

1. COMPANY AND PRODUCT IDENTIFICATION

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| 1.1 | Identification – Product Name: | Sodium Hypochlorite |
| 1.2 | Other means of identification | 12% Bleach |
| | Synonym: | L0024 |
| 1.3 | Recommended Use of the Chemical and Restrictions on Use: | For use in cleaning, sanitising and disinfecting surfaces. |
| 1.4 | Name, Address, And Telephone Number Of The Manufacturer, Or Other Responsible Party: | Christopher Bright P.O. Box 2300 Moorabbin VIC 3189 |
| | Competent Person email address | christopheribright@gmail.com |
| | Poisons Hotline (24 hrs): | 13 11 26 |

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This product is a translucent yellow liquid with a chlorine odour. Exposure to bare skin may cause serious burns or eye damage. This product is not flammable.

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| Physical Hazards Summary | | Not classifiable |
| Potential Health Hazards Summary | | Skin corrosion, Category 1B Serious eye damage, Category 1 |
| Potential Ecological Effects Summary | | Acute aquatic toxicity, Category 1 |
| 2.1 | Classification of Product | |
| | Classification as per GHS (Rev 3)/2009 | Skin corrosion, Category 1B Serious eye damage, Category 1 Acute aquatic toxicity, Category 1 |
| 2.2 | Label Elements GHS | |
| | Signal Word | DANGER |
| | Hazard Statements | H303 H314 H317 H318 H290 H400 May be harmful if swallowed. Causes severe skin burns and eye damage. May cause allergic skin reaction. Causes serious eye damage. May be corrosive to metals. Very toxic to aquatic life. |
| | Precautionary Statements: Prevention | P264 P280 P261 P272 P273 P391 P501 Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing mist, vapours or spray. Contaminated clothing should not be allowed out of the workplace. Avoid release to the environment. Collect spillage. Dispose of contents in accordance with any local, State or Commonwealth regulations. |
| | Precautionary Statements: Response | P305+P351+P338+P310 IF IN EYES rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Immediately call a POISON CENTER or doctor/physician. |

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| | | P302+P352 P321 P332+P313 P363 P333+P313 | IF ON SKIN wash with soap and water. Specific treatment: See first aid section on this SDS. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing before reuse. If skin irritation or a rash occurs, get medical advice/attention. |
| | Precautionary statements: Storage | P410 | Protect from sunlight. |
| | Precautionary Statements: Disposal | P501 | Dispose of contents/container in accordance with all federal, state and local regulation. |
| | Hazard pictograms | | |
| 2.3 | Unclassified Hazards | None | |
| 2.4 | Ingredients with unknown acute toxicity | None | |

3. COMPOSITION and INFORMATION ON INGREDIENTS

| Chemical name CAS # | % w/w | GHS |
|---------------------------------------|-------|--|
| Sodium Hypochlorite (CAS # 7681-52-9) | 12% | Skin corrosion, Category 1B (H314) Serious eye damage, Category 1 (H318) Very toxic to aquatic life, Category 1 (H400) |
| Water (CAS # N/A) | 88% | Not classifiable as hazardous under the GHS |

4. FIRST-AID MEASURES

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| 4.1 | Description of Necessary Measures | |
| | Skin exposure: | If this product contaminates the skin, immediately begin decontamination with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim should seek immediate medical attention if any adverse exposure symptoms develop or irritation persists. |
| | Eye exposure: | If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Victim should "roll" eyes while being flushed. Minimum flushing is for 15 minutes. Seek medical attention immediately. |
| | Inhalation: | If this product is inhaled, remove victim to fresh air and place in a position comfortable for breathing. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers. |
| | Ingestion: | If this product is swallowed, CALL POISON CENTER or PHYSICIAN FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING. Mouth should be rinsed with water if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If contaminated individual is convulsing, maintain an open airway and obtain immediate medical attention. |
| 4.2 | Most Important Symptoms/Effects: | Immediate: Inhalation exposure may cause coughing or sneezing/respiratory tract irritation or difficulty breathing. Symptoms of skin and eye contact may include redness and irritation. Ingestion may cause stomach pains, cramps, and gastritis. Delayed: Prolonged or repeated skin overexposure to this product may cause dermatitis (dry, red skin). |
| 4.3 | Indication Of Immediate Medical Attention And | None known. TARGET ORGANS: Acute: Eyes, Skin |

