

MATERIAL SAFETY DATA SHEET



This material is hazardous according to criteria of NOHSC.

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME: KLORMAN HYPOCHLOR CHLORINE CARTRIDGES

SUPPLIER: Klorman Industries Pty Ltd

ABN: 85 072 597 650

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COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT DESCRIPTION: Calcium Hypochlorite Tablets used for sanitization & disinfection used in conjunction with the Klorman In Line Dispenser. White Solid with a chlorine odour

Calcium Hypochlorite 7778-54-3	>60%	R8, R22, R31, R34, R41, R50
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HAZARDS IDENTIFICATION

RISK PHRASES: Contact with Combustible material may cause fire. Harmful if swallowed. Contact with acids liberates toxic gas. Causes burns. Risk of serious damage to eyes. Very toxic to aquatic organisms.

POISON SCHEDULE: S6 Poison.

FIRST AID MEASURES

For advice, contact a Poisons Information Centre (Phone eg. Australia 131 126, New Zealand 0 800 764 764) or a doctor.

INHALATION: Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. seek immediate medical advice.

SKIN CONTACT: If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

EYE CONTACT: Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

INGESTION: Immediately rinse mouth with water. If swallowed, DO NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

NOTES TO PHYSICIAN: Treat symptomatically. Can cause corneal burns. Delayed effects from exposure to chlorine (decomposition product) can include shortness of breath, severe headache, pulmonary oedema and pneumonia.

FIRE FIGHTING MEASURES

SPECIFIC HAZARDS: Non-combustible, but will support combustion of other materials.

FIRE-FIGHTING ADVICE: Not combustible, however will support the combustion of other materials. Calcium hypochlorite is a powerful oxidising agent and decomposes violently upon heating liberating oxygen, and toxic chlorine gas. In case of fire, area must be evacuated and specialist fire fighters called. Only large quantities of water should be used as an extinguishing agent. If excess water is not available DO NOT attempt to extinguish the fire, use available water to prevent the spread of fire to adjacent property. Attending fire fighters should keep upwind if possible and wear full protective equipment.

Product Name: Klorman Hypochlor Chlorine Cartridges

including rubber boots and self-contained breathing apparatus. A fire in the vicinity of Calcium Hypochlorite should be extinguished in the most practical manner but avoid contaminating this material with the fire fighting including water. Decomposes on contact with water evolving toxic chlorine gas. Once fire is extinguished, wash area thoroughly with excess water. Ensure that drains are not blocked with solid material. Maintenance of excess water during cleaning up operation is essential. Combustible material involved in the incident should be removed to a safe open area for controlled burning or for further drenching with water prior to collection for disposal.

SUITABLE EXTINGUISHING MEDIA: Water spray (large quantities)

ACCIDENTAL RELEASE MEASURES

Wear protective equipment to prevent skin and eye contact and breathing in vapours/dust. Air-supplied masks are recommended to avoid inhalation of toxic material. DO NOT return spilled material to original container. DO NOT add small amounts of water to calcium hypochlorite. Sweep up avoiding generation of dust, then immediately spread as a thin layer in uncontaminated, dry, open area to reduce the possibility of local hot spots forming. Where a spill has occurred in a confined space or an inadequately ventilated enclosure and the material is damp and evolving chlorine, the rate of chlorine evolution can be reduced by covering the thinly spread solid with soda ash. For large spills notify the Emergency Services.

HANDLING AND STORAGE

HANDLING ADVICE: Avoid skin and eye contact and breathing in dust. Keep out of reach of children.
STORAGE ADVICE: Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep dry - reacts with water, may lead to drum rupture. Keep containers closed when not in use - check regularly for spills.

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for decomposition product(s):

Chlorine: Peak Limitation = 3mg/m³ (1 ppm)

As published by the National Occupational Health and Safety Commission.

