SAFETY DATA SHEET

1. Identification

Material name: ANTIQUING AGENT - 5# PL PHILLY BLUE
Material: CAAG P005 570

Recommended use and restriction on use
- Recommended use: Pigment
- Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards
- Carcinogenicity: Category 1A

Unknown toxicity - Health
- Acute toxicity, oral: 84.12 %
- Acute toxicity, dermal: 99.58 %
- Acute toxicity, inhalation, vapor: 100 %
- Acute toxicity, inhalation, dust or mist: 98.26 %

Unknown toxicity - Environment
- Acute hazards to the aquatic environment: 89.9 %
- Chronic hazards to the aquatic environment: 100 %

Label Elements

Hazard Symbol:

Signal Word: Danger
Hazard Statement: May cause cancer.
Precautionary Statement:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>1317-65-3</td>
<td>60 - 100%</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>Chromium oxide</td>
<td>1308-38-9</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
<td>14808-60-7</td>
<td>0.5 - 1.5%</td>
</tr>
<tr>
<td>Pigment phthalocyanine blue</td>
<td>12239-87-1</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>0.1 - 1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Rinse mouth thoroughly.

Inhalation: Move to fresh air.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Eye contact: Rinse immediately with plenty of water.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures
General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection
## Control Parameters

### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Respirable fraction.</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Chromium oxide - as Cr</td>
<td>TWA</td>
<td>0.5 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2012)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>0.5 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>1 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable.</td>
<td>TWA</td>
<td>2.4 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Total dust.</td>
<td>TWA</td>
<td>0.3 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td>Pigment phthalocyanine blue - Fume. - as Cu</td>
<td>TWA</td>
<td>0.2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
</tr>
<tr>
<td>Pigment phthalocyanine blue - Dust and mist. - as Cu</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
</tr>
<tr>
<td>Aluminum oxide - Respirable fraction.</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Aluminum oxide - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Chemical name</td>
<td>type</td>
<td>Exposure Limit Values</td>
<td>Source</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>------</td>
<td>-----------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>STEL</td>
<td>20 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Substance</td>
<td>Threshold Limit</td>
<td>Source</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³  Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
<td></td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³ Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³ Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
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<td></td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³ Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
<td></td>
</tr>
<tr>
<td>Chromium oxide - as Cr</td>
<td>TWA</td>
<td>0.5 mg/m³ Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)</td>
<td></td>
</tr>
<tr>
<td>Chromium oxide - as Cr</td>
<td>TWA</td>
<td>0.5 mg/m³ Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³ Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable.</td>
<td>TWA</td>
<td>0.10 mg/m³ Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.</td>
<td>TWA</td>
<td>0.1 mg/m³ Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

**Individual protection measures, such as personal protective equipment**

**General information:** Use personal protective equipment as required.
Eye/face protection: Wear goggles/face shield.

Skin Protection
Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: No data available.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Appearance

Physical state: solid
Form: Powder
Color: Blue

Odor: Odorless
Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: No data available.

Evaporation rate: No data available.

Flammability (solid, gas): No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.

Vapor pressure: No data available.

Vapor density: No data available.

Relative density: 2.8355

Solubility(ies)

Solubility in water: Miscible with water.
Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.
Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid heat or contamination.

Incompatible Materials: No data available.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

   Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

   Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

   Skin Contact: Moderately irritating to skin with prolonged exposure.

   Eye contact: Eye contact is possible and should be avoided.

Information on toxicological effects

   Acute toxicity (list all possible routes of exposure)

      Oral Product: No data available.

      Dermal Product: No data available.

      Inhalation Product: No data available.

      Repeated dose toxicity Product: No data available.

   Skin Corrosion/Irritation Product: No data available.

   Serious Eye Damage/Eye Irritation Product: No data available.
Specified substance(s):
- Titanium dioxide in vivo (Rabbit, 24 - 72 hrs): Not irritating
- Chromium oxide in vivo (Rabbit, 24 - 72 hrs): Not irritating
- Pigment phthalocyanine blue in vivo (Rabbit, 24 - 72 hrs): Not irritating
- Aluminum oxide in vivo (Rabbit, 24 hrs): Not irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
- Titanium dioxide Overall evaluation: Possibly carcinogenic to humans.
- Crystalline Silica (Quartz)/ Silica Sand Overall evaluation: Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
- Crystalline Silica (Quartz)/ Silica Sand Known To Be Human Carcinogen.