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| Special Treatment Needed, If Necessary: | |
| Victims of chemical exposure must be taken for medical attention if any adverse effects occur. Rescuers should be taken for medical attention if necessary. Take a copy of label and SDS to physician or health professional with victim. | |

5. FIRE-FIGHTING MEASURES

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|-------------------------|---|---|-------------|-----|----------------|-----|------|-----|--------------|-----|-------|-----|-------|--|
| Flammability properties | | Flash Point °C: Not applicable | | | | | | | | | | | | |
| | | Auto-ignition Temperature °C: Not evaluated | | | | | | | | | | | | |
| | | Flammable Limits (in air by volume, %): Not evaluated | | | | | | | | | | | | |
| 5.1 | Suitable and Unsuitable Extinguishing Media: | <p>This material should not contribute to the intensity of a fire. However, this product decomposes with heat to produce toxic chlorine gasses. Use extinguishing material suitable for ordinary combustibles.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Water spray</td> <td style="width: 30%;">YES</td> <td style="width: 30%;">Carbon dioxide</td> <td style="width: 10%;">YES</td> </tr> <tr> <td>Foam</td> <td>YES</td> <td>Dry chemical</td> <td>YES</td> </tr> <tr> <td>Halon</td> <td>YES</td> <td>Other</td> <td></td> </tr> </table> | Water spray | YES | Carbon dioxide | YES | Foam | YES | Dry chemical | YES | Halon | YES | Other | |
| Water spray | YES | Carbon dioxide | YES | | | | | | | | | | | |
| Foam | YES | Dry chemical | YES | | | | | | | | | | | |
| Halon | YES | Other | | | | | | | | | | | | |
| 5.2 | Specific Hazards Arising from Chemical: | <p>When involved in a fire, this material may decompose and produce irritating fumes and toxic gases, especially chlorine, chlorine dioxide, and chloramine gas(es).</p> <p><u>Explosion Sensitivity to Mechanical Impact:</u> None.</p> <p><u>Explosion Sensitivity to Static Discharge:</u> Vapours are not expected to ignite</p> | | | | | | | | | | | | |
| 5.3 | Special Protective Equipment and Precautions for Fire-Fighters: | <p>Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus for chlorine gas vapours and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.</p> | | | | | | | | | | | | |
| 5.4 | HAZCHEM Code | Not applicable | | | | | | | | | | | | |

6. ACCIDENTAL RELEASE MEASURES

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| 6.1 | Personal Precautions | Uncontrolled releases should be responded to only by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people. |
| | Protective equipment | For small releases (< 20 litres), clean up spilled liquid wearing gloves, goggles, face shield, and suitable body protection. Absorb with earth, sand or other non-combustible material and transfer to containers for proper disposal. The minimum Personal Protective Equipment recommended for response to non-incident releases (more than 20 litres) should be Level C: triple-gloves (neoprene gloves over nitrile gloves), chemical resistant suit and boots, hard hat, and full-face respirator with a NIOSH/MSHA chemical cartridge respirator. Monitoring must indicate oxygen levels above 19.5% in order to use air purifying respirators. Prevent further leak/release if it is safe to do so. Do not let the product enter drains. |
| | Emergency procedures | Eliminate all ignition sources. Stop leak if you can do so without risk. |
| 6.2 | Environmental Precautions | Prevent release into the environment. Do not discharge into sewers or waterways. May produce adverse effects to marine organisms and their environment. If the product enters soil it will be highly mobile and may contaminate groundwater. |
| 6.3 | Methods and Materials for Containment and Cleaning Up | Use absorbent material for cleaning up spills. Collect spilled material for proper disposal. Decontaminate the area thoroughly. Place all spill residues in a suitable container. Dispose of in accordance with applicable Australian Federal, State, or local procedures, or appropriate local standards. |

