Section 1: Identification

Trade Name: Zinc Oxide
Synonyms: Zinc White, Chinese white
Company: Soapgoods Inc
Address: 1824 Willow Trail Pkwy, Ste 200. Norcross. GA 30093
Phone: (404) 924-9080
E-Mail: wecare@soapgoods.com
Emergency Phone: Chemtrec 1 800 424 9300
CAS Registry Number: 1314-13-2
EINECS Number: 215-222-5

Section 2: Hazard(s) Identification

Emergency Overview
Zinc oxide is a fine white odorless powder that is not flammable or combustible under normal conditions of transport and storage. It is insoluble in water. Inhalation of zinc oxide dust may cause coughing, choking or irritation of the nose, throat, and upper respiratory tract. Inhalation of freshly formed zinc oxide can lead to metal fume fever. The dust may cause eye and skin irritation. Zinc oxide is not carcinogen. OSHA Regulatory Status This material is not hazardous. Please refer to Section 15, "Regulatory Information" for status with respect to various regulations.

Potential Health Effects
Zinc Oxide dust is primarily a nuisance dust, but exposures to high concentrations can result in respiratory system effects in humans. Volunteers inhaling 600 mg/m3 zinc oxide dust for 10 minutes exhibited persistent rales, decrease vital capacity, coughing, upper respiratory tract irritation and substernal pain. Studies have reported that exposures to concentrations up to 430 mg/m3 zinc oxide resulted in chest pain. Inhalation of zinc oxide fume can result in metal fume fever with symptoms of chills, mild fever and aching muscles and joints lasting 24 hours or less.

Eye contact
Zinc oxide can cause irritation, tearing and mild temporary pain.

Ingestion
Zinc oxide may cause vomiting, nausea, thirst, diarrhea and abdominal pain.
Inhalation
Zinc oxide dust is non-toxic if inhaled, except of a few reported cases of metal fume fever. Some workers develop a tolerance after repeated daily exposure to zinc oxide fume. This tolerance is lost after short periods away from work.

Skin Contact
Zinc oxide may cause irritation to the skin.

Potential Environmental Effects
Zinc Oxide has very low solubility in water and generally has no direct bioavailability. Refer to SECTION 15- REGULATORY INFORMATION

Section 3: Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>% Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc Oxide</td>
<td>CAS No. 1314-13-2</td>
<td>99 - 100%</td>
</tr>
</tbody>
</table>

Section 4: First-Aid Measures

Eye Contact
Flush with warm running water for at least 15 minutes, including the eyelids to remove dust particle(s). If irritation persists seek medical attention.

Skin contact
Remove contaminated clothing and wash affected area with soap and warm water. Seek medical attention if irritation develops or persists.

Inhalation
Remove victim from exposure area to fresh air immediately. If breathing is difficult, medical oxygen may be administrated, if available. If breathing has stopped, give artificial respiration and seek immediate medical attention.

Ingestion
If irritation or discomfort occurs, obtain medical advice

Section 5: Fire-Fighting Measures

Fire and Explosion Hazards
This material is not flammable.

Extinguishing Media
Use any means of extinction appropriate for surrounding fire conditions such as water spray, carbon dioxide, dry chemical or foam.

Fire Fighting
Zinc oxide fumes may be released in a fire involving zinc oxide. Firefighters must be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full face piece mask.

Flash Point And Method
Not Applicable

Upper And Lower Explosive Limit
Not Applicable

Auto Ignition Temperature
Not Applicable

Fire Extinguishing Agents
None; Material will not burn

NFPA Ratings:
Health: 1, Fire: 0 & Reactivity:0

Hazard scale:
0 = Minimum, 1= Slight, 2 = Moderate, 3 = Serious & 4 = Severe

Section 6: Accidental Release Measures

Personal Precautions
Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Use protective clothing, safety glasses, gloves and a respirator.

Environmental Precautions
Waste zinc oxide should be handled and disposed of in a manner which complies with local, state/provincial and federal regulations. Zinc oxide may cause adverse long-term effects in the aquatic environment. Keep out of sewers, ditches or drains.

Clean-Up Procedures
Small Spill - sweep up material for disposal or recovery. Large spills - Shovel material into containers. Thoroughly sweep area of spill to clean up any residual material. In case of large spills, follow the facility emergency response procedures.

Spill Kit Information
No specific spill kit required for this product

Evacuation procedures
Isolate the spill area to prevent people from entering it until the clean up is complete.

Section 7: Handling and Storage

Handling Procedures
All employees who handle this material should be trained to handle it safely. Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling.

Storage Procedures
Zinc oxide gradually absorbs carbon dioxide upon exposure to air. Keep container tightly closed when not in use. Store containers in a cool dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store containers away from incompatible chemicals
(refer to Section 10, Stability & Reactivity). Storage areas should be made of fire-resistant materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Have appropriate extinguishing equipment in the storage area. Empty containers may contain residual particles; therefore, empty container should be handled with care. Never store food, feed, or drinking water in containers, which held this product. Do not store this material in open or unlabeled containers.

**Section 8: Exposure Controls/Personal Protection**

**Exposure Guidelines**
Component: Zinc oxide (1314-13-2)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TWA</td>
<td>2.0 mg/m³-total dust</td>
</tr>
<tr>
<td>ACGIH STEL</td>
<td>10.0 mg/m³-total dust</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>5.0 mg/m³– TWA respirable fraction</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>15.0 mg/m³– TWA total dust</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>5.0 mg/m³- TWA fume</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>10.0 mg/m³- STEL fume</td>
</tr>
<tr>
<td>NIOSH REL</td>
<td>5.0 mg/m³(3) – TWA total dust</td>
</tr>
<tr>
<td>NIOSH REL</td>
<td>15.0 mg/m³(3) - 15 minute ceiling</td>
</tr>
</tbody>
</table>

**Engineering Controls:** Use mechanical ventilation such as dilution and local exhaust. Use a corrosion-resistant ventilation system and exhaust directly to the outside. Supply ample air replacement. Provide dust collectors with explosion vents.

