SAFETY DATA SHEET

Section 1. Identification

Product name: POWDURA® Hybrid Powder Coating Blackjack
Product code: HBT2-C0008
Other means of identification: Not available.
Product type: Powder.

Relevant identified uses of the substance or mixture and uses advised against
Paint or paint related material.

Manufacturer: THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

National contact: Sherwin-Williams Canada Inc.
180 Brunel Road
Mississauga, Ontario L4Z 1T5 Canada

Emergency telephone number of the company: US / Canada: (216) 566-2917
Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year

Product Information Telephone Number: US / Canada: Not Available
Mexico: Not Available

Regulatory Information Telephone Number: US / Canada: (216) 566-2902
Mexico: Not Available

Transportation Emergency Telephone Number: US / Canada: (800) 424-9300
Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year

Section 2. Hazards identification

Classification of the substance or mixture:
- COMBUSTIBLE DUSTS
- SKIN SENSITIZATION - Category 1
- CARCINOGENICITY - Category 2
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1

GHS label elements
Hazard pictograms: ⚠️ ⬅️

Signal word: Danger

Hazard statements:
- May form combustible dust concentrations in air.
- May cause an allergic skin reaction.
- Suspected of causing cancer.
- Causes damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

Section 2. Hazards identification

**Prevention**: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

**Response**: Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

**Storage**: Store locked up.

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

**Supplemental label elements**: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

**Hazards not otherwise classified**: None known.

Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

Section 3. Composition/information on ingredients

**Substance/mixture**: Mixture

**Other means of identification**: Not available.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% by weight</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium Sulfate</td>
<td>19.66</td>
<td>7727-43-7</td>
</tr>
<tr>
<td>Talc</td>
<td>4.49</td>
<td>14807-96-6</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>2.5</td>
<td>1333-86-4</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>0.75</td>
<td>13463-67-7</td>
</tr>
<tr>
<td>Triphenyl Phosphine</td>
<td>0.17</td>
<td>603-35-0</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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**Date of previous issue**: 10/10/2018

**Version**: 5

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Section 4. First aid measures

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Potential acute health effects

Eye contact: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact: May cause an allergic skin reaction.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
- irritation
- redness

Inhalation: Adverse symptoms may include the following:
- respiratory tract irritation
- coughing

Skin contact: Adverse symptoms may include the following:
- irritation
- redness

Ingestion: No specific data.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: Use dry chemical powder.

Unsuitable extinguishing media: Avoid high pressure media which could cause the formation of a potentially exploisible dust-air mixture.

Specific hazards arising from the chemical: May form exploisible dust-air mixture if dispersed.

Hazardous thermal decomposition products: Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- sulfur oxides
- halogenated compounds
- metal oxide/oxides
Section 5. Fire-fighting measures

**Special protective actions for fire-fighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flames, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders:** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill:** Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill:** Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures:** Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Section 7. Handling and storage

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium Sulfate</td>
<td>ACGIH TLV (United States, 3/2018). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2016). TWA: 5 mg/m³ 10 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 5/2018). TWA: 10 mg/m³ 10 hours. Form: Total</td>
</tr>
<tr>
<td>Talc</td>
<td>NIOSH REL (United States, 10/2016). TWA: 2 mg/m³ 10 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>ACGIH TLV (United States, 3/2018). TWA: 2 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2016). TWA: 3.5 mg/m³ 10 hours. Form: Inhalable fraction</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 3/2018). TWA: 3 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>OSHA PEL (United States, 5/2018). TWA: 3.5 mg/m³ 8 hours. Form: None.</td>
</tr>
<tr>
<td>Triphenyl Phosphine</td>
<td>None.</td>
</tr>
</tbody>
</table>

Occupational exposure limits (Canada)
### Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| **Talc (none asbestiform)** | CA British Columbia Provincial (Canada, 7/2018).  
  TWA: 2 mg/m³ 8 hours. Form: Respirable dust.  
  TWA: 0.1 f/cc 8 hours.  
CA Quebec Provincial (Canada, 1/2014).  
TWAEV: 3 mg/m³ 8 hours. Form: Respirable dust.  
CA Ontario Provincial (Canada, 1/2018).  
TWA: 2 mg/m³ 8 hours. Form: Respirable fraction.  
TWA: 2 f/cc 8 hours.  
CA Alberta Provincial (Canada, 6/2018).  
8 hrs OEL: 2 mg/m³ 8 hours. Form: Respirable particulate.  
CA Saskatchewan Provincial (Canada, 7/2013).  
TWA: 2 mg/m³ 8 hours. Form: respirable fraction |
| **Carbon black** | CA British Columbia Provincial (Canada, 7/2018).  
  TWA: 3 mg/m³ 8 hours. Form: Inhalable.  
CA Ontario Provincial (Canada, 1/2018).  
TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction.  
CA Alberta Provincial (Canada, 6/2018).  
8 hrs OEL: 3.5 mg/m³ 8 hours.  
CA Quebec Provincial (Canada, 1/2014).  
TWAEV: 3.5 mg/m³ 8 hours.  
CA Saskatchewan Provincial (Canada, 7/2013).  
STEL: 7 mg/m³ 15 minutes.  
TWA: 3.5 mg/m³ 8 hours.  
CA Alberta Provincial (Canada, 6/2018).  
8 hrs OEL: 3.5 mg/m³ 8 hours.  |
| **Titanium dioxide** | CA British Columbia Provincial (Canada, 7/2018).  
  TWA: 3 mg/m³ 8 hours. Form: Respirable dust.  
  TWA: 10 mg/m³ 8 hours. Form: Total dust.  
CA Quebec Provincial (Canada, 1/2014).  
TWAEV: 10 mg/m³ 8 hours. Form: Total dust.  
CA Alberta Provincial (Canada, 6/2018).  
8 hrs OEL: 10 mg/m³ 8 hours.  
CA Ontario Provincial (Canada, 1/2018).  
TWA: 10 mg/m³ 8 hours.  
CA Saskatchewan Provincial (Canada, 7/2013).  
STEL: 20 mg/m³ 15 minutes.  
TWA: 10 mg/m³ 8 hours. |

