1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: SODIUM HYDROSULFITE

Other name(s): Sodium hydrosulphite; Sodium dithionite; Dithionous acid, disodium salt; Sodium sulfoxylate; Sodium sulfoxylate; CI Reducing agent 1; Strip; Hydrosulfite N Conc.

Recommended Use of the Chemical and Restrictions on Use
Pulp and paper bleaching, clay bleaching, vat dyeing of fibres and textiles, stripping agent for dyes.

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.

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

Classification of the chemical:
Self-heating substances and mixtures - Category 1
Acute Oral Toxicity - Category 4
Eye Damage - Category 1

SIGNAL WORD: DANGER

Hazard Statement(s):
H251 Self-heating; may catch fire.
H302 Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary Statement(s):
Prevention:
P235+P410 Keep cool. Protect from sunlight.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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.
P310 Immediately call a POISON CENTER or doctor/physician.

Storage:
P407 Maintain air gap between stacks/pallets.
P420 Store away from other materials.

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 hydrosulfite</td>
<td>7775-14-6</td>
<td>&gt;88%</td>
<td>H251 H302</td>
</tr>
<tr>
<td>Sodium metabisulfite</td>
<td>7681-57-4</td>
<td>5-7%</td>
<td>H302 H318</td>
</tr>
<tr>
<td>Impurities</td>
<td>-</td>
<td>to 100%</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 soap and water. If irritation occurs, seek medical advice.

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 promptly to hospital or medical centre.

Ingestion:
Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Can cause corneal burns. It is recommended that asthma sufferers do not come into contact with sodium hydrosulfite nor its decomposition products as they can be adversely affected very quickly. No known specific antidote.
5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Water jets, large volumes of water to thoroughly wet the powder, foam, dry agent (carbon dioxide, dry chemical powder). DO NOT use water unless flooding amounts are available for fire-fighting.

Unsuitable Extinguishing Media:
Water spray. Water fog.

Hazchem or Emergency Action Code: 1S

Specific hazards arising from the chemical:
Substance liable to spontaneous combustion. Avoid all ignition sources. Containers may rupture or explode in heat of fire.

Special protective equipment and precautions for fire-fighters:
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. Decomposes on heating emitting toxic fumes, including those of oxides of sulfur, and methyl mercaptan. 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:
Shut off all possible sources of ignition. Clear area of all unprotected personnel. 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/dust. DO NOT allow material to get wet. Air-supplied masks are recommended to avoid inhalation of toxic material. Collect and seal in properly labelled containers or drums for disposal. DO NOT return spilled material to original container for re-use. Use non-sparking tools.

7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid skin and eye contact and breathing in dust. Do not open warm or swollen product containers. Avoid formation and build up of dust. When using do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place. Protect from moisture. 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. Large quantities of the product should not be kept in stockrooms with sprinkler installations due to a possible self inflammation by small quantities of water. 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 constituent(s):
Safety Data Sheet

Sodium metabisulfite: 8hr TWA = 5 mg/m³
Dusts not otherwise classified: 8hr TWA = 10 mg/m³
Decomposition product(s):
Sulfur dioxide: 8hr TWA = 5.2 mg/m³ (2 ppm), 15 min STEL = 13 mg/m³ (5 ppm)
Methyl mercaptan: 8hr TWA = 0.98 mg/m³ (0.5 ppm)

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.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

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 components are controlled below quoted Workplace Exposure Standards. Avoid generating and breathing in dusts. 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, GLOVES, AIRWASH HOOD.

Wear overalls, safety shoes, and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear an airwash hood 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>Physical state:</th>
<th>Free-flowing, Crystalline Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>White</td>
</tr>
<tr>
<td>Odour:</td>
<td>Penetrating Sulfur dioxide</td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>Na2S2O4</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>0.9-1.1</td>
</tr>
<tr>
<td>Relative Vapour Density (air=1):</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Pressure (20 °C):</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Product Name: SODIUM HYDROSULFITE
Substance No: 000030600801

Issued: 07/08/2019
Version: 8
10. STABILITY AND REACTIVITY

Reactivity: Contact with acids liberates toxic gas. Reacts violently with oxidising agents.

Chemical stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Sodium hydrosulfite is oxidized in the presence of air and moisture to sodium bisulfite.

Possibility of hazardous reactions: Reacts with acids, oxidising agents, damp air. Self inflammation possible by spray waters or water in small quantities. On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers. Violent decomposition may result if product is heated to 190°C.

Conditions to avoid: Avoid exposure to heat, sources of ignition, and open flame. Avoid dust generation. Avoid exposure to humidity. Avoid exposure to moisture. Avoid exposure to air.

Incompatible materials: Incompatible with acids, oxidising agents, water, moisture, combustible materials.

Hazardous decomposition products: Sulfur dioxide. Methyl mercaptan.

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 abdominal pain. Extremely large amounts may produce central nervous system stimulation, seizures, hypotension, and cardiovascular collapse.

Eye contact: A severe eye irritant. Contamination of eyes can result in permanent injury.

Skin contact: Contact with skin may result in irritation. May cause skin sensitisation in sensitive individuals. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Inhalation: Material may be irritant to the mucous membranes of the respiratory tract (airways). It is recommended that asthma sufferers do not come into contact with sodium hydrosulfite nor its decomposition products as they can be adversely affected very quickly. Bronchospasm, tachypnea, and dyspnea may occur. May cause respiratory sensitisation in sensitive individuals, producing asthma-like symptoms.

Acute toxicity: No LD50 data available for the product.
Respiratory or skin sensitisation: No information available for product.

Chronic effects:

Mutagenicity: No information available.
Carcinogenicity: Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC).
Reproductive toxicity: No information available.
Specific Target Organ Toxicity (STOT) - single exposure: No information available.
Specific Target Organ Toxicity (STOT) - repeated exposure: No information available.
Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.
Persistence/degradability: No information available.
Bioaccumulative potential: No information available.
Mobility in soil: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations. Protect empty packaging or contaminated packaging from moisture and water.

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.

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: 1384
Transport Hazard Class: 4.2 Spontaneously Combustible
Packing Group: II
Proper Shipping Name or Technical Name: SODIUM DITHIONITE (SODIUM HYDROSULPHITE)
Hazchem or Emergency Action Code: 1S

Product Name: SODIUM HYDROSULFITE
Substance No: 000030600801

Issued: 07/08/2019
Version: 8
Safety Data Sheet

Transport Hazard Class: 4.2  Spontaneously Combustible
Packing Group: II
Proper Shipping Name or Technical Name: SODIUM DITHIONITE (SODIUM HYDROSULPHITE)
IMDG EMS Fire: F-A
IMDG EMS Spill: S-J

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. TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in Passenger and Cargo Aircraft; may be transported by Cargo Aircraft Only.

UN No: 1384
Transport Hazard Class: 4.2  Spontaneously Combustible
Packing Group: II
Proper Shipping Name or Technical Name: SODIUM DITHIONITE

15. REGULATORY INFORMATION

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

Classification of the chemical:
Self-heating substances and mixtures - Category 1
Acute Oral Toxicity - Category 4
Eye Damage - Category 1

Hazard Statement(s):
H251 Self-heating; may catch fire.
H302 Harmful if swallowed.
H318 Causes serious eye damage.

Poisons Schedule (SUSMP): None allocated.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Supplier Safety Data Sheet; 04/ 2018.

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

Reason(s) for Issue:
Revised Primary SDS
Change in Disposal requirements
Change in Hazardous Chemical Classification
Updated Formulation
Change in Physical Properties
Safety Data Sheet

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.