SECTION 1: Product and company identification

1.1. Product

<table>
<thead>
<tr>
<th>Product Form:</th>
<th>Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Name(s):</td>
<td>Lead White, Basic Lead Carbonate</td>
</tr>
<tr>
<td>CAS No.</td>
<td>1319-46-6</td>
</tr>
<tr>
<td>Product Code(s):</td>
<td>475-10xx</td>
</tr>
</tbody>
</table>

1.2. Relevant Identified Uses of the Product

For art and art conservation use only.

1.3. Company Details and Supplier of the Safety Data Sheet

Natural Pigments
291 Shell Lane, Willits, California 95490
Telephone: 707-459-9998 Facsimile: 408-516-9442
Email: info@naturalpigments.com
Web site: www.naturalpigments.com

1.4. Emergency Telephone Number

CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of Hazardous Substances

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

Acute oral toxicity Category 4
Acute Inhalation Toxicity—Dusts and Mists Category 4
Carcinogenicity Category 1B
Reproductive Toxicity Category 1A
Specific target organ toxicity—(repeated exposure) Category 2
Acute aquatic toxicity Category 1
Chronic aquatic toxicity Category 1

2.2. Label elements

GHS-US Labelling
Hazard Pictograms (GHS-US):

Signal word (GHS-US): Danger
Hazard statements (GHS-US):
H302 + H332 Harmful if swallowed or if inhaled.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements (GHS-US):
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P501 Dispose of contents/container to an approved waste disposal plant.

HMIS Classification
Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazard: 0

NFPA Rating
Health hazard: 2
Potential Health Effects

Inhalation Toxic if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Toxic if swallowed.

2.3. Other hazards

Other hazards not contributing to the classification: None under normal conditions.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Product type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
<th>GHS-US Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Lead Carbonate (Lead(II) Carbonate)</td>
<td>CAS No. 598-63-0</td>
<td>100</td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td>EC No. 209-943-4</td>
<td></td>
<td>Eye Irrit. 2B, H320</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician.
First-aid measures after skin contact: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: Causes skin irritation.
Symptoms/injuries after eye contact: Causes eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions: Lead oxides
5.3. Advice for firefighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel to safe areas. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust. Use only outdoors or in a well-ventilated area.

Hygiene measures: Wash exposed skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed.
Incompatible materials: Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Compound</th>
<th>USA OSHA OSHA PEL (TWA) (mg/m³)</th>
<th>USA NIOSH OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) Carbonate (598-63-0)</td>
<td>0.05 mg/m³ ACGIH Threshold Limit Values (TLV)</td>
<td>0.05 mg/m³ NIOSH Recommended Exposure Limits</td>
</tr>
</tbody>
</table>

Remarks

Central Nervous System impairment Hematologic effects Peripheral Nervous System impairment. Substances for which there is a Biological Exposure Index or Indices (see BEI® section). Confirmed animal carcinogen with unknown relevance to humans varies. See 1910.1025.

8.2. Exposure controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.
Lead White
Safety Data Sheet

Personal protective equipment: Avoid all unnecessary exposure.
Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
Eye protection: Chemical goggles or safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin and body protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Other information: Do not eat, drink or smoke during use.

SECTION 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>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White powder or lumps</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>267.21 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>400 °C (752 °F)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Self ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C:</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>6.14 g/cm³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: 0.00153 g/100ml</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts with acids.
10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products
Lead oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity:</th>
<th>Not classified</th>
</tr>
</thead>
</table>

**Lead (II) Carbonate (598-63-0)**

<table>
<thead>
<tr>
<th>Oral LD50 rat</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation LC50</td>
<td>No data available</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation:** Not classified

**Serious eye damage/irritation:** Not classified

**Respiratory or skin sensitisation:** Not classified

**Germ cell mutagenicity:** Not classified

**Specific target organ toxicity (single exposure):** May cause respiratory irritation.

**Specific target organ toxicity (repeated exposure):** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard:** Not classified

**Potential Health Effects**

- **Inhalation:** Toxic if inhaled. May cause respiratory tract irritation.
- **Ingestion:** Toxic if swallowed.
- **Skin:** May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes:** May cause eye irritation.

**Signs and Symptoms of Exposure**

- **Symptoms/injuries after inhalation:** May cause respiratory irritation.
- **Symptoms/injuries after skin contact:** Causes skin irritation.
- **Symptoms/injuries after eye contact:** Causes eye irritation.
- **Likely routes of exposure:** Inhalation; Skin and eye contact

Lead salts have been reported to cross the placenta and to induce embryo- and feto-mortality. They also have teratogenic effect in some animal species. No teratogenic effects have been reported with exposure to organometallic lead compounds. Adverse effects of lead on human reproduction, embryonic and fetal development, and postnatal (e.g., mental) development have been reported. Excessive exposure can affect blood, nervous, and digestive systems. The synthesis of hemoglobin is inhibited and results in anemia. If left untreated, neuromuscular dysfunction, possible paralysis, and encephalopathy can result. Additional symptoms of overexposure include: joint and muscle pain, weakness of the extensor muscles (frequently the hand and wrist), headache, dizziness, abdominal pain, diarrhea, constipation, nausea, vomiting, blue line on the gums, insomnia, and metallic taste. High body levels produce increased cerebrospinal pressure, brain damage, and stupor leading to coma and often death. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Carcinogenicity**

**IARC:**
Group 3: Not classifiable as to its carcinogenicity to humans (Lead(II) carbonate)

Group 2A: Probably carcinogenic to humans (Lead(II) carbonate)

**NTP:**
Reasonably anticipated to be a human carcinogen. The reference note has been added by TD based on the background information of the NTP. (Lead(II) carbonate)

**OSHA:**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity**

Known human reproductive toxicant

**Teratogenicity**

No data available
SECTION 12: Ecological information

12.1. Toxicity

Lead (II) Carbonate (598-63-0)

Toxicity to fish

LC50—Pimephales promelas (fathead minnow) > 5.00 mg/l—96.0 h

12.2. Persistence and degradability

Lead (II) Carbonate (598-63-0)

Persistence and degradability

Not established.

12.3. Bioaccumulative potential

Lead (II) Carbonate (598-63-0)

Bioaccumulative potential

Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Very toxic to aquatic life with long lasting effects.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations:
Dispose in a safe manner in accordance with local/national regulations.

Contaminated packaging:
Dispose of as unused product.

Ecology—waste materials:
Avoid release to the environment.

SECTION 14: Transport information

DOT

Not dangerous goods in sense of transport regulations.

IMDG

UN number: 3077   Class: 9   Packing group: III   EMS-No: F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead(II) carbonate)

Marine Pollutant: Marine pollutant

IATA

UN number: 3077   Class: 9   Packing group: III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Lead(II) carbonate)

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods >5L for liquids or >5kg for solids.

Additional information

No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

Lead(II) Carbonate (598-63-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
15.2. International regulations

**Lead(II) Carbonate (598-63-0)**

Listed on the Canadian DSL (Domestic Substances List) inventory.

**WHMIS Classification**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*"Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

15.3. US State regulations

**Massachusetts Right To Know Components**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>598-63-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>598-63-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**New Jersey Right To Know Components**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>598-63-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**California Prop. 65 Components**

**WARNING!** This product contains a chemical known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>598-63-0</td>
<td>2007-09-28</td>
</tr>
</tbody>
</table>

SECTION 16: Other information

Other information: None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H-phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H320</td>
<td>Causes eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

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