# SAFETY DATA SHEET

## Trim & Trim II Powder (Clear, White, Tooth Shade)

### Section 1. Identification

<table>
<thead>
<tr>
<th>GHS product identifier</th>
<th>Trim &amp; Trim II Powder (Clear, White, Tooth Shade)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means of identification</td>
<td>Not available.</td>
</tr>
<tr>
<td>Product code</td>
<td>0921090, 0921092, 0921093, 0921094, 0921095, 0921096, 0921097, 0921100, 0921900, 0921901, 0921902</td>
</tr>
<tr>
<td>Product type</td>
<td>Powder.</td>
</tr>
<tr>
<td>Product use</td>
<td>Dental Products</td>
</tr>
</tbody>
</table>

**Relevant identified uses of the substance or mixture and uses advised against**

Not applicable.

**Supplier's details**

Keystone Industries  
52 West King Street  
Myerstown, PA 17067  
(856) 663-4700

**Emergency telephone number (with hours of operation)**

(800) 535-5053

### Section 2. Hazards identification

**OSHA/HCS status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture**

Classified as COMBUSTIBLE DUSTS

- ACUTE TOXICITY (inhalation) - Category 3
- SKIN SENSITIZATION - Category 1
- GERM CELL MUTAGENICITY - Category 2
- CARCINOGENICITY - Category 1B
- TOXIC TO REPRODUCTION (Fertility) - Category 2
- TOXIC TO REPRODUCTION (Unborn child) - Category 2
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 80%

**GHS label elements**

**Hazard pictograms**

![Hazard pictograms]

**Signal word**

Danger

**Hazard statements**

- May form combustible dust concentrations in air.
- Toxic if inhaled.
- May cause an allergic skin reaction.
- May cause cancer.
- Suspected of damaging fertility or the unborn child.
- Suspected of causing genetic defects.
- Causes damage to organs through prolonged or repeated exposure.

**Precautionary statements**

<table>
<thead>
<tr>
<th>Date of issue/Date of revision</th>
<th>8/5/2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of previous issue</td>
<td>No previous validation</td>
</tr>
<tr>
<td>Version</td>
<td>1</td>
</tr>
</tbody>
</table>
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. Use only outdoors or in a well-ventilated area. 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 INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician. 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: Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.

Hazards not otherwise classified: Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

Other means of identification: Not available.

CAS number/other identifiers

CAS number: Not applicable.

May contain one or more of the following components in quantities considered hazardous:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>EC number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>94-36-0</td>
<td>202-327-6</td>
<td>≤5</td>
</tr>
<tr>
<td>Cadmium (Non-pyrophoric)</td>
<td>7440-43-9</td>
<td>231-152-8</td>
<td>&lt;2</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>13463-67-7</td>
<td>236-675-5</td>
<td>≤1</td>
</tr>
</tbody>
</table>

Cadmium Pigment is not included in clear and white shades; Titanium Dioxide is not included in clear shade.

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

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 or the environment and hence require reporting in this section.

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 it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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.
Section 4. First aid measures

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.

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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

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

Inhalation: Toxic if inhaled. 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:
- Suspected of damaging fertility.
- Suspected of damaging fertility or the unborn child.
- Suspected of damaging the unborn child.
- respiratory tract irritation
- coughing

Skin contact: Adverse symptoms may include the following:
- Suspected of damaging fertility.
- Suspected of damaging fertility or the unborn child.
- Suspected of damaging the unborn child.
- redness
- irritation

Ingestion: Adverse symptoms may include the following:
- Suspected of damaging fertility.
- Suspected of damaging fertility or the unborn child.
- Suspected of damaging the unborn child.

Indication of immediate medical attention and special treatment needed, if necessary

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

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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 explosive dust-air mixture.

Specific hazards arising from the chemical

Hazardous thermal decomposition products: May form explosive dust-air mixture if dispersed.

Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- metal oxide/oxides

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 flares, smoking or flames in hazard area. Do not breathe 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. Avoid exposure during pregnancy. 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.

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: Do not store above the following temperature: 240°C (464°F). 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>ACGIH TLV (United States, 3/2016). TWA: 5 mg/m³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 5 mg/m³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 5 µg/m³ 8 hours. TWA: 0.2 mg/m³, (as Cd) 8 hours. Form: Dust CEIL: 0.6 mg/m³, (as Cd) Form: Dust TWA: 0.1 mg/m³, (as Cd) 8 hours. Form: Fume CEIL: 0.3 mg/m³, (as Cd) Form: Fume OSHA PEL Z2 (United States, 2/2013). TWA: 0.2 mg/m³ 8 hours. Form: Dust CEIL: 0.6 mg/m³ Form: Dust TWA: 0.1 mg/m³ 8 hours. Form: Fume CEIL: 0.3 mg/m³ Form: Fume</td>
</tr>
<tr>
<td>cadmium (non-pyrophoric)</td>
<td></td>
</tr>
</tbody>
</table>
Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Material</th>
<th>OSHA PEL (United States, 2/2013). TWA: 5 µg/m³, (as Cd) 8 hours.</th>
<th>ACGIH TLV (United States, 3/2016). TWA: 0.01 mg/m³, (as Cd) 8 hours. Form: Inhalable fraction TWA: 0.002 mg/m³, (as Cd) 8 hours. Form: Respirable fraction</th>
<th>ACGIH TLV (United States, 3/2016). TWA: 10 mg/m³ 8 hours.</th>
<th>OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m³ 8 hours. Form: Total dust</th>
<th>OSHA PEL (United States, 2/2013). TWA: 15 mg/m³ 8 hours. Form: Total dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>titanium dioxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls: Use only with adequate ventilation. 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.

