1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: SODIUM DICHLOROISOCYANURATE DIHYDRATE

Other name(s): Powersan

Recommended Use of the Chemical and Restrictions on Use: Active ingredient in dry bleaches, dishwashing compounds, scouring powder, detergent sanitizers, swimming pool disinfectants, water and sewage treatment, replacement for calcium hypochlorite.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: 1 800 033 111 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the “Other Information” section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Acute Oral Toxicity - Category 4
Eye Irritation - Category 2A
Specific target organ toxicity (single exposure) - Category 3

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:
Acute Aquatic Toxicity - Category 1
Chronic Aquatic Toxicity - Category 1

SIGNAL WORD: WARNING

Hazard Statement(s):
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.
Precautionary Statement(s):

Prevention:
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
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.
P330 Rinse mouth.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P391 Collect spillage.

Storage:
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

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

Other Hazards:
AUH031 Contact with acids liberates toxic gas.

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>Proportion</th>
<th>Hazard Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dichloroisocyanurate dihydrate</td>
<td>51580-86-0</td>
<td>98-100%</td>
<td>H302 H319 H335 H410</td>
</tr>
<tr>
<td>Other component(s)</td>
<td>-</td>
<td>0-2%</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) 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 contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice.
Safety Data Sheet

Eye Contact:
If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

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

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Delayed effects from exposure to chlorine (decomposition product) can include shortness of breath, severe headache, pulmonary oedema and pneumonia.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Water spray (large quantities).

Hazchem or Emergency Action Code: 2Z

Specific hazards arising from the chemical:
Non-combustible material. Environmentally hazardous.

Special protective equipment and precautions for fire-fighters:
Sodium dichloroisocyanurate is a powerful oxidising agent and decomposes violently upon heating liberating oxygen. 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 including rubber boots and self-contained breathing apparatus. A fire in the vicinity of sodium dichloroisocyanurate should be extinguished in the most practical manner but avoid contaminating this material with the fire fighting agent, including water. Decomposes on contact with water evolving toxic chlorine gas and in the presence of small amounts of water, the explosive gas nitrogen trichloride. 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. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Clear area of all unprotected personnel. Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Wear protective equipment to prevent skin and eye contact and breathing in vapours. Air-supplied masks are recommended to avoid inhalation of toxic material. DO NOT return spilled material to original container for re-use. 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. To neutralise add sodium sulfite (2.4 kg/kg product). If no active chlorine remains, add soda ash (1.1 kg/kg product) to effect complete neutralisation.

7. HANDLING AND STORAGE

Product Name: SODIUM DICHLOROISOXYCYNURATE DIHYDRATE
Substance No: 000000018788

Issued: 21/11/2017
Version: 4

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Precautions for safe handling:
Avoid skin and eye contact and breathing in dust.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place. Store away from sources of heat or ignition. 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for decomposition product(s):

Chlorine: Peak Limitation = 3 mg/m³ (1 ppm)
Hydrogen chloride: Peak Limitation = 7.5 mg/m³ (5 ppm)
Nitric oxide: 8hr TWA = 31 mg/m³ (25 ppm)

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

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

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace 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 workplace 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.

Appropriate engineering controls:
Ensure ventilation is adequate and that air concentrations of decomposition product(s) is/are controlled below quoted Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as 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.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.
Safety Data Sheet

Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and 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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid, Crystals, Granules</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Not specified</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.98</td>
</tr>
<tr>
<td>Relative Vapour Density (air=1)</td>
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</tr>
<tr>
<td>Vapour Pressure (20 °C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability Limits (%)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition Temperature (°C)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in water (g/L)</td>
<td>ca. 250 (25°C)</td>
</tr>
<tr>
<td>Melting Point/Range (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Point (°C)</td>
<td>&gt;240</td>
</tr>
<tr>
<td>pH</td>
<td>6-7 (20°C)</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity:**
Sodium dichloroisocyanurate reacts with water and acids evolving toxic chlorine gas and in the presence of small amounts of water, the explosive gas nitrogen trichloride. Decomposes in alkaline conditions evolving carbon dioxide, nitrogen and chloramine gases.

**Chemical stability:**
Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions:**
Sodium dichloroisocyanurate reacts with water and acids evolving toxic chlorine gas and in the presence of small amounts of water, the explosive gas nitrogen trichloride. Decomposes in alkaline conditions evolving carbon dioxide, nitrogen and chloramine gases. Corrosive to most metals in the presence of moisture.

**Conditions to avoid:**
Avoid exposure to heat, sources of ignition, and open flame. Avoid contact with foodstuffs. Avoid exposure to moisture.

**Incompatible materials:**
Incompatible with acids, ammonia, bases, calcium hypochlorite, reducing agents, organic solvents, organic compounds.

**Hazardous decomposition products:**

### 11. TOXICOLOGICAL 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, and gastrointestinal irritation.
Safety Data Sheet

Eye contact: An eye irritant.
Skin contact: Contact with skin may result in irritation.
Inhalation: Material is irritant to the mucous membranes of the respiratory tract (airways). Inhalation of high concentrations may result in shortness of breath, chest pain, severe headache and lung damage including pulmonary oedema. Effects may be delayed.

Acute toxicity:
Oral LD50 (rat): 1420 mg/kg.

Chronic effects: No information available for the product.

Specific Target Organ Toxicity (STOT) - single exposure: May cause respiratory irritation.
Specific Target Organ Toxicity (STOT) - repeated exposure: No information available.
Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Avoid contaminating waterways.

Aquatic toxicity:
Very toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life.
96hr LC50 (fish): 0.355 mg/L

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

UN No: 3077
Transport Hazard Class: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SODIUM DICHLOROISOCYANURATE DIHYDRATE)
Safety Data Sheet

Hazchem or Emergency Action Code: 2Z

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 3077
Transport Hazard Class: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SODIUM DICHLOROISOCYANURATE DIHYDRATE)

IMDG EMS Fire: F-A
IMDG EMS Spill: S-F

Marine Pollutant: Yes

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

UN No: 3077
Transport Hazard Class: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SODIUM DICHLOROISOCYANURATE DIHYDRATE)

15. REGULATORY INFORMATION

Classification:
This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Acute Oral Toxicity - Category 4
Eye Irritation - Category 2A
Specific target organ toxicity (single exposure) - Category 3

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:
Acute Aquatic Toxicity - Category 1
Chronic Aquatic Toxicity - Category 1

Hazard Statement(s):
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.

Poisons Schedule (SUSMP): None allocated.

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

16. OTHER INFORMATION

Product Name: SODIUM DICHLOROISOCYANURATE DIHYDRATE
Substance No: 000000018788
Issued: 21/11/2017
Version: 4
This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

**Reason(s) for Issue:**
5 Yearly Revised Primary SDS

This SDS 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 Ixom Operations Pty Ltd cannot anticipate or control the conditions 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 their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.