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## MATERIAL SAFETY DATA SHEET

### Section 1 - Material Identity

Product Trade Name(s): Velvacast  
 Common Name(s): Kaolin Clay, China Clay  
 Chemical Name: Kaolin  
 CAS Number: 1332-58-7 (In TSCA Inventory)  
 Physical Form: White Powder

#### HMIS Ratings

|                          |   |
|--------------------------|---|
| Health Hazard            | 1 |
| Flammability Hazard      | 0 |
| Reactivity Hazard        | 0 |
| Max. Personal Protection | E |

Manufacturer's Name & Address: IMERYS Pigments & Additives Group, 100 Mansell Court East, Suite 300, Roswell, GA 30076  
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### Section 2 - Ingredients and Hazards

| Ingredient  | Wt. % (Approx.) | CAS No.   | OSHA PEL*   | ACGIH TLV*                      |
|---|-----------------|-----------|---|---------------------------------|
| Kaolin - Al <sub>2</sub> Si <sub>2</sub> O <sub>7</sub> (OH) <sub>2</sub> | > 98%           | 1332-58-7 | 5 mg/m <sup>3</sup> Resp.<br>15 mg/m <sup>3</sup> Total | 2 mg/m <sup>3</sup> Resp.<br>.. |
| Water   | < 2%            |           |   |                                 |

\* Unless otherwise noted, all PEL and TLV values are reported as 8 hour time weighted averages (TWA).

### Section 3 - Hazards Identification and Cautions

Appearance: White Powder

Primary Routes of Entry: Skin contact, skin absorption, eye contact, ingestion. Hazard Classification - None. (Historical basis for classification.)

Target Organs: Eye, skin and lungs

Medical Conditions Aggravated by Exposure: Skin contact may aggravate existing dermatitis. Breathing excessive quantities of kaolin dust may aggravate pre-existing respiratory conditions.

#### Potential Health Effects:

**Eye Contact:** This product may produce irritation upon contact with the eye. See also Section 4 below.

**Skin Contact:** Prolonged or repeated exposure may cause skin irritation. Kaolin is not expected to be absorbed through the skin in harmful amounts or to produce an allergic skin reaction. See also Section 4 below.

**Ingestion:** No adverse effect is expected. If ingested, seek medical advice. See also Section 4 below.

**Inhalation:** Inhalation of excessive quantities of kaolin dust may irritate the respiratory tract. Prolonged exposure to respirable kaolin dust without use of appropriate respiratory equipment could adversely affect respiratory function including fibrogenic response. See Am. Rev. Respir. Dis. 1983; 127: 215-220; 231-253; 141-142; Doc. Thres. Limit Values and Bio. Exp. Ind., Sixth Edition, 1991: OSHA PEL-29 C.F.R. 1910.1060.

**Subchronic, Chronic:** None expected. No applicable information was found concerning any potential health effects resulting from subchronic or chronic exposure to kaolin.

This product typically contains crystalline silica (quartz sand) above 0.1% as a naturally occurring impurity. The International Agency for Research on Cancer has concluded that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)." It also noted that carcinogenicity was not detected in all industrial circumstance studies, and may be dependent on external factors affecting its biological activity or distribution of its polymorphs. (See IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68 (1997).) Exposure to respirable silica has also been associated with silicosis, scleroderma, and nephrotoxicity. (See Occupational Lung Disorders, Third Edition, Chapter 12 (1994) and American Journal of Respiratory and Critical Care Medicine, Volume 155, pp 761-765 (1997))

**Section 4 - First Aid Measures**

**Eye Contact:** Follow good industrial hygiene practices. In case of contact, immediately flush eyes with plenty of water. Seek medical aid if necessary.

**Skin Contact:** Follow good industrial hygiene practices. Wash affected skin areas thoroughly with soap and water. Seek medical aid if necessary.

**Inhalation:** Follow good industrial hygiene practices. If excessive exposure by inhalation is suspected, remove to fresh air. If necessary, a MSHA/NIOSH or OSHA/NIOSH approved respirator is recommended. Seek medical aid if necessary.

**Ingestion:** Follow good industrial hygiene practices. If ingested, do not induce vomiting. If conscious, drink two glasses of water. Seek medical aid if necessary.

**Section 5 - Fire Fighting Measures**

**Explosion Data:** Not Explosive

**LEL:** Not Applicable

**UEL:** Not Applicable

**Extinguishing Media:** Product will not burn

**NEPA 704M Hazard Classification:** Health 1 Flammable: 0 Reactivity: 0

**Flammability:** Not Flammable or Combustible

**Flash Point:** Not Applicable

**Auto-Ignition:** Not Applicable

Use appropriate extinguishing media for packaging material if applicable.

**Section 6 - Accidental Release Measures**

Vacuum, pump or scoop spilled material into containers for reclaiming or disposal. Use proper respiratory and personal protective equipment. MSHA/NIOSH or OSHA/NIOSH approved respirator recommended. Spilled materials may cause slippery conditions when wet. Care should be exercised when walking on spills on floors or concrete pads. No neutralizing chemicals required. Material is inert and nonreactive. Kaolin is not a CERCLA listed hazardous substance.

**Section 7 - Handling and Storage**

Storage in a cool, dry location is recommended.

Spilled materials may cause slippery conditions when wet. Care should be exercised when walking on spills on floors or concrete pads.

Minimize dust generation & accumulation.

If excessive dust is generated, provide adequate ventilation and use proper respiratory and personal protective equipment. MSHA/NIOSH or OSHA/NIOSH approved respirator recommended.

