1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier
   Product Form: Color Paste
   Substance Name: 90001 Red Iron Oxide Pigment
   Product Code(s): 06210402, 06210404, 0621040P, 0621040Q, 0621040G, 0621040F
   Chemical Family: Coloring material
   Synonyms: Not Available

1.2 Details of the Supplier of the Safety Data Sheet
   Fiberlay Inc.
   1468 Northgate Blvd
   Sarasota, FL 34234
   T 206-782-0660
   F 888-782-0662
   www.Fiberlay.com

1.3 Emergency Telephone Number
   Emergency Number: CHEMTREC: Domestic - 800-424-9300
                    International - 703-527-3887

2. Hazards Identification

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

2.1 Classification of the Substance or Mixture
   Acute toxicity – Oral – Category 4, H302
   Acute toxicity – Inhalation – Category 4, H332
   Eye irritation – Category 2B, H320
   Skin irritation – Category 2, H315

2.2 Label Elements
   GHS-US Labelling:
   Signal Word (GHS-US): WARNING
   Hazard Statement:
   H302-Harmful if swallowed
   H315-Causes skin irritation
   H320-Causes eye irritation
Precautionary Statements (GHS-US)

H332-Harmful if inhaled

General
P101-If medical advice is needed, have product container or label at hand
P102-Keep out of reach of children

Prevention
P280-Wear protective gloves/protective clothing/eye protection/face protection
P264-Wash with water thoroughly after handling
P271-Use only outdoors or in a well-ventilated area
P270-Do not eat, drink or smoke when using this product
P261-Do not breathe vapor or mist

Response:
P302+P352-IF ON SKIN: Wash with plenty of soap and water
P362+P364-Take off contaminated clothing and wash before reuse
P332+P313-If skin irritation occurs: Get medical attention
P301+P312-IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P304+P340-IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313-If eye irritation persists: Get medical attention/advice
P330-Rinse mouth
P391-Collect spillage

Storage:
P403+P235-Store in a well-ventilated place. Keep cool
P233-Keep container tightly closed
P405-Store locked up

Disposal:
P501-Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 Other Hazards
Hazards not otherwise classified: None known

3. Composition/Information on Ingredients

3.1 Substances: Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration (%)</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>≥3 - &lt;5</td>
<td>13463-67-7</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 or the environment and hence require reporting in this section.

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

4. First Aid Measures

4.1 First Aid Measures
Inhalation: Move the victim to a safe area as soon as possible. Allow the victim to rest in a well-ventilated area. If breathing is difficult, give oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Ingestion: Wash out mouth with water. Remove dentures if any. 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. Seek immediate medical attention.
Skin Contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. If irritation persists, seek medical attention. Wash contaminated clothing before reuse. Clean shoes thoroughly before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Use of buffered baby shampoo will aid in removal. If irritation persists, get medical attention.

Most important symptoms/effects, Acute and Delayed:
- EYE CONTACT: May cause eye irritation
- INHALATION: No known significant effects or critical hazards
- SKIN CONTACT: May cause skin irritation
- INGESTION: Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms:
- EYE CONTACT: Adverse symptoms may include the following: pain or irritation, watering, redness
- INHALATION: Adverse symptoms may include the following: respiratory tract irritation, coughing
- SKIN CONTACT: Adverse symptoms may include the following: irritation, redness
- INGESTION: Adverse symptoms may include the following: irritating to mouth, throat and stomach

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

SEE TOXICOLOGICAL INFORMATION (SECTION 11)

5. Fire Fighting Measures

EXTINGUISHING MEDIA
5.1. Suitable Extinguishing Media
Use dry chemical, CO₂, water spray (fog) or foam

5.2. Unsuitable Extinguishing Media
None known

5.3. Special Hazards Arising from the Chemical
No specific fire or explosion hazard

5.4. Hazardous Thermal Decomposition Products
No specific data

5.5. 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.

5.6. 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

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
6.1. For non-emergency personnel
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Provide adequate ventilation.

6.2. 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. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. See also the information in 'For non-emergency personnel'

6.3. 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).
Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

6.4. **Small spill**
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

6.5. **Large spill**
Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: See Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and Storage

Precautions for safe handling

7.1. **Protective measures**
Put on appropriate personal protective equipment (see Section 8). 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. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Sore and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2. **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.

7.3. **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. Eliminate all ignition sources. Segregate 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. Refer to the product label and/or technical data sheet for further information.

8. Exposure Controls/Personal Protection

Control Parameters

8.1. **Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
</tr>
</thead>
</table>
| Titanium Dioxide | ACGIH TLV (United States, 3/2012).  
|                | TWA: 10 mg/m³ 8 hours. Form: Total Dust              |
|                | OSHA PEL (United States, 06/2010).                  |
|                | TWA: 15 mg/m³ 8 hours. Form: Total Dust              |
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.

8.2. Individual protection measures

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 or dusts.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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. Ensure that eyewash stations and safety showers are close to the workstation location.