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**
- **Physical state**: Solid. [Powder.]
- **Color**: White or Tan
- **Odor**: Not available.
- **pH**: Not available.
- **Melting point**: Not available.
- **Boiling point**: Not available.
- **Flash point**: Closed cup: 304°C (579.2°F)
- **Lower and upper explosive (flammable) limits**: Not available.
- **Vapor pressure**: Not available.
- **Vapor density**: Not available.
- **Relative density**: 1.25
- **Solubility**: Insoluble in the following materials: cold water and hot water.
- **Solubility in water**: Not available.
- **Partition coefficient: n-octanol/water**: Not available.
- **Auto-ignition temperature**: Not available.
- **Viscosity**: Not available.

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>dibenzoyl peroxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>6400 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>cadmium (non-pyrophoric)</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2330 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

Date of issue/Date of revision: 8/5/2016  Date of previous issue: No previous validation  Version: 1
Section 11. Toxicological information

<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>dibenzoyl peroxide</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 - Severe irritant</td>
<td>Human</td>
<td>-</td>
<td>1344 hours 5 Percent Intermittent</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Woman</td>
<td>-</td>
<td>1 Percent 72 hours 300 Micrograms</td>
<td>-</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>Skin - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td>Intermittent</td>
<td>-</td>
</tr>
</tbody>
</table>

**Classification**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>cadmium (non-pyrophoric)</td>
<td>+</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>-</td>
<td>2B</td>
<td>-</td>
</tr>
</tbody>
</table>

**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>cadmium (non-pyrophoric)</td>
<td>Category 1</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Information on the likely routes of exposure**

**Potential acute health effects**

- **Eye contact**: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- **Inhalation**: Toxic if inhaled. 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:
  - Suspected of damaging fertility.
  - Suspected of damaging fertility or the unborn child.
  - Suspected of damaging the unborn child.
  - respiratory tract irritation
  - coughing

- **Skin contact**: Adverse symptoms may include the following:
  - Suspected of damaging fertility.
  - Suspected of damaging fertility or the unborn child.
  - Suspected of damaging the unborn child.
  - redness
  - irritation

- **Ingestion**: Adverse symptoms may include the following:
  - Suspected of damaging fertility.
  - Suspected of damaging fertility or the unborn child.
  - Suspected of damaging the unborn child.

**Delayed and immediate effects and also chronic effects from short and long term exposure**
Section 11. Toxicological information

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**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**

May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity**

Suspected of causing genetic defects.

**Teratogenicity**

Suspected of damaging the unborn child.

**Developmental effects**

No known significant effects or critical hazards.

**Fertility effects**

Suspected of damaging fertility.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>30064.5 mg/kg</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>0.6452 mg/l</td>
</tr>
</tbody>
</table>

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>dibenzoyl peroxide</td>
<td>EC50 0.83 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>EC50 0.07 mg/l</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 2 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 97 µg/l</td>
<td>Algae - Pseudokirchneriella</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>subcapitata - Exponential growth phase</td>
<td></td>
</tr>
<tr>
<td>cadmium (non-pyrophoric)</td>
<td>EC50 0.095 mg/l</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>Aquatic plants - Lemna minor</td>
<td>4 days</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 200 µg/l</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Neonate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute EC50 13.5 µg/l</td>
<td>Crustaceans - Amphipoda - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Fish - Pimephales promelas -</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Juvenile (Fledgling, Hatchling,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weanling)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.072 µg/l</td>
<td>Algae - Parachlorella kessleri</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>Exponential growth phase</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1 µg/l</td>
<td>Crustaceans - Ceriodaphnia</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>dubia - Neonate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 3 µg/l</td>
<td>Fish - Cyprinus carpio</td>
<td>4 weeks</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Crustaceans - Ceriodaphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Algae - Parachlorella kessleri - Exponential growth phase</td>
<td>72 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 &gt;1000000 µg/l</td>
<td>Marine water</td>
<td>96 hours</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>Chronic NOEC 2 µg/l</td>
<td>Algae - Parachlorella kessleri</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Exponential growth phase</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.02 µg/l</td>
<td>Crustaceans - Ceriodaphnia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>dubia - Neonate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 3 mg/l</td>
<td>Fish - Cyprinus carpio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Crustaceans - Ceriodaphnia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 6.5 mg/l</td>
<td>Fish - Cyprinus carpio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>Crustaceans - Ceriodaphnia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 &gt;1000000 µg/l</td>
<td>Marine water</td>
<td></td>
</tr>
</tbody>
</table>
Section 12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>-</td>
<td>60 % - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>-</td>
<td>-</td>
<td>Inherent</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Log$P_{ow}$</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>3.2</td>
<td>-</td>
<td>low</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 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></th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cadmium)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide, Cadmium)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide, Cadmium)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide, Cadmium)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide, Cadmium)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide, Cadmium)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>
## Section 14. Transport information