No carcinogenic components identified

Germ Cell Mutagenicity
- In vitro Product: No data available.
- In vivo Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

**Fish**
- **Product:** No data available.
- **Specified substance(s):**
  - Titanium dioxide: LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality

**Aquatic Invertebrates**
- **Product:** No data available.
- **Specified substance(s):**
  - Titanium dioxide: EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication

Chronic hazards to the aquatic environment:

**Fish**
- **Product:** No data available.
- **Specified substance(s):**
  - Titanium dioxide: LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
  - Chromium oxide: NOAEL (Danio rerio, 30 d): 1,000 mg/l interpreted
  - Aluminum oxide: NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

**Aquatic Invertebrates**
- **Product:** No data available.

**Toxicity to Aquatic Plants**
- **Product:** No data available.

Persistence and Degradability

**Biodegradation**
- **Product:** No data available.

**BOD/COD Ratio**
- **Product:** No data available.
Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG: Not Regulated

CFR / DOT: Not Regulated

IMDG: Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium oxide</td>
<td>10 lbs.</td>
</tr>
</tbody>
</table>
Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**
Delayed (Chronic) Health Hazard

**SARA 302 Extremely Hazardous Substance**
None present or none present in regulated quantities.

**SARA 304 Emergency Release Notification**

<table>
<thead>
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<tbody>
<tr>
<td>Chromium oxide</td>
<td>10 lbs.</td>
</tr>
<tr>
<td>Pigment phthalocyanine</td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td></td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous Chemical**

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Chromium oxide</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Pigment phthalocyanine blue</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>500 lbs</td>
</tr>
</tbody>
</table>

**SARA 313 (TRI Reporting)**

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium oxide</td>
</tr>
</tbody>
</table>

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

**US State Regulations**

**US. California Proposition 65**
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

**US. New Jersey Worker and Community Right-to-Know Act**

<table>
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</tr>
<tr>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Chromium oxide</td>
</tr>
</tbody>
</table>

**US. Massachusetts RTK - Substance List**

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Limestone)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Chromium oxide</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
</tr>
</tbody>
</table>
US. Pennsylvania RTK - Hazardous Substances

**Chemical Identity**
- Calcium Carbonate (Limestone)
- Titanium dioxide
- Chromium oxide

US. Rhode Island RTK

**Chemical Identity**
- Chromium oxide

**Other Regulations:**

- **Regulatory VOC (less water and exempt solvent):** 0 g/l
- **VOC Method 310:** 0.00 %

**Inventory Status:**
- **Australia AICS:** All components in this product are listed on or exempt from the Inventory.
- **Canada DSL Inventory List:** All components in this product are listed on or exempt from the Inventory.
- **EINECS, ELINCS or NLP:** All components in this product are listed on or exempt from the Inventory.
- **Japan (ENCS) List:** One or more components in this product are not listed on or exempt from the Inventory.
- **China Inv. Existing Chemical Substances:** All components in this product are listed on or exempt from the Inventory.
- **Korea Existing Chemicals Inv. (KECI):** All components in this product are listed on or exempt from the Inventory.
- **Canada NDSL Inventory:** One or more components in this product are not listed on or exempt from the Inventory.
- **Philippines PICCS:** All components in this product are listed on or exempt from the Inventory.
- **US TSCA Inventory:** All components in this product are listed on or exempt from the Inventory.
- **New Zealand Inventory of Chemicals:** All components in this product are listed on or exempt from the Inventory.
- **Japan ISHL Listing:** One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing: One or more components in this product are not listed on or exempt from the Inventory.

### 16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Revision Date:</th>
<th>08/03/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version #:</td>
<td>1.0</td>
</tr>
<tr>
<td>Further Information:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Disclaimer:</td>
<td>For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.</td>
</tr>
</tbody>
</table>