1. IDENTIFICATION

Product identifier
Product Name: Color Hardeners

Other means of identification
Product Code: CH

Recommended use of the chemical and restrictions on use.
Recommended Use: Restricted to professional users.
Uses advised against: Consumer use

Details of the supplier of the safety data sheet
Supplier Address: Solomon Colors, Inc.
4050 Color Plant Road
Springfield, IL
62702

Manufacturer Address: Solomon Colors, Inc.
4050 Color Plant Road
Springfield, IL
62702

Company Phone Number: 800-624-0261 (US & Canada); 217-522-3112 (Outside North America)
24 Hour Emergency Phone Number: 1-800-373-7543 Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemical

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
</tr>
<tr>
<td>Skin sensitization</td>
</tr>
<tr>
<td>Carcinogenicity</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Danger

Hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
May be irritating to skin, eyes and respiratory system.
Causes damage to lungs through prolonged or repeated inhalation exposure.
Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz, Crystalline Silica</td>
<td>14808-60-7</td>
<td>35 - 70</td>
<td>*</td>
</tr>
<tr>
<td>Portland Cement</td>
<td>65997-15-1</td>
<td>20 - 40</td>
<td>*</td>
</tr>
<tr>
<td>Yellow Iron Oxide</td>
<td>51274-00-1</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Red Iron Oxide</td>
<td>1309-37-1</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Black Iron Oxide</td>
<td>1317-61-9</td>
<td>1 - 5</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.
4. FIRST AID MEASURES

Description of first aid measures

General advice
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. In the case of skin irritation or allergic reactions see a physician.

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion
If swallowed, call a poison control center or physician immediately. Rinse mouth. Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products
Thermal decomposition can lead to the release of irritating gases and vapors. Carbon monoxide. Carbon dioxide (CO2). Metal Oxides. Oxides of sulfur.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Ensure adequate ventilation, especially in confined areas. Avoid breathing dust/fume/gas/mist/vapors/spray.

Environmental precautions

Environmental precautions
See Section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so.
Methods and material for containment and cleaning up

 Methods for containment
 Vacuum or sweep up material and place in a designated labeled waste container.

 Methods for cleaning up
 With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Pick up and transfer to properly labeled containers. For disposal see section 13.

 Prevention of secondary hazards
 Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials
Cement is reactive or incompatible with oxidizing materials, acids, aluminum, and ammonium salt. Cement is highly alkaline and will react violently with acids that can produce toxic gases or vapors. Silica reacts violently with oxidizing agents. Silicates dissolve readily in hydrofluoric acid and produces corrosive gas.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz, Crystalline Silica</td>
<td>TWA: 0.025 mg/m³ respirable</td>
<td>TWA: 50 µg/m³ TWA: 50 µg/m³</td>
<td>IDLH: 50 mg/m³ respirable dust</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>particulate matter</td>
<td>excludes construction work,</td>
<td>TWA: 0.05 mg/m³ respirable dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>agricultural operations, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>exposures that result from</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the processing of sorptive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>clays (vacated) TWA: 0.1 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>respirable dust</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(250)/(%SiO₂ + 5) mppcf TWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>respirable fraction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 0.05 mg/m³ respirable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 50 µg/m³ TWA: 50 µg/m³</td>
<td></td>
</tr>
<tr>
<td>Portland Cement</td>
<td>TWA: 1 mg/m³ particulate matter containing no asbestos and &lt;1% crystalline silica, respirable particulate matter</td>
<td>TWA: 5 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction TWA: 50 mppcf &lt;1% Crystalline silica</td>
<td>IDLH: 5000 mg/m³</td>
</tr>
<tr>
<td>65997-15-1</td>
<td>TWA: 15 mg/m³ total dust</td>
<td>TWA: 10 mg/m³ total dust</td>
<td>TWA: 5 mg/m³ respirable dust</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ total dust</td>
<td>(vacated) TWA: 10 mg/m³ total dust</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ respirable fraction</td>
<td>TWA: 5 mg/m³ respirable fraction</td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>TWA: 10 mg/m³</td>
<td>TWA: 15 mg/m³ total dust</td>
<td>IDLH: 5000 mg/m³</td>
</tr>
<tr>
<td>13463-67-7</td>
<td>TWA: 15 mg/m³ total dust</td>
<td>(vacated) TWA: 10 mg/m³ total dust</td>
<td></td>
</tr>
<tr>
<td>Red Iron Oxide</td>
<td>TWA: 5 mg/m³ respirable</td>
<td>TWA: 10 mg/m³ respirable fume</td>
<td>TWA: 2.4 mg/m³ CIB 63 fine</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>particulate matter</td>
<td>TWA: 15 mg/m³ total dust</td>
<td>TWA: 0.3 mg/m³ CIB 63 ultrafine,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 10 mg/m³ total dust</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 5 mg/m³ respirable</td>
<td>including engineered nanoscale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fume</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 5 mg/m³ fume</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 5 mg/m³ Fe dust and fume</td>
<td></td>
</tr>
</tbody>
</table>