<table>
<thead>
<tr>
<th>Packing group</th>
<th>III</th>
<th>III</th>
<th>III</th>
<th>III</th>
<th>III</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental hazards</td>
<td></td>
<td></td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Additional information</td>
<td></td>
<td>Yes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Environmental hazards

- **Reportable quantity**: 645.16 lbs / 292.9 kg
- The classification of the product is due solely to the presence of one or more US DOT-listed 'Hazardous substances' that are subject to reportable quantity requirements and only applies to shipments of packages greater than, or equal to, the product reportable quantity. Package sizes less than the product reportable quantity are not regulated as hazardous materials.

### Additional information

- **Product classified as per the following sections of the Transportation of Dangerous Goods Regulations**: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark).
- Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.
- **The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.**
- **This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.**

### Tunnel code

- **IMDG Code**: (E)

### Segregation group

- **16 - Peroxides**

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**Special precautions for user**: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

## Section 15. Regulatory information

### U.S. Federal regulations

- **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
- **United States inventory (TSCA 8b)**: All components are listed or exempted.
- **Clean Water Act (CWA) 307**: Cadmium (Non-pyrophoric)

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**Date of previous issue**: No previous validation

**Version**: 1

11/14
Section 15. Regulatory information

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)
Clean Air Act Section 602 Class I Substances: Not listed
Clean Air Act Section 602 Class II Substances: Not listed
DEA List I Chemicals (Precursor Chemicals): Not listed
DEA List II Chemicals (Essential Chemicals): Not listed

SARA 302/304
Composition/information on ingredients
No products were found.

SARA 304 RQ: Not applicable.

SARA 311/312
Classification: Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>≤5</td>
<td>Yes.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>cadmium (non-pyrophoric)</td>
<td>&lt;2</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>≤1</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

SARA 313

<table>
<thead>
<tr>
<th>Form R - Reporting requirements</th>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dibenzoyl peroxide</td>
<td>94-36-0</td>
<td>≤5</td>
</tr>
<tr>
<td></td>
<td>Cadmium (Non-pyrophoric)</td>
<td>7440-43-9</td>
<td>&lt;2</td>
</tr>
</tbody>
</table>

Supplier notification

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide</td>
<td>94-36-0</td>
<td>≤5</td>
</tr>
<tr>
<td>Cadmium (Non-pyrophoric)</td>
<td>7440-43-9</td>
<td>&lt;2</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts: The following components are listed: BENZOYL PEROXIDE; CADMIUM
New York: The following components are listed: Cadmium
New Jersey: The following components are listed: BENZOYL PEROXIDE; DIBENZOYLPEROXIDE; CADMIUM; TITANIUM DIOXIDE; TITANIUM OXIDE (TiO2)
Pennsylvania: The following components are listed: PEROXIDE, DIBENZOYL; CADMIUM DUST; TITANIUM OXIDE

California Prop. 65
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.
## Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Non-pyrophoric)</td>
<td>Yes.</td>
<td>Yes.</td>
<td>0.05 µg/day (inhalation)</td>
<td>4.1 µg/day (ingestion)</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>Yes.</td>
<td>No.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Canada inventory**: All components are listed or exempted.

**International regulations**

**International lists**

- **Australia inventory (AICS)**: All components are listed or exempted.
- **China inventory (IECSC)**: All components are listed or exempted.
- **Japan inventory (ENCS)**: Not determined.
- **Japan inventory (ISHL)**: Not determined.
- **Korea inventory**: All components are listed or exempted.
- **Malaysia Inventory (EHS Register)**: Not determined.
- **New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- **Philippines inventory (PICCS)**: All components are listed or exempted.
- **Taiwan Chemical Substances Inventory (TCSI)**: All components are listed or exempted.
- **Turkey inventory**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals**: Not listed

**Chemical Weapons Convention List Schedule II Chemicals**: Not listed

**Chemical Weapons Convention List Schedule III Chemicals**: Not listed

## Section 16. Other information

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

- **Health**: 2
- **Flammability**: 1
- **Physical hazards**: 0
- **Personal protection**: *

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 are not required on SDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)**

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Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

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Date of previous issue : No previous validation
Version : 1

Key to abbreviations
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- UN = United Nations

References
- Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Information contained within this SDS is only to be distributed as required by law.