SAFETY DATA SHEET

1. Identification

Material name: VINYL CHIPS - 20# BX CHARCOAL
Material: CVCB P020 150

Recommended use and restriction on use

Recommended use: Article
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 2

Unknown toxicity - Health
Acute toxicity, oral 3.72 %
Acute toxicity, dermal 8.82 %
Acute toxicity, inhalation, vapor 100 %
Acute toxicity, inhalation, dust or mist 100 %

Unknown toxicity - Environment
Acute hazards to the aquatic environment 95 %
Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:

Signal Word: Warning
Hazard Statement: Suspected of causing 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>Barium sulfate</td>
<td>7727-43-7</td>
<td>60 - 100%</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>5 - 10%</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>3 - 7%</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</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: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

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:
Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

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>Barium sulfate - Inhalable fraction.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (02 2014)</td>
</tr>
<tr>
<td>Barium sulfate - 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>Barium sulfate - 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>Talc - Respirable fraction.</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Talc</td>
<td>TWA</td>
<td>20 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td>Talc - 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>Talc - Total dust.</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>Carbon Black - Inhalable fraction.</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>Carbon Black</td>
<td>PEL</td>
<td>3.5 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>
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</tr>
<tr>
<td>-------------------------------</td>
<td>------------</td>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Barium sulfate - Total dust.</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>Barium sulfate - Respirable fraction.</td>
<td>TWA</td>
<td>3 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>Barium sulfate</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Barium sulfate - Total dust.</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Barium sulfate - Respirable dust.</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m3</td>
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<td>TWA</td>
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</tr>
<tr>
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<td>TWA</td>
<td>2 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>Talc - Respirable particles.</td>
<td>TWA</td>
<td>2 mg/m3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Talc</td>
<td>TWA</td>
<td>2 fibers/mL</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Talc - Respirable dust.</td>
<td>TWA</td>
<td>3 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Chemical</td>
<td>TWA</td>
<td>Exposure Limits</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>Carbon Black - Inhalable</td>
<td>3 mg/m^3</td>
<td>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>Carbon Black</td>
<td>TWAEV</td>
<td>3.5 mg/m^3</td>
<td></td>
</tr>
<tr>
<td>Carbon Black</td>
<td>TWA</td>
<td>3.5 mg/m^3</td>
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</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:**
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.

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

**Skin Protection**

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

**Other:**
Wear suitable protective clothing.

**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:** No data available.
- **Color:** Dark gray
- **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: 1.2
Solubility(ies)
   Solubility in water: Insoluble in 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: May be harmful in contact with skin.
   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: ATEmix: 2,857.14 mg/kg

Inhalation
Product: No data available.

Specified substance(s):
Titanium dioxide LC 50 (Rat, 4 h): > 6.82 mg/l
Carbon Black LC 0 (Rat, 4 h): > 10 mg/m³

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):
Barium sulfate in vivo (Rabbit, 24 - 72 hrs): Not irritating
Titanium dioxide in vivo (Rabbit, 24 - 72 hrs): Not irritating
Carbon Black in vivo (Rabbit, 24 - 72 hrs): Not irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: Suspected of causing cancer.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

- Titanium dioxide: Overall evaluation: Possibly carcinogenic to humans.
- Talc: Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
- Carbon Black: Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

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
- Product: No data available.

Other effects: No data available.

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):
- Barium sulfate: EC 50 (Tubificid worm (Tubifex tubifex), 24 h): 34.2 - 57.71 mg/l Intoxication
- 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):
- Barium sulfate: LC 50 (Oncorhynchus mykiss, 28 d): 42,700 µg/l experimental result
- Titanium dioxide: LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
- Carbon Black: NOAEL (Salmo sp., 30 d): 17 mg/l QSAR

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>Barium sulfate</td>
<td>1000 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>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium sulfate</td>
<td>1000 lbs.</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>Barium sulfate</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Talc</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>500 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

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>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium sulfate</td>
</tr>
<tr>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Talc</td>
</tr>
</tbody>
</table>

US. Massachusetts RTK - Substance List

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium sulfate</td>
</tr>
<tr>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Talc</td>
</tr>
</tbody>
</table>

US. Pennsylvania RTK - Hazardous Substances

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium sulfate</td>
</tr>
<tr>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Talc</td>
</tr>
</tbody>
</table>

US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

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

Inventory Status:

<table>
<thead>
<tr>
<th>Australia AICS:</th>
<th>One or more components in this product are not listed on or exempt from the Inventory.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada DSL Inventory List:</td>
<td>All components in this product are listed on or</td>
</tr>
</tbody>
</table>
exempt from the Inventory.

<table>
<thead>
<tr>
<th>EINECS, ELINCS or NLP:</th>
<th>One or more components in this product are not listed on or exempt from the Inventory.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan (ENCS) List:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>China Inv. Existing Chemical Substances:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Korea Existing Chemicals Inv. (KECI):</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Canada NDSL Inventory:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Philippines PICCS:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>US TSCA Inventory:</td>
<td>All components in this product are listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>New Zealand Inventory of Chemicals:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Japan ISHL Listing:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
<tr>
<td>Japan Pharmacopoeia Listing:</td>
<td>One or more components in this product are not listed on or exempt from the Inventory.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Revision Date:</th>
<th>08/05/2015</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>