**Section 8 - Exposure Control/Personal Protection**

| <u>Hazardous Ingredient</u> | <u>Weight % (Approx.)</u> | <u>CAS No.</u> | <u>MSHA PEL</u>  | <u>OSHA PEL</u>                      | <u>ACGIH TLV</u>      |
|-----------------------------|---------------------------|----------------|------------------|--------------------------------------|-----------------------|
|                             |                           | 1332-58-7      | 10mg/cu.m. Total | 15mg/cu.m. Total<br>5 mg/cu.m. Resp. | 2 mg/cu.m. Respirable |

Unless otherwise noted, all PEL and TLV values are reported as 8 hour time weighted averages (TWA).

**Respiratory Protection:** If respirator is required, use of a MSHA/NIOSH or OSHA/NIOSH approved respirator is recommended.

**Ventilation:** Use exhaust ventilation, if required, to maintain dust concentration below recommended exposure limits.

**Protective Equipment:** Wear side shield safety glasses. Rubber gloves are recommended for prolonged exposure.

**Section 9 - Physical and Chemical Properties**

|                                 |                          |                          |                |
|---------------------------------|--------------------------|--------------------------|----------------|
| <b>Physical State:</b>          | Solid                    | <b>Boiling Point:</b>    | Not Applicable |
| <b>Appearance &amp; Odor:</b>   | Odorless, white powder   | <b>Freezing Point:</b>   | Not Applicable |
| <b>pH (Aqueous Suspension):</b> | 4.0 - 6.0                | <b>Vapor Pressure:</b>   | Not Applicable |
| <b>Specific Gravity:</b>        | -2.6                     | <b>Vapor Density:</b>    | Not Applicable |
| <b>% Solubility in Water:</b>   | Insoluble                | <b>VOC:</b>              | None           |
| <b>Melting Point:</b>           | Not Determined, > 1500°C | <b>Evaporation Rate:</b> | Not Applicable |

**Section 10 - Stability and Reactivity**

**Chemically Stable?** Yes  No  Inert and nonreactive.

**Compatible with Other Substances?** Yes  No  Inert and nonreactive.

**Hazardous Decomposition By-Products:** No hazardous decomposition or by-products expected. Inert and nonreactive.

**Conditions Contributing to Hazardous Polymerization:** None, inert and nonreactive.

**Section 11 - Disposal Considerations**

**EPA Waste Number:** Under RCRA (40 CFR 261) kaolin is a non-hazardous waste. Dispose of waste material in accordance with all local, state and federal requirements.

**Section 12 - Toxicological Information**

kaolin - CAS No. 1332-58-7

**Primary Route of Exposure:**  Skin,  Eye Contact,  Inhalation,  Ingestion

**Acute Health Hazards:**

Eye contact may cause mechanical irritation if exposed to excessive amounts of kaolin.  
 Skin contact may aggravate existing dermatitis.  
 Inhalation from prolonged and continuous exposure to excessive quantities of dust may aggravate existing asthmatic or respiratory conditions.  
 No adverse effect expected when ingested.

**Chronic Health Hazards:**

Prolonged inhalation of excessive levels of kaolin dust may cause a simple pneumoconiotic condition, not normally associated with a decrement in lung function. In cases of long term exposure to extremely high levels of dust, complicated pneumoconiosis with lung function impairment may occur.

Carcinogenicity: NTP? No

IARC? No

OSHA? No

Mutagenicity: None known

Teratogenicity: None known

Reproductive Effects: None known

\* See Section 3 for discussion of crystalline silica

**Section 13 - Transport Information**

EPA Waste Number: Not Regulated  
 DOT Classification: Not Regulated DOT/IMO Classification: Not Regulated  
 Internal UN: Not Regulated

**Section 14 - Regulatory Information**

FDA: Kaolin is generally recognized as safe (GRAS) by the FDA in accordance with 21 CFR 186.1256. Additionally, kaolin is established as a component of the uncoated or coated food-contact surface of paper and paperboard in accordance with 21 CFR 176.170 (aqueous and fatty foods) and 21 CFR 176.180 (dry foods).

SARA Title III Section 302 Extremely Hazardous Substances: This product does not contain extremely hazardous substances subject to the reporting requirements of Section 302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 355.  
 SARA Title III Section 311 and 312 Health and Physical Hazard Categories per 40 CFR 370.2:

| Immediate | Delayed | Fire | Pressure | Reactivity |
|-----------|---------|------|----------|------------|
| Yes       | Yes     | No   | No       | No         |

SARA Section 313 Notification: This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

TSCA: Product is listed in Initial Inventory, Vol. I, Appendix A, CAS No. 1332-58-7.

The International Agency for Research on Cancer has concluded that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group I)." It also noted that carcinogenicity was not detected in all industrial circumstance studies, and may be dependent on external factors affecting its biological activity or distribution of its polymorphs. (See IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68 (1997).) Exposure to respirable silica has also been associated with silicosis, scleroderma, and nephrotoxicity. (See Occupational Lung Disorders, Third Edition, Chapter 12 (1994) and American Journal of Respiratory and Critical Care Medicine, Volume 155, pp 761-765 (1997).)

WARNING: This product may also contain extremely small amounts of one or more naturally-occurring materials known to the State of California to cause cancer, birth defects, or other reproductive harm.

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, IMERYS PIGMENTS & ADDITIVES GROUP MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

IMERYS is a business name of IMERYS Pigments, Inc., IMERYS Kaolin, Inc. and IMERYS Marble, Inc. Registered in the USA. Registered Office: 100 Mansell Court East, Suite 300, Roswell, GA 30076.

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