7. HANDLING and STORAGE

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| 7.1 | Precautions for Safe Handling | <p>All employees who handle this material should be trained to handle it safely. Open containers carefully on a stable surface. Ensure all connections are tight before transfer. Empty containers may contain residual liquid; therefore, empty containers should be handled with care. Keep away from ignition sources; no smoking.</p> <p>As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Remove contaminated clothing promptly.</p> |
| 7.2 | Conditions for Safe Storage | <p>STORE AT OR BELOW ROOM TEMPERATURE AND AWAY FROM DIRECT SUNLIGHT. Keep containers tightly closed. Store individual containers out of direct sunlight. Tanks should be stored away from intense heat or direct sunlight. Avoid freezing. Store away from incompatible materials. Material should be stored in secondary containers, or in a diked area, as appropriate. Storage and use areas should be covered with impervious materials. Keep container tightly closed when not in use. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labelled and not damaged.</p> |
| | Incompatibilities | Direct sunlight, acids, ammonia, organic compounds, salts |

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

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| 8.1 | Appropriate Engineering Controls. | Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Avoid generating and inhaling mists. Use with local exhaust ventilation or while wearing organic vapour respirator or particulate respirator meeting the requirements of AS1715 and AS1716. Keep containers closed when not in use. | | | |
| 8.2 | Personal Protective Equipment | | | | |
| | Respiratory protection: | None needed under normal conditions of use. Use only approved respirators if ventilation is inadequate to control mists or vapour. | | | |
| | Eye protection: | Use approved safety goggles or safety glasses. Splash goggles with a face shield may be needed if splash hazards exist. | | | |
| | Hand protection: | Wear chemical impervious gloves (e.g., Solvex™, Neoprene, Nitrile). | | | |
| | Body protection: | None normally needed. If needed, use body protection appropriate for task (e.g., Tyvek suit, rubber apron) to protect from splashes and sprays. Nomex coveralls are recommended for handling bulk product. | | | |
| 8.3 | Biological monitoring | <p>Biological monitoring is required if ventilation is inadequate to maintain concentration of airborne hazardous chemicals below the following exposure standards.</p> <p>STEL sets the <i>short term exposure limit</i>, which is the maximum concentration of a substance to which a person can be exposed over a 15-minute period. The TWA sets a time-weighted average airborne concentration to which a person may be exposed. This product is a mixture. The following sets exposure standards only for its constituent parts. Exposure standards have not been determined for this product as a whole.</p> | | | |
| 8.3.1 | Exposure standards [NOHSC:1003(1995)] | TWA (ppm) | TWA (mg/m ³) | STEL (ppm) | STEL (mg/m ³) |
| | Sodium Hypochlorite | WorkSafe Australia has not set exposure standards for Sodium Hypochlorite. | | | |

9. PHYSICAL and CHEMICAL PROPERTIES

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| Appearance | This product is a clear yellow liquid that is thin (rather than viscous) | | |
| Odor | Chlorine-like | Odor Threshold | Not applicable |
| Melting Point °C | Not evaluated | pH | 12.5 |
| Initial Boiling Point °C | >100 °C | Boiling Point Range °C | Not evaluated |
| Flammability | Not flammable | Evaporation Rate (n-butyl acetate = 1) | Not evaluated |
| Vapor Density (air = 1) | Not evaluated | Vapor Pressure mm Hg @ 20°C: | Not evaluated |
| Solubility (in water) | Completely soluble | Relative density (water = 1) | 1.1 |
| Viscosity | Thin (like water) | Oil-Water Partition Coefficient | Not evaluated |

