MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

CREAPEARL

Trade Name: Willi Geller Creapearl

Product Use: Polymethacrylate based polymer tooth for dentures

Importer/Supplier: Jensen Dental
50 Stillman Road
North Haven, CT, 06473

Emergency Telephone: 1-800-243-2000

Revised: July 29, 2009

SECTION 2 - HAZARD IDENTIFICATION

The hazards listed below may occur if the PELs and/or TLVs exceed the constituent's established values listed in section 3:

Methyl methacrylate: Fumes/dust may cause upper respiratory, eye, and skin irritation; ***Pulmonary edema***

Pulmonary edema: The build-up of fluid in the spaces outside the blood vessels of the lungs is called pulmonary edema. Pulmonary edema is a common complication of heart disorders, and most cases of the condition are associated with heart failure. Pulmonary edema can be a chronic condition, or it can develop suddenly and quickly become life threatening. The life-threatening type of pulmonary edema occurs when a large amount of fluid suddenly shifts from the pulmonary blood vessels into the lung, due to lung problems, heart attack, trauma, or toxic chemicals. It can also be the first sign of coronary heart disease.

Early symptoms of pulmonary edema include: shortness of breath upon exertion; sudden respiratory distress after sleep; difficulty breathing, except when sitting upright; coughing.

Severe/chronic symptoms of pulmonary edema include: labored and rapid breathing; frothy, bloody fluid containing pus coughed from the lungs (sputum), a fast pulse and possibly serious disturbances in the heart's rhythm cold, clammy; sweaty, and bluish skin; a drop in blood pressure

Oxides: Inhalation of certain elements and their oxides contained in this product may be hazardous. Dust/fumes can cause irritation to the eyes, nasal passage, GI tract, skin, and respiratory system. Other conditions that may result from exposures exceeding TLVs/PELs include:

- ***Acute Flu-like fever:*** Symptoms as normal fever
- ***Conjunctivitis:*** Any inflammatory condition of the membrane that lines the eyelid and covers the exposed surface of the sclera (the white of the eye)
- ***Dermatitis:*** Inflammation of the skin; rash
- ***Pneumoconiosis***: Is fibrosis and scarring of the lungs due to the chronic (long-term) occupational inhalation of dusts such as coal, silica, asbestos, or various mineral compounds. Early symptoms include chest tightness and shortness of breath. Advanced symptoms include serious breathing impairment, chronic bronchitis, and emphysema.
- ***Pneumonitis:*** Inflammation of the lung tissue, characterized by coughing and difficulty breathing
- ***Skin erythema:*** Redness of the skin that is produced by congestion of the capillaries.

SECTION 3 – COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

COMPONENT	%RANGE	CAS#	*PEL/OSHA (mg/m^3)	**TLV/ACGIH (mg/m^3)
Cross-linked copolymer***	98-100	N/A	N/A	N/A
Methyl Methacrylate	<1	80-62-6	100ppm	50ppm/100ppm STEL
TiO_2 (Titanium Dioxide)	<1	13463-67-7	15	10

PIGMENTS 0.08-0.6%:

Pigment	Manufacturer	Description	CAS#
Bayertitan AZ	Bayer AG	N/A	1317-70-0
Ti Oxide White A-PP2	N/A	N/A	1317-70-0
Bayferrox 920 Z	Bayer AG	C.I. Pigment Yellow 42	20344-49-41
Light-yellow 8G	Bayer AG	C.I. Pigment Yellow 53	8007-18-9
Yellow 2G-T	Ciba-Geigy	C.I. Pigment Yellow 17	N/A
Red BR-T	Ciba-Geigy	C.I. Pigment Red 144	N/A

Black C-T	Ciba-Geigy	C.I. Pigment Black 7	N/A
Lumilux LZ Blue	N/A	N/A	N/A

*Taken from the Permissible Exposure Limits for Air Contaminants established by OSHA CFR 29 1910.1000 Subpart Z – Toxic and Hazardous Substances

**Taken from the ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices

***The cross-linked copolymer is formed from the reaction of a polymer (polymethacrylate) and a reactant monomer (methyl methacrylate).

