Hydrochlorus acid, Calcium oxychloride, Calcium sat, Bleaching powder.

Recommended use of the chemical and restrictions on use: Used as a sanitising agent for water treatment, including swimming pools. Used as a strong oxidising agent. Used in the cleaning industry. Used as a corrosion inhibitor and anti-scaling agent. No information for uses advised against.

Details of manufacturer or importer:
Supplier: RealChem Australia
ABN No: 72 612 326 431
Street Address: 41 Mogul Court, Deer Park, VIC 3023, Australia
Telephone: 03 8390 5776
Web Address: www.realchem.com.au

Emergency telephone number: 000 (Available 24 hours)

2. Hazards Identification

Classification of the substance or mixture: This material is classified as hazardous according to the criteria of Regulation (EC) No. 1272/2008 (CLP), the Globally Harmonised System of Classification, Labelling and Packaging and Safe Work Australia.

Oxidising Solid – Category 2
Acute Toxicity – Oral – Category 4
Skin Corrosion/Irritation – Category 1B
Serious Eye Damage/Irritation – Category 1
Acute Hazard to the Aquatic Environment – Category 1 (M-Factor = 10)

Label elements/pictogram:

Signal Word: Danger

Hazard Statements:
AUH031: Contact with acids liberates toxic gas
H272: May intensify fire; oxidizer
H302: Harmful if swallowed
H314: Causes severe skin burns and eye damage
H400: Very toxic to aquatic life

Prevention Precautionary Statements:
P102: Keep out of reach of children
P103: Read label before use
P210: Keep away from all sources of ignition - No smoking
P220: Keep/Store away from incompatible materials
P221: Take any precaution to avoid mixing with incompatible materials
P260: Do not breathe vapour, fume and dust
P264: Wash hands, face and all exposed skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P273: Avoid release to the environment
P280: Wear protective clothing, gloves, eye/face protection and suitable dust mask

Response Precautionary Statements:
P101: If medical advice is needed, have product container or label at hand
P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P363: Wash contaminated clothing before reuse
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P310: Immediately call a POISON CENTRE or doctor/physician
P391: Collect spillage
P370+378: In case of fire: Use water jets, water fog, foam or dry agents for extinction

Storage Precautionary Statements:
P405: Store locked up

Disposal Statements:
P501: Dispose of contents/container in accordance with local, regional, national and international regulations

Poison Schedule: S6 POISON

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Concentration of Ingredients (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hypochlorite</td>
<td>7778-54-3</td>
<td>231-908-7</td>
<td>65 - 68</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>10</td>
</tr>
<tr>
<td>Non-Hazardous</td>
<td>-</td>
<td>-</td>
<td>Balance</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Description of necessary first aid measures: For advice, contact a Poisons Information Centre (eg. Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor at once.

Ingestion: If swallowed, immediately rinse mouth with water. Do NOT induce vomiting. If vomiting occurs, give further water. Contact a Poisons information Centre or doctor for advice.

Skin Contact: If spilt on large areas of skin or hair, immediately drench with water and remove clothing.
Continue to flush skin and hair with plenty of water, until advised to stop by a Poisons Information Centre or a doctor. Burns may be covered with a clean, dry-gauze dressing. Transport to hospital or a medical centre.

Inhalation: If inhaled, remove from contaminated area into fresh air. Remove contaminated clothing. Allow patient to assume a comfortable position. Keep warm and at rest until fully recovered. If symptoms develop seek medical advice.
5. Fire Fighting Measures

Hazchem Code: 1W

Suitable extinguishing equipment: Water jets, water fog, fine water spray, foam, dry chemical powder or carbon dioxide.

Specific hazards arising from the chemical: Oxidising and Corrosive substance. Contact with acids liberates toxic gas, ie chlorine. Product will accelerate burning when involved in a fire. May decompose explosively when heated, leading to violent rupture of containers. Calcium hypochlorite in combination with carbon may react in an explosive reaction.¹

Special protective equipment and precautions for fire fighters: Calcium hypochlorite will decompose on heating producing chlorine gas. Fire fighters to wear full protective clothing and self-contained breathing apparatus if risk of exposure to product or toxic fumes.¹

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Clear area of all unprotected personnel. Stop the source of the leak, if safe to do so. Clean up immediately. Avoid contact with eyes, skin and clothing. Avoid breathing dust/vapour. Wear protective equipment to prevent skin and eye contact and the inhalation of dust/vapour.

