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SALES & SERVICES

# Safety Data Sheet

## 1. IDENTIFICATION OF PRODUCT AND SUPPLIER

**1.1 Product identifiers**

Product name : AQUAGUARD REFRESH

**1.2 Other means of identification**

Dry Chlorine, Calcium Hypochlorite Hydrated, Granular Chlorine, Chlorinated Lime

**1.3 Recommended use of the product and restrictions on use**

Swimming pool sanitiser, Algaecide, Bactericide, Water purification & Oxidising agent

**1.4 Details of supplier of the safety data sheet**

Company : AGent Sales & Services Pty Ltd

Street address : 38 May Holman Drive, Bassendean, Western Australia 6054

Telephone : (+61 8) 6270 4500

Fax : (+61 8) 6270 4544

**1.5 Emergency telephone number**

Telephone : 1300 883 844

## 2. HAZARDS IDENTIFICATION

**2.1 GHS Classification**

Oxidising solids (Category 2)
Acute toxicity, Oral (Category 4)
Skin Corrosion (Category 1)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 1)

**2.2 GHS Label elements, including precautionary statements**

**Pictogram** :

**Signal word** : Danger

**Hazard statement(s)**

| | |
|---|---|
| H272 | May intensify fire; oxidiser. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H400 | Very toxic to aquatic life. |

**Precautionary statement(s)**

**Prevention**

| | |
|---|---|
| P210 | Keep away from heat. |
| P220 | Keep/Store away from clothing/ combustible materials. |
| P221 | Take any precaution to avoid mixing with combustibles. |

| | |
|---|---|
| P260 | Do not breathe dust or mist. |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| **Response** | |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. |
| P301 + P330 + P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P304 + P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P305 + P351 + P338 | 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 CENTER or doctor/ physician. |
| P321 | Specific treatment (see supplemental first aid instructions on this label). |
| P363 | Wash contaminated clothing before reuse. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. |
| P391 | Collect spillage. |
| **Storage** | |
| P405 | Store locked up. |
| **Disposal** | |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Other hazards

Contact with acids liberates toxic gas.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Component | CAS Number | Classification | Concentration (%) |
|---|---|---|---|
| Calcium hypochlorite | 7778-54-3 | Ox. Sol. 2; Acute Tox. 4; Skin Corr. 1; Eye Dam. 1; Aquatic Acute 1; H272, H302, H314, H400 | > 60 |
| Ingredients determined to be non-hazardous | - | N/A | Balance |

For the full text of the H-Statements mentioned in this section, see Section 16

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid measures

**General advice**

Contact the Poisons Information Centre (Phone: Australia 131 126; New Zealand 0800 764 766) or consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

**In case of skin contact**

Remove contaminated clothing and wash affected areas with soap and water. Consult a doctor/physician. Launder clothing before reuse.

**In case of eye contact**

In case of eye contact, check for and remove any contact lenses. Immediately rinse thoroughly with plenty of running water for at least 15 minutes, keeping eyelids open. Consult a doctor/physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor/physician.

**4.2 Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in Section 2.2 and/or Section 11.

**4.3 Indication of any immediate medical attention and special treatment needed**
No data available.

**4.4 First Aid facilities**
Eye wash facilities and safety shower should be available.

## 5. FIRE FIGHTING MEASURES

**5.1 Suitable extinguishing media**
Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

**5.2 Special hazards arising from the chemical**
Not combustible, however material will decompose if involved in a fire. On decomposing may emit toxic fumes, including chlorine, and also oxygen an accelerant.

**5.3 Special protective equipment and precautions for fire fighters**
Wear self-contained breathing apparatus and suitable protective clothing.

**5.4 Hazchem code**
1W

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see Section 8.

**6.2 Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. If contamination of sewers or waterways has occurred, advise local emergency services. Observe all local and national regulations.

**6.3 Methods and materials for containment and cleaning up**
Sweep up and shovel. Use clean, non-sparking tools and equipment. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see Section 13). Do not flush with water. Keep in suitable, closed containers for disposal. Do NOT return spilled product to original container.

## 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Keep away from heat and sources of ignition. Take precautionary measures against static discharges by bonding and grounding equipment. Do NOT mix with other chemicals. Do NOT add water to the product - add the product to the water. Use only clean utensils for handling as remnants of other products may cause a violent reaction leading to fire or explosion.
For precautions see Section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**
Store in cool place. Keep container tightly closed in a dry, well-ventilated place and out of direct sunlight. Check regularly for spills. Never allow product to get in contact with water during storage. Store away from sources of heat and ignition. Do not store near acids. Store away from incompatible materials described in Section 10.

