1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: HYDRATED ALUMINA - ALL GRADES

Other name(s): Aluminium hydroxide; Alumina, hydrated; Alumina, trihydrate; Aluminium trihydrate; Aluminium oxide, hydrated; Aluminium oxide trihydrate; Aluminium trihydroxide.

Recommended Use of the Chemical and Restrictions on Use
Further processing into a number of articles/products; aluminium oxide production. For industrial use only.

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.

Based on available information, not classified as hazardous according to Safe Work Australia; NON-HAZARDOUS CHEMICAL.

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>Aluminium hydroxide</td>
<td>21645-51-2</td>
<td>99.5%</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. Seek medical advice if effects persist.

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

Eye Contact:
If in eyes, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.
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. Heating the material above 200°C will result in a sudden release of steam.

Special protective equipment and precautions for fire-fighters:
Non-combustible material.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
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 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.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place. 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
Safety Data Sheet

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, SAFETY GLASSES, GLOVES, DUST MASK.

Wear overalls, safety glasses 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 Powder</td>
</tr>
<tr>
<td>Colour:</td>
<td>Off-white</td>
</tr>
<tr>
<td>Odour:</td>
<td>Odourless</td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>Al(OH)3</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>2.42</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>
<tr>
<td>Flash Point (°C):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability Limits (%):</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature (°C):</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point/Range (°C):</td>
<td>Decomposes before melting.</td>
</tr>
<tr>
<td>pH:</td>
<td>8.5-10.2 (20% slurry in water)</td>
</tr>
</tbody>
</table>

Product Name: HYDRATED ALUMINA - ALL GRADES
Substance No: 000031055201

Issued: 31/01/2018  Version: 5
10. STABILITY AND REACTIVITY

Reactivity: Reacts violently with chlorinated rubber.

Chemical stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Absorbs carbon dioxide from the air. Forms a gel on prolonged contact with water.

Possibility of hazardous reactions: Hazardous polymerisation will not occur.

Conditions to avoid: Heating the material above 200°C will result in a sudden release of water vapour (steam). Precautions must be taken to dissipate the vapour and any pressure that may be generated. A sudden increase in pressure could cause damage or explosion in enclosed equipment. Avoid exposure to air. Avoid contact with water. Avoid dust generation.

Incompatible materials: Incompatible with chlorinated rubber, strong oxidising agents.

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:

Ingestion: Swallowing may result in nausea, vomiting, and abdominal pain. May cause physical obstruction.

Eye contact: May be an eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.

Skin contact: Repeated or prolonged skin contact may lead to irritation.

Inhalation: Breathing in dust may result in respiratory irritation.

Acute toxicity:
Oral LD50 (rat): >5000 mg/kg

Skin corrosion/irritation: Not classified.

Serious eye damage/irritation: Not classified.

Respiratory or skin sensitisation: Not classified.

Chronic effects: Prolonged exposure may cause osteomalacia.

Mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific Target Organ Toxicity (STOT) - single exposure: Not classified.

Specific Target Organ Toxicity (STOT) - repeated exposure: Not classified.

Aspiration hazard: Not applicable.

Product Name: HYDRATED ALUMINA - ALL GRADES
Substance No: 000031055201

Issued: 31/01/2018
Version: 5
Page 4 of 6
12. ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways.
Persistence/degradability: The material is not biodegradable.
Bioaccumulative potential: Does not bioaccumulate.
Mobility in soil: Not expected to be mobile in soil.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Normally suitable for disposal at approved land waste site.

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:
Based on available information, not classified as hazardous according to Safe Work Australia; NON-HAZARDOUS CHEMICAL.

Poisons Schedule (SUSMP): None allocated.
This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Supplier Safety Data Sheet; 11/ 2017.

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

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