1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: TITANIUM DIOXIDE

Other name(s): Titanium Dioxide Grades: R-2195, R-2295, R-2395, R-2795, R-2895, R-2011s; R996; ZR-969; RC-70; Rutile R818; R-818; R-972.

Recommended Use of the Chemical Pigment for coatings.

and Restrictions on Use

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>Titanium dioxide</td>
<td>13463-67-7</td>
<td>&gt;=92%</td>
<td>-</td>
</tr>
<tr>
<td>Aluminium oxide</td>
<td>1344-28-1</td>
<td>&lt;4%</td>
<td>-</td>
</tr>
<tr>
<td>Silica</td>
<td>7631-86-9</td>
<td>0-1.5%</td>
<td>-</td>
</tr>
<tr>
<td>Zirconium oxide</td>
<td>1314-23-4</td>
<td>0-1.0%</td>
<td>-</td>
</tr>
<tr>
<td>Water and other non-hazardous components</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. Seek medical advice if effects persist.
Safety Data Sheet

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, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

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:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

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:
If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Slippery when spilt. Avoid accidents, clean up immediately. 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. Take precautionary measures against static discharges.

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 constituent(s):
Safety Data Sheet

Titanium dioxide: 8hr TWA = 10 mg/m³
Aluminium oxide: 8hr TWA = 10 mg/m³
Silica Amorphous - Fumed silica (respirable dust): 8hr TWA = 2 mg/m³
Zirconium compounds (as Zr): 8hr TWA = 5 mg/m³, 15 min STEL = 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.

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. 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>Physical state:</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>White</td>
</tr>
<tr>
<td>Odour:</td>
<td>Odourless</td>
</tr>
</tbody>
</table>

Product Name: TITANIUM DIOXIDE
Substance No: 000000050577
Issued: 13/03/2018
Version: 6
10. STABILITY AND REACTIVITY

Reactivity: No information available.

Chemical stability: Stable under normal conditions of use.

Possibility of hazardous reactions: Hazardous polymerisation will not occur.

Conditions to avoid: Avoid dust generation. Avoid exposure to moisture. Avoid contact with water. Avoid contact with metals at high temperatures.

Incompatible materials: Incompatible with 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:

Ingestion: No adverse effects expected, however, large amounts may cause nausea and vomiting.

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: Not expected to be a skin irritant.

Inhalation: Breathing in dust may result in respiratory irritation.

Acute toxicity:
Oral LD50 (rat): >5000 mg/kg
Inhalation LC50 (rat): >6.82 mg/L/4hr

Skin corrosion/irritation: Non-irritant (rabbit).
Serious eye damage/irritation: Non-irritant (rabbit).
Respiratory or skin sensitisation: Not a skin sensitiser (human).
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Chronic effects: Repeated exposure by inhalation to high levels of amorphous silica may cause pneumonoconiosis but there is no adequate epidemiological data available to evaluate the carcinogenicity of amorphous silica. Amorphous silica has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans. Titanium dioxide has been classified by the International Agency for Research on Cancer (IARC) as a Group 2B agent. The agent is possibly carcinogenic to humans.

Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.
Persistence/degradability: The material is not biodegradable.
Bioaccumulative potential: Does not bioaccumulate.
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.

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.

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

16. OTHER INFORMATION

Supplier Safety Data Sheet; 07/2016.
Safety Data Sheet

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

Reason(s) for Issue:
Addition/Change of synonymous name(s)
Change in Formulation
Update in Toxicological Information

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.