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear protective gloves and protective clothing.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Appearance</th>
<th>Color</th>
<th>Odor</th>
<th>Odor threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder</td>
<td>Color will vary</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
Reacts slowly with water forming hydrated products

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
Reactive or incompatible with oxidizing materials, acids, aluminum and ammonia salts.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
Cement is reactive or incompatible with oxidizing materials, acids, aluminum, and ammonium salt. Cement is highly alkaline and will react violently with acids that can produce toxic gases or vapors. Silica reacts violently with oxidizing agents. Silicates dissolve readily in hydrofluoric acid and produces corrosive gas.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2). Sulfur oxides. Metal oxides.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
Harmful by inhalation.

Eye contact
Avoid contact with eyes. Risk of serious damage to eyes.

Skin Contact
Irritating to skin. May cause burns in the presence of moisture. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion
May be harmful if swallowed. Can burn mouth, throat, and stomach.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Red Iron Oxide</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Black Iron Oxide</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation
May cause serious burns in the presence of moisture.

Serious eye damage/eye irritation
May cause serious burns in the presence of moisture. Risk of serious damage to eyes.

Sensitization
Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

Germ cell mutagenicity
Not classified. (Based on mixture components).

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz, Crystalline Silica 14808-60-7</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
<tr>
<td>Titanium Dioxide 13463-67-7</td>
<td>-</td>
<td>Group 2B</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Red Iron Oxide 1309-37-1</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
- A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)
- Group 1 - Carcinogenic to Humans
- Group 2B - Possibly Carcinogenic to Humans
- Group 3 - Not Classifiable as to Carcinogenicity in Humans

The International Agency for Research on Cancer (“IARC”) concluded that there was “sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite. Crystalline silica in the form of quartz or cristobalite dust causes cancer of the lung”, and that there is “sufficient evidence in experimental animals for the carcinogenicity of quartz dust” The overall IARC evaluation was that "crystalline silica quartz or cristobalite dust is carcinogenic to humans (Group 1)."

NTP (National Toxicology Program)
- Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
- X - Present

Reproductive toxicity
Not classified. (Based on mixture components).

STOT - single exposure
Target Organs. Respiratory system.

STOT - repeated exposure
Causes damage to lungs through prolonged or repeated exposure if inhaled. Overexposure to dust can cause chronic lung injury such as chronic silicosis, accelerated silicosis, and acute silicosis. Several studies have also reported excess cases of kidney diseases in silica exposed workers.

Target Organ Effects
- lungs, kidney.

Aspiration hazard
No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.
12. ECOLOGICAL INFORMATION

Ecotoxicity
This product has not been fully evaluated on the product level.

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Do not reuse container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

ICAO (air)
Not regulated

IATA
Not regulated

IMDG
Not regulated

RID
Not regulated

ADR
Not regulated

ADN
Not regulated
## 15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>International Inventories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

**Legend:**
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

### US Federal Regulations

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA): This product does not contain chemicals at levels that are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**
See section 2 for more information

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**
This material, as supplied, does not contain substances that would exceed the reportable quantity as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

### US State Regulations

**California Proposition 65**
WARNING: This product can expose you to chemicals including Silica, Crystalline which are known to the State of California to cause cancer, and chemicals including Hexavalent Chromium which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

**U.S. State Right-to-Know Regulations**
This product contains substances regulated by state right-to-know regulations. For more information, please contact your sales or technical representative.
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet