1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: SODIUM METABORATE

Other name(s): Sodium metaborate 4 Mol; Sodium metaborate 8 Mol; Sodium metaborate tetrahydrate; Sodium metaborate octahydrate.

Recommended Use of the Chemical and Restrictions on Use

Industrial manufacturing.

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

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

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

Classification of the chemical:
Eye Irritation - Category 2A
Toxic to Reproduction - Category 2

SIGNAL WORD: WARNING

Hazard Statement(s):
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.

Precautionary Statement(s):

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P281 Use personal protective equipment as required.

Response:
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.
P308+P313 IF exposed or concerned: Get medical advice/attention.
Safety Data Sheet

Storage:
P405 Store locked up.

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

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 metaborate</td>
<td>7775-19-1</td>
<td>&gt;98.5%</td>
<td>H319 H361</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. Seek medical advice if effects persist.

Skin Contact:
If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice.

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:
Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek medical advice.

Indication of immediate medical attention and special treatment needed:
Material is alkaline. Observation only is required for adult ingestion of 9 grams. For ingestion in excess of 9 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Haemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Not combustible, however, if material is involved in a fire use: Extinguishing media appropriate to surrounding fire conditions.

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

Special protective equipment and precautions for fire-fighters:
Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.
6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services. May cause damage to trees or vegetation by root absorption. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level or meets local quality standards.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Wear protective equipment to prevent skin and eye contact and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place. Store at room temperature. Protect from moisture. Store away from incompatible materials described in Section 10. 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 particulates:

Dusts not otherwise classified: 8hr TWA = 10 mg/m³

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

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 to maintain air concentrations below Workplace 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.

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>Crystalline Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.74</td>
</tr>
<tr>
<td>Relative Vapour Density (air=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Pressure (20 °C)</td>
<td>Negligible</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>Melting Point/Range (°C)</td>
<td>53.5</td>
</tr>
<tr>
<td>pH</td>
<td>11.4 (4% solution)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity: Reacts with carbon dioxide from the air, forming sodium carbonate and borax.

Chemical stability: Stable.

Possibility of hazardous reactions: Reacts with strong reducing agents such as metal hydrides or alkali metals to
generate hydrogen gas which is highly flammable. May corrode mild steel, copper, aluminium and zinc fittings.

Conditions to avoid: Avoid dust generation. Avoid exposure to moisture.

Incompatible materials: Incompatible with strong reducing agents, and strong acids.

Hazardous decomposition products: None known.

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:

Product Name: SODIUM METABORATE
Product Code: 000033191501
Issued: 15/07/2015
Version: 5
## Ingestion:
No adverse effects expected, however, large amounts may cause nausea and vomiting.

## Eye contact:
An eye irritant.

## Skin contact:
Contact with skin may result in irritation. Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with absorption through large areas of severely damaged skin. These may include delayed effects of skin redness and peeling.

## Inhalation:
Breathing in dust may result in respiratory irritation.

### Acute toxicity:
Oral LD50 (rat): 2400 mg/kg

### Chronic effects:
Animal feeding studies with boric acid and sodium tetraborate in rat, mouse and dog at high doses have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the foetus including including foetal weight loss and minor skeletal variations. The lowest NOAEL is 9.6 mg B/kg in rats, based on developmental effects. The doses administered were many times in excess of those which humans would normally be exposed.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity
Avoid contaminating waterways.

## 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
Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

### Marine Transport
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

### Air Transport
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

## 15. REGULATORY INFORMATION

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

### Classification of the chemical:
Eye Irritation - Category 2A
Toxic to Reproduction - Category 2
Hazard Statement(s):
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.

Poisons Schedule (SUSMP): None allocated.

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

16. OTHER INFORMATION

Supplier Safety Data Sheet; 10/2012.

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.