STEL: (Short Term Exposure Limit) A 15 minute TWA (Time Weighted Average) exposure that should not be exceeded at any time during a workday even if the 8-hour TWA is within the TLV-TWA.

SECTION 4 - FIRST AID MEASURES

Inhalation: Breathing difficulty caused by inhalation of dust or fume requires immediate removal to fresh air. There are no known cases in which a person stopped breathing as a result of exposure. If breathing has stopped, perform artificial respiration and obtain medical assistance.

Ingestion: Swallowing this material can be treated by having the affected person drink large quantities of water. If this method proves ineffective, immediately obtain medical assistance.

Skin: Skin cuts and abrasions should be treated by standard first aid. Skin contamination with dust or powder can be removed by washing with soap and water. Obtain medical help if irritation develops and persists.

Eyes: Dust or powder should be flushed from the eyes with a lot of clean water. Obtain medical help if irritation persists.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: 304°C (580°F) **Explosive Limits:** N/A

Extinguishing Media: Use fire fighting measures that suit the environment: Foam, CO_2, extinguishing powder, or water jet.

Fire & Explosion Hazards: Fire can cause release of nitrogen oxides (NOx) and ammonia (NH_3). Metal oxide fumes may result from intense heating

Special Fire Fighting Procedures: this material becomes airborne as a respirable particulate during a fire situation, pressure-demand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed to the airborne dust. Polymer dust is inflammable. The explosion limits for spread polymer particles in air resemble those of coal.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Steps to Be Taken If Material Is Released or Spilled: Wear adequate respiratory protection for the severity of the spill. Cleanup should be conducted with a vacuum system utilizing a high efficiency particulate air (HEPA) filtration system followed by wet cleaning methods. Special precautions must be taken when changing filters on HEPA vacuum cleaners used to clean up potentially toxic materials. Caution should be taken to minimize airborne generation of powder or dust.

SECTION 7 - HANDLING AND STORAGE

Handling: Wear an approved respirator when handling this product (see section 8).
Storage: Store material in original container, in a dry area.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation and Engineering Controls: Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust. Where utilized, pickups on flexible ventilation lines should be positioned as close to the source of airborne contamination as possible. Disruption of the airflow in the area

of a local exhaust inlet, such as by a cooling fan, should be avoided. Ventilation equipment should be checked regularly to ensure it is functioning properly.

Respiratory Protection: When potential exposures are above the occupational limits shown in Section 2, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of any style respirator must be clean- on those areas of the face where the respirator seal contacts the face.

Housekeeping: Vacuum and wet cleaning methods are recommended for dust removal. Vacuum cleaners with high efficiency particulate air (HEPA) filters are the recommended type. The use of compressed air or brooms to remove dusts must be avoided as such an activity can result in unnecessary short-term elevated exposures to airborne dusts.

Maintenance: During repair or maintenance activities the potential exists for exposures to constituents in excess of the occupational standards. Under these circumstances, protecting workers can require the use of specific work practices or procedures involving the combined use of ventilation, wet and vacuum cleaning methods, respiratory protection, decontamination, special protective clothing i.e. lab coats, and when necessary, restricted work zones.

Other Protective Equipment: None **Gloves:** Rubber or latex gloves recommended
Eye Protection: Wear safety glasses (goggles)

Recommended Monitoring Procedures:
Environmental Surveillance: Exposure to airborne materials should be determined by having air samples taken in the employee breathing zone, work area, and department. The frequency and type of air sampling should be as specified by an Industrial Hygienist or other qualified professional. Air sample results should be made available to employees.

Medical Surveillance: Persons exposed to airborne concentrations of this material should be included in a periodic medical surveillance program. The program should include examination of the skin and respiratory system. Non-specific findings of skin rash, skin granulomata, or respiratory signs or symptoms may indicate a reaction to this material.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Color: Various **Melting Point (°C):** >100 **Density @20°C (g/cm^3):** 1.25 **Boiling Point:** N/A
Evaporation Rate: N/A **Freezing Point:** N/A **Odor:** none **pH-value:** N/A
Physical State: Solid (tooth) **Radioactivity:** N/A **Solubility:** insoluble in water; soluble in organic solvents
Sublimes At: N/A **Vapor Density (Air = 1):** N/A **Vapor Pressure (mmHg):** N/A **% Volatiles by Volume:** none

SECTION 10 - STABILITY AND REACTIVITY

General Reactivity: This material is stable. **Non-compatibility With Other Substances:** Strong acids and oxidizing agents

Hazardous Combustion Products: None under normal conditions of use. **Hazardous Polymerization:** Will not occur.