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.

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.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Paste/Dispersion</td>
</tr>
<tr>
<td>Color</td>
<td>Brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not established</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not established</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt;400°F (&gt;204°C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>240°F (116°C)</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not established</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not established</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.0 – 2.1 (water=1)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Negligible</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>N-Octanol/water</td>
<td>Not available</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

10.1. Reactivity
No specific test data related to reactivity available for this product or its ingredients

10.2. Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur

10.3. Chemical Stability
This product is stable. Stable under recommended storage and handling conditions (see Section 7)

10.4. Conditions to Avoid
Not applicable

10.5. Incompatible Materials
No specific information is available in our database

10.6. Hazardous Decomposition Products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

11.1. Information on Toxicological Effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;10000 mg/kg</td>
<td>--------</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>Skin – Mild irritant</td>
<td>Human</td>
<td>------</td>
<td>72 hours 300 micrograms</td>
<td>Intermittent</td>
</tr>
</tbody>
</table>

**Sensitization:** No data on skin sensitization due to this product

**Carcinogenicity Classification**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>------</td>
<td>2B</td>
<td>----</td>
</tr>
</tbody>
</table>

**Mutagenicity:** No mutagenic effect

**Reproductive toxicity:** Not considered to be toxic to the reproductive system

**Teratogenicity:** No known effect according to our database

**Specific target organ toxicity (single exposure):** No known effect according to our database

**Specific target organ toxicity (repeated exposure):** No known effect according to our database

**Aspiration hazard:** No known effect according to our database

**Potential acute health effects**

**Eye contact:** May cause eye irritation

**Inhalation:** No known significant effects or critical hazards

**Skin contact:** May cause skin irritation

**Ingestion:** Irritating to mouth, throat and stomach
Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following: pain or irritation, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: irritation, redness
Ingestion: Adverse symptoms may include the following: irritating to mouth, throat and stomach

12. Ecological Information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>Acute EC50 5.83 mg/l Fresh water</td>
<td>Algae – Pseudokirchneriella subcapitata – Exponential growth</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 &gt;10 mg/l Fresh water</td>
<td>Crustaceans – Ceriodaphnia dubia – Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5.5 ppm Fresh water</td>
<td>Daphnia – Daphnia magna – Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 &gt;1000000 μg/l Marine water</td>
<td>Fish – Fundulus heteroclitus</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.984 mg/l Fresh water</td>
<td>Algae – Pseudokirchneriella subcapitata – Exponential growth phase</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

12.2. Persistence and Degradability
Not available

12.3. Bio-Accumulative Potential
Not available

12.4. Mobility in Soil
Not available

12.5. Other Adverse Effects
No known effect according to our database

13. Disposal Considerations

13.1. Waste Treatment Methods

Disposal methods:
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retains some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid disposal. Attempt to use product completely in accordance with intended use. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions:
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. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information

14.1 UN Number
UN-No. (DOT): Not regulated

14.2 UN Proper Shipping Name
- DOT Proper Shipping Name: Not regulated
- DOT Hazard Class: Not regulated
- Environmental hazards: Marine Pollutant: NO
- Packing Group (DOT): Not regulated
- 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 of spillage.

14.3 Additional Information
- Other Information: US regulations require the reporting of spills when the amount exceeds the Reportable Quantity (RQ) for specific components of this material. See CERCLA in Section 15, Regulatory Information, for the Reportable Quantities.
- IMDG: No additional information
- IATA: No additional information

15. Regulatory Information

15.1. Inventories (National and International)
- United States Inventory (TSCA 8b): All Components are listed or exempted.
- Australia: All Components are listed or exempted.
- Canada: All Components are listed or exempted.
- China: All Components are listed or exempted.
- Europe: Not determined
- New Zealand: Not determined
- Philippines: Not determined
- Japan: Not determined
- Malaysia: Not determined
- Republic of Korea: All Components are listed or exempted.
- Taiwan: All Components are listed or exempted.

SARA 311/312
Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</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>Titanium Dioxide</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

State regulations
California Prop. 65:
WARNING: This product contains a chemical known to the State of California to cause cancer

15. Other Information

HMIS III Rating
Health: 2-Moderate Hazard
Flammability: 3-Serious Hazard
Physical: 1-Slight Hazard
Personal Protection: C

Fiberlay Inc. believes the law requires us to inform you that detectable amounts of any of the listed chemicals might be present in Fiberlay products. Based on a review of the list, Fiberlay products, like all synthetic and naturally occurring chemical substances, may conceivably contain trace contaminants of some of the listed substances. While not necessarily added to our products as ingredients, some of the listed chemicals may be present in the raw materials as received from suppliers over which we have no control.

Preparation Date: 7/27/2015
Prepared by: Kevin Aber

Comments: This Safety Data Sheet was prepared using information provided by Fiberlay Inc.

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and Fiberlay Inc. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.