This material is classified as a Dangerous Goods Class 5.1 Oxidising Substance by the criteria of the ADG Code and must be stored and handled in accordance with the relevant regulations.

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

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 Control parameters

**Occupational Exposure Limits**

| Chemical Name | Reference | TWA – Peak Limitation | | STEL | | Carcinogen Category | Notices |
|---|---|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ | | |
| Chlorine (7782-50-5) | ASCC | 1 | 3 | - | - | - | - |

As published in "*Workplace Exposure Standards for Airborne Contaminants, December 2011"* by SWA.

**Biological Limits**

None allocated for this product.

### 8.2 Exposure controls

**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Avoid generating and inhaling dusts. Use with local exhaust ventilation or while wearing appropriate respirator. Chlorine gas vapour is heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

**Personal protective equipment (PPE)**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods and environmental factors.

**Eye/face protection**

Safety glasses or goggles and face shield where appropriate. See Australian Standards (AS/NZS 1336 & 1337).

**Skin protection**

Wear protective gloves and protective clothing appropriate for the risk of exposure. See Australian Standards (AS 2161 & 2919 and AS/NZS 2210). Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. See Australian Standards (AS/NZS 1715 & 1716).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance:** | Form : Granular solid |
| | Colour : White |
| **Odour:** | Chlorine |
| **Odour Threshold:** | No data available |
| **pH:** | 11.6 – 12.0 @ 10% solution |
| **Melting Point:** | 100ºC |
| **Decomposition Temperature:** | Approx. 180ºC |
| **Evaporation Rate:** | Not applicable |
| **Flash Point:** | Not applicable |
| **Flammability Limits:** | Not applicable |
| **Specific Gravity:** | 2.35 g/cm$^3$ @ 20ºC |
| **Vapour Density (air=1):** | Not available |

| | |
|---|---|
| **Vapour Pressure:** | Not applicable |
| **% Volatiles:** | Not applicable |
| **Solubility in water:** | 180 g/L @ 20ºC |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**
Reacts with acids liberating toxic gases. Reaction with hydrochloric acid will evolve chlorine gas. Form potentially explosive mixtures with oxidative cyanurates.

**10.2 Chemical stability**
Product is stable under normal conditions of use, storage and temperature. Will slowly decompose to give chlorine gas and other chlorinated species in moist conditions.

**10.3 Possibility of hazardous reactions**
Mixing with any of the incompatible compounds listed below can initiate a hazardous decomposition. Reacts with ammonia, urea and amines (can form reactive and toxic chloramines). Metal oxides can cause decomposition.

**10.4 Conditions to avoid**
Avoid moisture, poor ventilation, contamination, excessive heat, sparks, open flames and other ignition sources

**10.5 Incompatible materials**
Calcium hypochlorite (dry or hydrated) and its mixtures are incompatible with dichloroisocyanuric acid, ammonium nitrate, trichloroisocyanuric acid, or any chloroisocyanurate, acids, aluminium, iron, lead, magnesium, and zinc. Incompatible with organic materials, combustible materials, reducing agents, ammonia, nitrogen compounds, acidic materials, cyanides, hydrogen peroxide, and chlorinated isocyanuric acid (organic bleaching powder).

**10.6 Hazardous decomposition products**
Chlorine, oxygen and chlorine oxides at higher temperatures.

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity**
LD50 Oral - rat - 850 mg/kg

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
No data available

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Calcium hypochlorite)

**Reproductive toxicity**
No data available

**Specific target organ toxicity (STOT) - single exposure**
No data available

**Specific target organ toxicity (STOT) - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Health Effects**
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:

**Eye contact :** A severe eye irritant. Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. Exposure to calcium hypochlorite dust and mist can cause eye irritation. Concentrated solutions can cause burns which may result in permanent eye damage.

**Skin contact :** Irritant. Corrosive. Symptoms of redness, pain, and severe burn can occur. Calcium hypochlorite dust and solutions can cause irritation, and in severe cases, chemical burns with permanent scar.

**Ingestion :** Calcium hypochlorite may cause burns to the mouth and digestive tract. Symptoms include abdominal pain, vomiting, difficulty in breathing, confusion, delirium and, in severe cases, coma and death. Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach.