Environmental precautions: If contamination of crops, sewers or waterways has occurred advise local emergency services.

Methods and materials for containment and clean up:

**Large spills**

In case of spillage flush with large quantities of water. Collect spilled product and washout and place in sealable containers or drums for disposal. Clean contaminated area and objects with plenty of water and detergent.

**Small spills**

In case of spillage flush with large quantities of water. Collect spilled product and washout and place in sealable containers for disposal. Clean contaminated area and objects with plenty of water and detergent.
7. Handling and Storage

Precautions for safe handling: Avoid contact with skin, eyes and clothing. Avoid breathing dust/vapour. Use only in well ventilated areas. Wear protective clothing when mixing or using. Do not add water to product - add product to water. Wash hands thoroughly after use.

Conditions for safe storage, including any incompatibilities: Store in a dry, clean, cool, well ventilated place away from sunlight. Store in the original, labelled container and keep container tightly closed when not in use. Store container upright and away from acids, combustible materials and foodstuffs. Check regularly for spillage.

Keep out of reach of children. This product is a schedule 6 poison and must be stored and handled in accordance with the recommendations of the Standard for the Uniform Scheduling of Medicines and Poisons.

8. Exposure Controls/Personal Protection

Control parameters

Exposure standards: No workplace exposure standard has been assigned for this specific material by Safe Work Australia; however for the by-product:

CHLORINE – Peak Limitation = 1 ppm (3 mg/m³)

As published by Safe Work Australia in Workplace Exposure Standards for Airborne Contaminants.

Peak limitation means a maximum or peak airborne concentration of a substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standards. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Exposure standards represent airborne concentrations of individual substances which, according to current knowledge, should neither impair the health of, nor cause undue discomfort to, nearly all workers. Exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contaminants should be kept to as low a level that is practical. These exposure standards should not be used to define a line between a safe and dangerous concentration of a chemical. They are not a measure of relative toxicity.

Biological monitoring: No biological monitoring required.

Appropriate engineering controls: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Avoid generating and inhaling dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.
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Personal protective equipment:
Manufacturing, Packaging and Transport: Personal protective equipment should be used only when other control measures (eg. elimination, substitution, isolation and engineering controls) have been found to be impracticable or in conjunction with one or more control measures. When needed wear overalls, safety glasses/chemical goggles, impervious gloves and a dust mask meeting the requirements of AS/NZS 1715 AS/NZS 1716 (Australian/New Zealand Standard™ respiratory protective devices). Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment.


9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/odour</td>
<td>White, free-flowing granular solid with a pungent, chlorine odour.</td>
</tr>
<tr>
<td>Solubility</td>
<td>200g/L. Soluble in water.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>0.002 ppm in air, 0.310 ppm in water of Chlorine.</td>
</tr>
<tr>
<td>pH</td>
<td>11.5 (5% Calcium hypochlorite solution)</td>
</tr>
<tr>
<td>Specific gravity/density</td>
<td>2.05 - 2.20</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Rel. vap. Density, air=1</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Partition co-efficient</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition Temp</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition Temp</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

Reactivity/Incompatible materials: Contact with acids liberates toxic gas. Reacts with combustible materials.¹

Chemical stability: Stable under normal conditions of use.

Conditions to avoid: Avoid contact with foodstuffs. Keep containers tightly closed when not in use. Avoid extremes of temperature and direct sunlight. Avoid contact with incompatible materials.

Possibility of hazardous reactions: No hazardous reactions when stored and handled within normal conditions of use.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes including chlorine gas.
11. Toxicological Information

No adverse effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Acute Toxicity**

**Ingestion:** Swallowing can result in nausea, vomiting, abdominal pain and burns to the gastrointestinal tract. If burns to the gastrointestinal tract develop, swelling of the larynx, and subsequent suffocation, perforation of the gastrointestinal tract, coma and cardiovascular collapse may result.

*FOR CALCIUM HYPOCHLORITE:*

Oral LD50 (rat): 850 mg/kg.³

**Skin contact:** Product will cause burns before being absorbed to any appreciable extent through the skin.³

**Inhalation:** Inhalation of dust/vapour may result in respiratory irritation.

**Corrosion/Irritation**

**Skin Contact:** Corrosive to skin - may cause skin burns.³

**Eye contact:** Corrosive to eyes. Can cause corneal burns that may result in permanent injury.³

**Respiratory and skin sensitisation**

This product is not expected to cause respiratory nor skin sensitisation.