Thermal Decomposition: No decomposition if applied according to manufacture's instructions. Avoid temperatures above 240°C (464°F). **Decomposition products:** Methylmethacrylate, and carbon monoxide/carbon dioxide

SECTION 11- TOXICOLOGICAL INFORMATION

***PRIMARY ROUTES OF EXPOSURE*:**
Inhalation: Airborne exposure to methylmethacrylate in excess of the occupational standards can occur when any activities are performed that cause the material to become airborne i.e. abrasive cutting, grinding, crushing, or otherwise abrading the surface of this material in its' solid form.

Ingestion: There are no known cases of illness resulting from ingestion of this material. Ingestion can occur from hand, clothing, food, and drink contact with investment dust, fume or powder during hand to mouth activities such as eating, drinking, smoking, nail biting, etc. These products are not intended for internal consumption. As a standard hygiene practice, hands should be washed before eating or smoking.

Skin: Skin contact with this material may cause, in some sensitive individuals, dermatitis/irritation.

Eyes: Injury can result from particulate irritation or mechanical injury to the eyes by dust or particulate. Exposure may result from direct contact with airborne particulate (dust or powder) or contact to the eye of contaminated hands or clothing.

EFFECTS OF OVEREXPOSURE:

The potential health effects listed below are confined to constituents which are in sufficient concentrations within the product to be significant.

Acute *(immediate or near-term health effects)*: In general, the airborne dust/fumes of methyl methacrylate and titanium oxide listed in Section 2 can cause irritation to the skin, eyes, nose, throat, lungs, and mucous membranes. Refer to Section 2 for further health concerns and information.

Chronic *(long-term health effects)*: In general, the airborne dust/fumes of titanium oxide listed in Section 2 can cause the same symptoms of acute exposure. Exposure to concentrations over the established limits for methylmethacrylate can result in damage to the mucous membranes of the nose, throat, and lungs. Titanium dioxide and methyl methacrylate are listed as potential occupational carcinogens.

CARCINOGENIC REFERENCES:

NTP: None **IARC:** None

NIOSH: ***Titanium Dioxide*** is listed as an A4, not classifiable as a human carcinogen

ACGIH: ***Titanium Dioxide*** is listed as an A4, not classifiable as a human carcinogen
Methyl Methacrylate is listed as an A4, not classifiable as a human carcinogen

Medical Conditions Aggravated By Exposure: Persons with impaired pulmonary function, airway diseases, or conditions such as asthma, emphysema, chronic bronchitis, etc. may incur further impairment if dust or fume is inhaled.

SECTION 12- ECOLOGICAL INFORMATION

This material is insoluble in water. There is no information available on the ecological effects of this material.

SECTION 13- DISPOSAL CONSIDERATIONS

Waste Management: Do not release material into sewage systems, surface water, and ground water. Comply with Federal, State, and local regulations.

SECTION 14 - TRANSPORT INFORMATION

There are no U.S. Department of Transportation hazardous material regulations that apply to the packaging and labeling of this product as shipped by Jensen Industries Inc.

SECTION 15- REGULATORY INFORMATION

OSHA Hazard Communication Standard, 29 CFR 1910.1200: Components of these products are considered hazardous ingredients.

Wastewater: Wastewater regulations can vary considerably. Contact your local and state governments to determine their requirements.

Other Regulations, Limitations and Prohibitive Regulations:
California Proposition 65: None

SECTION 16 - OTHER INFORMATION

This data is based on our present knowledge. However, that shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. This MSDS has been revised following the guidelines outlined in CFR 1910-1200 "Material Safety Data Sheets."

Important: If you have any questions or require additional information regarding the materials described in this Material Safety Data Sheet please contact Jensen Dental at 1-(800) 243-2000.