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| How To Detect This Substance (Warning Properties): | This product will smell like chlorine |
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10. STABILITY and REACTIVITY

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| 10.1 | Reactivity | Unstable under heat and in direct sunlight. |
| 10.2 | Chemical Stability | Stable under normal use and storage. |
| 10.3 | Possibility of hazardous reactions | Hazardous polymerization will not occur. |
| 10.4 | Conditions to avoid | Avoid mixing with incompatible substances. |
| 10.5 | Incompatible materials | Acids, ammonia organic compounds and salts |
| 10.6 | Hazardous decomposition products | This product thermally decomposes to chlorine gas, as well as chlorine dioxide and other chloramines. |

11. TOXICOLOGICAL INFORMATION

11.1 Toxicology Information

Note: This product has not been evaluated for its toxicity as a whole.

| Component | Oral LD ₅₀ (mg/kg) | Dermal LD ₅₀ (mg/kg) | Inhalation LC ₅₀ (mg/m ³) | Skin Irritation | Serious eye damage |
|---------------------------------------|-------------------------------|---------------------------------|--|-----------------|--------------------|
| Sodium Hypochlorite (CAS # 7681-52-9) | 1100 mg/kg (Rat) | No data available | No data available | YES | YES |

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

12.1 Ecological Information

Note: This product has not been evaluated for its ecologic impact as a whole.

| Component | Toxicity to fish | Toxicity to daphnia | Bioaccumulation | Solubility | Biodegradability |
|------------------------------------|--|---------------------|-----------------|------------|-------------------|
| Sodium Hydroxide (CAS # 1310-73-2) | 45.4 mg/L (LC50, 96 hr, freshwater fish) | No data available | Not expected | Soluble | No data available |

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| 12.2 | Persistence and Degradability | This product is expected to be readily biodegradable. |
| 12.3 | Bio-accumulative Potential | This product is not expected to bio-accumulate. |
| 12.4 | Mobility in Soil | When spilled onto soil, this product is expected to evaporate slowly. |
| 12.5 | Other Adverse Ecological Effects | This product may be harmful to aquatic life if large volumes of it are released into an aquatic environment. |

13. DISPOSAL CONSIDERATIONS

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| Preparing Wastes of this Product for Disposal | Waste disposal must be in accordance with appropriate Australian Federal, State, and local regulations or with local regulations. |
| Disposal of Contaminated Packaging | Cleaned containers can be recycled or disposed of as non-contaminated waste, if authorized by your local authorities. Dispose of containers as required by local regulations. |

14. TRANSPORT INFORMATION

Australian Domestic

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| 14.1 | UN Number | 1791 |
| 14.2 | Proper Shipping Name or Technical Name | CORROSIVE LIQUID N.O.S (CONTAINS SODIUM HYPOCHLORITE) |
| 14.3 | Transport Hazard Class(es) | 8 |
| | Transport label(s) required | CORROSIVE |
| 14.4 | Packing Group | III |
| 14.5 | HAZCHEM Code | 2R |
| 14.6 | Environmental Hazards for Transport Purposes | Toxic to aquatic life. Avoid spills. |
| 14.7 | Special Precautions for User | Dangerous goods for transport. DO NOT PACK WITH ACIDS, OXIDANTS OR AMMONIA. |
| 14.8 | Additional information | N/A |

CLASSIFIED AS DANGEROUS GOODS FOR TRANSPORT BY ROAD OR RAIL

15. REGULATORY INFORMATION

International

| Part | Regulatory Programme | Classification |
|------|---|----------------|
| 15.1 | Montreal Protocol | Not applicable |
| 15.2 | The Stockholm Convention | Not applicable |
| 15.3 | The Rotterdam Convention | Not applicable |
| 15.4 | Basel Convention | Not applicable |
| 15.5 | International Convention for the Prevention of Pollution from Ships | Not applicable |