**Personal Protective Equipment**

**Eyes/Face**
Wear safety glasses or goggles

**Skin**
Wear impervious gloves, boots and coveralls to avoid skin contact.

**Respiratory**
If airborne concentrations are above the applicable exposure limits, use NIOSH- approved respiratory protection.

**General hygiene consideration**
Wash thoroughly after handling and before eating or drinking.
Have an eyewash fountain and safety shower available in the work area. Change work clothing after use.

**Protective Clothing Pictogram**

![Protective Clothing Pictogram]
Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Odor</td>
<td>No odour</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Appearance</td>
<td>Fine white solid powder</td>
</tr>
<tr>
<td>Solubility</td>
<td>0.00016 g / 100 ml cold water; soluble in acids and bases</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Sublimes at 1975degC</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Density (air = 1)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>5.61</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>81.38</td>
</tr>
<tr>
<td>Percent Volatile (20degC)</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under normal conditions. Avoid heat &amp; incompatible material</td>
</tr>
<tr>
<td>Incompatibility</td>
<td>Zinc oxide and chlorinated rubber reacts violently @ 215 deg C. Contact with magnesium and linseed oil can cause violent reaction. Contact with strong acids may cause vigorous reaction. Contact with strong bases will form water and soluble zincates. Contact between zinc oxide and hydrogen fluoride, aluminum + hexachloroethane, zinc chloride or phosphoric acid, and water should be avoided.</td>
</tr>
<tr>
<td>Hazardous Decomposition</td>
<td>None</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur</td>
</tr>
</tbody>
</table>

Section 11: Toxicological Information

Zinc Oxide dust is generally considered a nuisance dust and is not bio-accumulative. Dust can cause mild mechanical irritation to the eye. No skin irritation is expected from a single short-term exposure to this product. Ingestion of large doses may cause gastrointestinal irritation and vomiting. Inhalation of zinc oxide fume may cause metal fume fever, an illness that lasts less than 48 hours; the “no effect level” for induction of metal fume fever is in the range of 5 to 15 mg/m3.
Carcinogenicity  
Not classified as to human carcinogenicity

Epidemiology  
Not available

Sensitization  
Not available

Mutagenicity  
Zinc components have not been active in genetics assays

Teratogenicity  
Zinc oxide at 2 to 38 mg/day had no effect on reproduction

Corrosivity  
Not available

Repeated dose effects  
Not available

**Section 12: Ecological Information**

Ecotoxicity  
It is very toxic to aquatic organisms. Since it takes very long time for zinc oxide to break down, it may cause adverse long-term effects in the aquatic environment.

Degradibility  
The products of degradation are less toxic than the product itself.

**Section 13: Disposal Considerations**

The material does not have an EPA waste number and is not a listed waste. Keep out of sewers, ditches or drains. All wastes must be handled and disposed of in accordance with applicable regulations.

**Section 14: Transport Information**

US HM-181  
Not regulated

DOT Classification  
Hazard class: XCP; NOT REGULATED FOR DOMESTIC TRANSPORT

TDG Classification  
Not regulated

IMO/IMDG  
Not regulated

ICAO/IATA  
Not regulated

EU ADR/ RID, AND/ADNR  
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide) UN 3077, Class 9, PG III, Classification Code M7

Above markings are applicable to EU ADR/ RID and AND/ADNR only.
Section 15: Regulatory Information

U.S Federal Regulation:
- TSCA (Toxic Substance Control Act) Status
- TSCA (United States) the international ingredients of this product are listed
  - CERCLA RQ – 40 CFR 302.4(a): Not Listed
  - SARA 302 Components – 40 CFR 355 Appendix A: None
  - RCRA 261: TCLP Determination Pb, Cd
  - DOT 172: Not Regulated
- FCC: Listed
- Color: 73.1991, 2991
- SARA 311/312: Yes (Acute)
- SARA 313: Compounds: Zn, Pb
- U.S. EPA Reg. No. 71645-3
- U.S. EPA PC Code: 088502
- U.S. TRI Reproductive Toxin – Yes
- U.S. TRI Development Toxin – Yes

Canada
- WHMIS Classification - not controlled
- Domestic substance list (DSL) – listed

European Union
- EC # 215-222-5
- Zinc oxide is not considered environmentally hazardous outside of the EU.
- ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide) UN 3077, Class 9, PG III.
- Ingredients listed on the European inventory of existing commercial Chemical substances (EINECS).........................
- Yes, on inventory
- WARNING. H410: Very toxic to aquatic life with long lasting effects.
- P273: Avoid release to the environment.
- P391: Collect spillage.
- P501: Disposal of contents/ container as hazardous or special waste in accordance with applicable law.
**Section 16: Other Information**

Legend for abbreviations

1. OSHA - Occupational Safety and Health Administration
2. PEL – permissible exposure limit
3. NIOSH - The National Institute for Occupational Safety and Health
4. REL - recommended exposure limits
5. ACGIH - The American Conference of Governmental Industrial Hygienists
6. TLV - threshold limit value
7. TWA – time waited average
8. STEL – short term exposure limit

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Review Date: December 2015