**Inhalation :** Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.
Inhalation may be fatal as a result of spasm inflammation and oedema of the larynx and bronchi, chemical pneumonitis and pulmonary oedema. Dust and mist may irritate the nose and throat and upper respiratory tract. When mixed with acids, chlorine gas releases. This gas can cause severe irritation of the nose and throat. Prolonged exposure to high concentration of chlorine gas may result in severe lung damage.

**11.2 Information on possible routes of exposure**
The substance can be absorbed into the body by ingestion and by inhalation.

**11.3 Additional Information**
RTECS: NH3485000

## 12. ECOGICAL INFORMATION

**12.1 Ecotoxicity**
Avoid contaminating waterways.

**Toxicity to fish:**
$LC_{50}$ (Lepomis macrochirus) = 0.057 mg/L, 96h

**Toxicity to daphnia & other aquatic invertebrates**
$EC_{50}$ (Daphnia magna) = 0.067 mg/L, 48h

**12.2 Persistence and degradability**
No data available.

**12.3 Bioaccumulative potential**
No data available

**12.4 Mobility in soil**
No data available

**12.5 Other adverse effects**
Very toxic to aquatic life.

## 13. DISPOSAL CONSIDERATIONS

**13.1 Disposal methods and containers**
Ensure waste disposal conforms to relevant local, state and federal authority waste disposal regulations. All empty packaging should be disposed of as unused product.

**13.3 Special precautions for landfill or incineration**
Contact a specialist disposal company or the local waste regulator for advice. Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved waste facility. Processing, use or contamination of this product may change the waste management options. Untreated waste calcium hypochlorite must never be discharged directly into sewers or surface water. Following decontamination, disposal of residue by secure landfill may be acceptable.

## 14. TRANSPORT INFORMATION

Classified as a Dangerous Goods by the criteria of the ADG Code for transport by road or rail.
Classified as a Dangerous Goods by the criteria of the IMDG Code for transport by sea
Classified as a Dangerous Goods by the criteria of the IATA Code for transport by air

**14.1 UN number**

**ADG :** 2880 **IMDG :** 2880 **IATA :** 2880

**14.2 Proper shipping name**

**ADG :** CALCIUM HYPOCHLORITE, HYDRATED
**IMDG :** CALCIUM HYPOCHLORITE, HYDRATED
**IATA :** CALCIUM HYPOCHLORITE, HYDRATED

**14.3 Transport hazard class**

**ADG :** 5.1 Oxidising **IMDG :** 5.1 Oxidising **IATA :** 5.1 Oxidising

**14.4 Packing group**

**ADG :** II **IMDG :** II **IATA :** II

**14.5 Environmental hazards**

**ADG :** Yes **IMDG Marine Pollutant :** Yes **IATA :** Yes

**14.6 Special precautions for users** No data

**14.7 Hazchem code**

**ADG :** 1W **IMDG EMS :** F-A, S-B

**14.8 Dangerous goods initial emergency response guide (SAA/SNZ HB76:2010)** 31

## 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations**

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**
Poisons Schedule : 6

**Carcinogen classification under WHS Regulations 2011, Schedule 10**
Not listed

**Notification status**
**AICS** On the inventory, or in compliance with the inventory.

## 16. OTHER INFORMATION

**Key / legend to abbreviations and acronyms used in the MSDS**

| | |
|---|---|
| ADG | Australian Dangerous Goods |
| ASCC | Australian Safety and Compensation Council |
| DEC | Department of Environment and Conservation |
| NOHSC | National Occupational Health and Safety Commission |
| SUSDP | Standard for the Uniform Scheduling of Drugs and Poisons |
| Acute Tox. | Acute toxicity |
| Aquatic Acute | Acute aquatic toxicity |
| Eye Dam. | Serious eye damage |
| Ox. Sol. | Oxidising solids |
| Skin Corr. | Skin corrosion |
| TWA | Time weighted average |
| STEL | Short term exposure level |
| SWA | Safe Work Australia |
| Peak Limitations | A ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes |
| $LD_{50}$ | Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation |
| $LC_{50}$ | Lethal concentration that kills 50% of an animal population within a specified time |
| TD Lo | The lowest dose of a substance known to have produced signs of toxicity |
| RTECS | Registry of Toxic Effects of Chemical Substances |
| g/L | Grams per litre |
| $g/cm^3$ | Grams per cubic centimetre |
| $mg/m^3$ | Milligrams per cubic metre |
| mg/kg | Milligrams per kilogram |

| | |
|---|---|
| pH | Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline |
| WHS | Work Health and Safety |

## Literature references

"Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA
Work Health and Safety Regulations 2011

## Disclaimer