Peak Limitation - a ceiling concentration which should not be exceeded over a measurement period, which should be as short as possible but not exceeding 15 minutes.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Engineering Control Measures:

Ensure ventilation is adequate and that air concentrations of decomposition product(s) is/are below quoted Exposure standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

Personal Protective Equipment:

Overalls, Safety shoes, Chemical Goggles, Gloves, Dust Mask

Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If dust exists wear dust mask/respirator meeting the requirements of AS/NZS 1716, always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

Product Name: Klorman Hypochlor Chlorine Cartridges

PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid
Colour: White
Odour: Chlorine
Molecular formula: Ca(OCl)₂
Solubility: Soluble in water
Specific Gravity: 2.1
Relative Vapour Density (air = 1): Not available
Vapour Pressure (20°C): Not available
Flash Point (°C): Not available
Autoignition Temperature (°C): Not available
% Volatile by Weight: Not available
Solubility in water (g/L): Not available
Boiling Point/Range (°C): Not available
Decomposition Point (°C): Not available
pH: 11.5 (5% Aqueous solution)

STABILITY AND REACTIVITY

STABILITY: Powerful oxidising agent. Calcium hypochlorite (dry or hydrated) and its mixtures are incompatible with dichloroisocyanuric acid, ammonium nitrate, trichloroisocyanuric acid, or any chloroisocyanurate. Reacts with water liberating chlorine.

TOXOLOGICAL INFORMATION

No adverse health 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:

- INGESTION:** Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
- EYE CONTACT:** A severe eye irritant. Corrosive to eyes, contact can cause corneal burns. Contamination of eyes can result in permanent injury.
- SKIN CONTACT:** Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
- INHALATION:** Breathing in dust may result in respiratory irritation. Chlorine, evolved from decomposition when wet, is a severe respiratory irritant, corrosive, and highly toxic. Delayed effects can include shortness of breath, headache, pulmonary oedema, and pneumonia.
- LONG TERM EFFECTS:** No information available for the product.
- TOXICOLOGICAL DATA:** Oral LD50 (rat): 850mg/Kg

ECOTOXICOLOGICAL INFORMATION

Avoid contaminating waterways.

Environmental fate, persistence and degradation:
This material is biodegradable

Aquatic Toxicity:
Very toxic to aquatic organisms. 24hr LC50 (striped bass larvae) = 0.7mg/L

Terrestrial Toxicity:
Expected to be harmful to terrestrial species.

DISPOSAL CONSIDERATIONS

Refer to Waste Management Authority, dispose of material through a licensed waste contractor. Clean containers with water.

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TRANSPORT INFORMATION

ROAD & RAIL TRANSPORT: Classified as a Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail.

UN No: 1748

CLASS PRIMARY: 5.1 Oxidizing Agent

PACKAGING GROUP: II

PROPER SHIPPING NAME: Calcium Hypochlorite, Hydrated

HAZCHEM CODE: 2W

MARINE TRANSPORT: Classified as a Dangerous Goods by the criteria of the Maritime Dangerous Goods Code (IMDG Code) for Transport by Sea. This material is classified as a Marine Pollutant B according to the International Maritime Dangerous Goods Code.

UN No: 1748

CLASS PRIMARY: 5.1 Oxidizing Agent

PACKAGING GROUP: II

PROPER SHIPPING NAME: Calcium Hypochlorite, Hydrated

AIR TRANSPORT: Classified as a Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN No: 1748

CLASS PRIMARY: 5.1 Oxidizing Agent

PACKAGING GROUP: II

PROPER SHIPPING NAME: Calcium Hypochlorite, Hydrated

REGULATORY INFORMATION

CLASSIFICATION: This material is hazardous according to criteria of NOHSC.

Xn: Harmful

C: Corrosive

RISK PHRASES: R8: Contact with combustible material may cause fire.

R22: Harmful if swallowed

R31: Contact with acids liberates toxic gas

R34: Causes burns

R41: Risk of serious damage to eyes

R50: Very toxic to aquatic organisms

SAFETY PHRASES: S24/25: Avoid contact with skin and eyes

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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 whenever possible).

S61: Avoid release to the environment. Refer to special instructions safety data sheets.

POISONS SCHEDULE: S6 Poison

This material is listed on the Australian Inventory of Chemical Substances (AICS)

OTHER INFORMATION

'Registry of Toxic Effects of Chemical Substances' Ed. D. Sweet, US Dept. of Health & Human Services Cincinnati, 2000
 In: 'The Dictionary of Substances and their Effects' Ed. Gangolli s. Royal Society of Chemistry, 1999

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Klorman Industries Pty Ltd cannot anticipate or control conditions of use of the material, under which the product may be used, each user must, prior to usage assess and control the risks arising from its use of the material. If clarification or further information is needed, the user should contact a representative of Klorman Industries at the contact details on P1. Klorman Industries Pty Ltd responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.