Australian Commonwealth and State Regulations

| Part | Regulatory Programme | Classification |
|------|---|---|
| 15.6 | Medicine/Poisons Schedule Number | S 5 |
| 15.7 | Prohibition/ Notification/ Licensing requirements? | Not applicable |
| 15.8 | Controlled usage under <i>Agricultural and Veterinary Code Act 1994</i> (Cth) or otherwise (and any applicable Commonwealth, State or Territory control-of-use legislation) | Not applicable |
| 15.9 | Chemical listed on the Australian Inventory of Chemical Substances (AICS)? (See <i>Industrial Chemicals (Notification and Assessment) Act 1989</i> (Cth) (and any condition of use associated with the listing on the AICS) | All ingredients in the product are listed on the AICS |

16. OTHER INFORMATION

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| 16.1 | Original Preparation | 18 November 2019 |
| 16.2 | Revision History | 0.0 June 2023 |
| 16.3 | Prepared by | Marc Forrest Pty Ltd PO Box 2300 Moorabbin VIC 3189 |

DEFINITIONS OF TERMS

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| 16.5 | A large number of abbreviations and acronyms appear on this SDS. The following constitutes definitions of those commonly used terms. | |
| | Section 2 | GHS: Global Harmonization System Model WHS: Australia's model Workplace Health and Safety Guidelines CLP: Classification and Packaging STOT: Specific Target Organ Toxicity |
| | Section 3 | CAS #: Chemical Abstract Service index number |
| | Section 5 | Health Hazard: 0 (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); 1 (materials that on exposure under fire conditions could cause irritation or minor residual injury); 2 (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); 3 (materials that can on short exposure could cause serious temporary or residual injury); 4 (materials that under very short exposure could cause death or major residual injury). Flammability Hazard Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System". Flash Point: Minimum temperature at which a liquid gives off sufficient vapours to form an ignitable mixture with air. Auto-ignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL: The lowest percent of vapour in air, by volume, that will explode or ignite in the presence of an ignition source. UEL: The highest percent of vapour in air, by volume, that will explode or ignite in the presence of an ignition source. |
| | Section 8 | TLV - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average (TWA), the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level (C). Skin absorption effects must also be considered IDLH - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. The DFG - MAK is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. NIOSH is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (OSHA). NIOSH issues exposure guidelines called Recommended Exposure Levels (RELs) . When no exposure guidelines are established, an entry of NE (Not Established) is made for reference. |
| | Section 11 | LD₅₀ : Lethal Dose (solids & liquids) which kills 50% of the exposed animals; LC₅₀ : Lethal Concentration (gases) which kills 50% of the exposed animals; ppm: Concentration expressed in parts of material per million parts of air or water; mg/m³ : Concentration expressed in weight of substance per volume of air; mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg IARC - the International Agency for Research on Cancer; NTP - the National Toxicology Program, RTECS - the Registry of Toxic Effects of Chemical Substances, TDLo , the lowest dose to cause a symptom and TCLo the lowest concentration to cause a symptom; TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo , the lowest dose (or concentration) to cause lethal or toxic effects. BEI - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. |
| | Section 12 | LC₅₀: The lowest concentration in water which kills 50% of the test subjects. EC₅₀: The Effect Concentration in water at which 50% of the test species if affected. |

DISCLAIMER

The information in this SDS has been provided in good faith, and is believed to the best of the author's knowledge to be accurate as of the date of preparation. However, the author does not represent this to be a comprehensive and exhaustive assessment of the product's risks. There is always a chance that risks were beyond the state of scientific knowledge at the time of writing. It is expected that individuals receiving the information will exercise their independent judgement in determining its appropriateness for a particular purpose. **Accordingly, we shall not be responsible for damages of any kind resulting from the use or reliance upon the information in this document.**