### Occupational exposure limits (Mexico)

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
<td></td>
</tr>
</tbody>
</table>

### Appropriate engineering controls

- Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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### Section 8. Exposure controls/personal protection

#### Environmental exposure controls
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

**Hygiene measures**
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

**Skin protection**

**Hand protection**
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**
- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**
- Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**
- Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

### Section 9. Physical and chemical properties

#### Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Closed cup: &gt;93.3°C (&gt;199.9°F)</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Lower and upper explosive (flammable) limits</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not relevant/applicable due to nature of the product.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>1.46</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Not available</td>
</tr>
</tbody>
</table>
Section 9. Physical and chemical properties

- **Partition coefficient: n-octanol/water**: Not available.
- **Auto-ignition temperature**: Not available.
- **Decomposition temperature**: Not available.
- **Viscosity**: Kinematic (40°C (104°F)): >0.205 cm²/s (>20.5 cSt)
- **Molecular weight**: Not applicable.
- **Aerosol product**: Heat of combustion: 0.093 kJ/g

Section 10. Stability and reactivity

- **Reactivity**: No specific test data related to reactivity available for this product or its ingredients.
- **Chemical stability**: The product is stable.
- **Possibility of hazardous reactions**: Under normal conditions of storage and use, hazardous reactions will not occur.
- **Conditions to avoid**: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
- **Incompatible materials**: Reactive or incompatible with the following materials: oxidizing materials
- **Hazardous decomposition products**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Black</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;15400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Triphenyl Phosphine</td>
<td>LC50 Inhalation Gas.</td>
<td>Rat</td>
<td>1135 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>700 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>Skin - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td>72 hours 300 Micrograms Intermittent</td>
<td>-</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Skin - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td>72 hours 300 Micrograms Intermittent</td>
<td>-</td>
</tr>
<tr>
<td>Triphenyl Phosphine</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**

Not available.

**Mutagenicity**

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Section 11. Toxicological information

Carcinogenicity
Not available.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>-</td>
<td>2B</td>
<td>-</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>-</td>
<td>2B</td>
<td>-</td>
</tr>
</tbody>
</table>

Teratogenicity
Not available.

Reproductive toxicity
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>Category 1</td>
<td>Inhalation</td>
<td>lungs</td>
</tr>
<tr>
<td>Triphenyl Phosphine</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Aspiration hazard
Not available.

Information on the likely routes of exposure
Not available.

Potential acute health effects

Eye contact: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact: May cause an allergic skin reaction.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following: irritation, redness

Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing

Skin contact: Adverse symptoms may include the following: irritation, redness

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term exposure
Section 11. Toxicological information

Potential immediate effects: Not available.
Potential delayed effects: Not available.
Potential chronic health effects
Not available.

General: Causes damage to organs through prolonged or repeated exposure. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity
Acute toxicity estimates
Not available.

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium Sulfate</td>
<td>Acute EC50 634 mg/l Fresh water</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 32 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Acute LC50 &gt;1000000 µg/l Marine water</td>
<td>Fish - Fundulus heteroclitus</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triphenyl Phosphine</td>
<td>-</td>
<td>4801</td>
<td>high</td>
</tr>
</tbody>
</table>

Mobility in soil

Soil/water partition coefficient (K_{oc}): Not available.

Other adverse effects: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been...
Section 13. Disposal considerations

cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>IATA</th>
<th>IMDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Special precautions for user: Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not available.

Proper shipping name: Not available.
Ship type: Not available.
Pollution category: Not available.

Section 15. Regulatory information

International regulations

International lists:

- Australia inventory (AICS): Not determined.
- China inventory (IECSC): Not determined.
- Japan inventory (ENCS): Not determined.
- Japan inventory (ISHL): Not determined.
- Korea inventory (KECI): Not determined.
- Malaysia inventory (EHS Register): Not determined.
- New Zealand Inventory of Chemicals (NZIoC): Not determined.
- Philippines inventory (PICCS): Not determined.
- Taiwan Chemical Substances Inventory (TCSI): Not determined.
- Thailand inventory: Not determined.
- Turkey inventory: Not determined.
- Vietnam inventory: Not determined.
Section 16. Other information

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMBUSTIBLE DUSTS</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>SKIN SENSITIZATION - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>CARCINOGENICITY - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

**Indicates information that has changed from previously issued version.**

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.