**Other toxic effects**

This product is not expected to be a germ cell mutagen and cause heritable genetic damage.

This product is not expected to be carcinogenic and cause cancer.

This product is not expected to be a reproductive toxicant and impair fertility nor cause irreversible effects in the offspring.

This product may cause respiratory irritation if product is inhaled following a single exposure, however repeated exposure to low doses are not expected to cause specific target organ toxicity.³

This product is not expected to present an aspiration hazard.

12. Ecological Information

**Ecotoxicity:** Avoid contaminating waterways. Very toxic to aquatic species.³

*FOR CALCIUM HYPOCHLORITE:*

96hr LC50 (Osmerus mordax, Rainbow smelt): 0.023 mgL.³

48hr LC50 (Daphnia magna, crustacean): 0.073 mg/L.³

**Persistence and degradability:** No information available.

**Bioaccumulative potential:** No information available.

**Mobility in soil:** No information available.

**Other adverse effects:** Not dangerous to the ozone layer.
13. Disposal Considerations

Disposal methods: Refer to State Land Waste Management Authority. Empty containers must be decontaminated if recycling. Normally suitable for disposal at approved land waste site.

14. Transport Information

Road and Rail Transport

DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail.

Class/Division: 5.1 OXIDISING AGENT
Subrisk: 8 CORROSIVE SUBSTANCE
UN No. 3487
Packing Group: II
Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE
Hazchem Code: 1W

Environmental hazards for transport purposes: A Marine pollutant (P) according to the criteria of the International Maritime Dangerous Goods Code (IMDG) for transport by sea.

Special precautions for transport: Not to be loaded with explosives (Class 1), flammable gases (Class 2.1), toxic gases (Class 2.3), flammable liquids (Class 3), flammable solids (Class 4.1), spontaneously combustible substances (Class 4.2), dangerous when wet substances (Class 4.3), organic peroxides (Class 5.2), radioactive substances (Class 7), corrosive substances (Class 8), fire risk substances, combustible liquids or food and food packaging in any quantity, however exemptions may apply. Also note that fire risk substances including dangerous goods of Class 6 or Class 9, which are fire risk substances, are incompatible with dangerous goods of Class 1, Class 5.1 and Class 5.2. Note that concentrated strong alkalis are incompatible with concentrated strong acids.

Additional information: Not applicable.

Marine Transport

DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Class/Division: 5.1 OXIDISING AGENT
Subrisk: 8 CORROSIVE SUBSTANCE
UN No. 3487
Packing Group: II
Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE
Air Transport

DANGEROUS GOODS - Classified as Dangerous Goods according to the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 5.1 OXIDISING AGENT
Subrisk: 8 CORROSIVE SUBSTANCE
UN No.: 3487
Packing Group: II
Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE

15. Regulatory Information

Safety, health and environmental regulations:

SCHEDULE 6 POISON – Listed as a schedule 6 poison in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

All of the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS).

This material is not listed as subject to the following international agreements:
• An ozone depleting substance according to the Montreal Protocol.
• A persistent organic pollutant according to the Stockholm Convention.
• As requiring Prior Informed Consent according to the Rotterdam Convention.

This material is listed as subject to the following international agreements:
• As Dangerous Goods (Hazardous Waste) according to the Basel Convention on Hazardous Waste
  • Basic solutions or bases in solid form.
• A marine pollutant, according to the Prevention of Pollution from Ships (MARPOL).
  • Annex III - Harmful Substances carried in Packaged Form
16. Other Information

References


Reason for Issue

Supersedes Revision: Not applicable.
Reason for Issue: First issue.

This Safety Data Sheet was prepared by SDS Writers (www.sdswriters.com).

The information contained in this Safety Data Sheet is intended to give general guidance on how to safely handle the product in the workplace. Since the supplier of this product cannot anticipate or control the conditions under which it may be used, each user must, prior to usage, assess and control the risks arising from the use of this product. If clarification or further information is needed, the user should contact the product supplier, listed on the first page of this document.

The supplier’s responsibility for the product as sold is subject to the terms and conditions of sale, a copy of which is available on request.

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End of SDS.