

# MATERIAL SAFETY DATA SHEET

## SECTION 1 - IDENTIFICATION

### POWDERS

**Trade Name:** Willi Geller Creation® AV.CC.LF.TI.ZI.ZI-F

**Product Use:** Dental ceramics

**Product Names(S):** OP, Full OP, OM, D, OD, AD, HD, BD, SH, FS, S(E), SI, TI, PS, NT, OT, CLO, UC, HT, SP, MI, G, GL, KM

**Importer/Supplier:** Jensen Dental  
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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:**

**Silicon:** Inhalation of silicon dust/fumes may cause irritation to the upper respiratory system; symptoms include: cough/irritation. Contact with skin and/or eyes may cause dermatitis/irritation.

**Silica (Crystalline: Quartz/Cristobalite):** Repeated inhalation of silica crystalline dust/particulates can cause serious chronic lung damage, known as *silicosis*. Silicosis involves inflammation and scarring of the lung tissue; pulmonary fibrosis. Lung cancer is contributed to chronic exposure to silica (crystalline) dust/fumes.

**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 <sup>3</sup> )	**TLV/ACGIH (mg/m <sup>3</sup> )
SiO <sub>2</sub> (Silica, Crystalline)	45-73	14464-46-1	<sup>a</sup> Mineral Dusts	0.025R
Al <sub>2</sub> O <sub>3</sub> (Aluminum Oxide)	6-20	1344-28-1	15/5R	1
K <sub>2</sub> O (Potassium Oxide)	2-16	12136-45-7	N/A	N/A
Na <sub>2</sub> O (Sodium Oxide)	2-13	1313-59-3	N/A	N/A
Li <sub>2</sub> O (Lithium Oxide)	0-1	12057-24-8	N/A	N/A
MgO (Magnesium Oxide)	<1	1309-48-4	15	10
CaO (Calcium Oxide)	0-7	1305-78-8	5	2
BaO (Barium Oxide)	0-5	1304-28-5	N/A	0.5
B <sub>2</sub> O <sub>3</sub> (Boron Oxide)	0-12	1303-86-2	15	10
TiO <sub>2</sub> (Titanium Dioxide)	0-1	13463-67-7	15	10
ZrO <sub>2</sub> (Zirconium Oxide)	<1	1314-23-4	5	5/10 STEL
P <sub>2</sub> O <sub>5</sub> (Phosphorus Oxide)	0-2	1314-56-3	N/A	N/A
SnO <sub>2</sub> (Tin Oxide IV)	0-16	18282-10-5	N/A	2
CeO <sub>2</sub> (Cerium Oxide)	<1	1306-38-3	N/A	N/A
CeF <sub>3</sub> (Cerium Fluoride)	<1	7758-88-5	N/A	N/A

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## 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 cool 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. Exposure to unknown concentrations of dust requires the wearing of a pressure-demand airline respirator or pressure-demand self-contained breathing apparatus. Pressure-demand airline respirators are recommended when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

**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

<b>Color:</b> Various	<b>Melting Point (°C):</b> N/A	<b>Density (g/cm<sup>3</sup>):</b> 2.4 to 3.1	<b>Boiling Point:</b> N/A
<b>Evaporation Rate:</b> N/A	<b>Freezing Point:</b> N/A	<b>Odor:</b> none	<b>pH-value:</b> N/A
<b>Physical State:</b> Fine powder	<b>Radioactivity:</b> N/A	<b>Solubility:</b> insoluble in water	<b>Sublimes At:</b> N/A
<b>Vapor Density (Air = 1):</b> N/A	<b>Vapor Pressure (mmHg):</b> N/A	<b>% Volatiles by Volume:</b> 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.

## SECTION 11- TOXICOLOGICAL INFORMATION

### **PRIMARY ROUTES OF EXPOSURE:**

**Inhalation:** Dust can be generated when dispensing the product for use, or when grinding the fired product. Lung irritation and/or pulmonary fibrosis are the principal conditions that can result from inhalation. Airborne exposure to Silica crystalline, listed in Section 2, in excess of the occupational standards should be avoided.

The potential for exposures may also occur during repair or maintenance activities on contaminated equipment such as: furnace rebuilding, maintenance or repair of air cleaning equipment, structural renovation, etc.

**Ingestion:** There are no known cases of illness resulting from ingestion of this material. Ingestion can occur from dust or powder contamination involved with 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, due to the response from silica. Skin abrasion may cause irritation. See Section 4 for additional information.

**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 silica listed in Section 2 can cause irritation to the skin, eyes, nose, throat, lungs, and mucous membranes.

**Chronic** (*long-term health effects*): In general, the airborne dust/fumes of silica crystalline listed in Section 2 can cause respiratory disease with symptoms which include cough, chest pain, shortness of breath, weight loss, weakness, and fatigue. Exposure to airborne dust and fumes containing silica may cause long-term health effects including loss of lung function, fibrosis Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive respiratory symptoms (silicosis); irritation eyes; [potential occupational carcinogen].

### **CARCINOGENIC REFERENCES:**

**NTP:** *Silica, crystalline* is listed as a known to be human carcinogen.

**IARC:** *Silica, crystalline* is listed as a Group 1 carcinogen: Carcinogenic to humans

**NIOSH:** *Silica, crystalline* is listed as a potential carcinogen.  
*Titanium Dioxide* is listed as a potential carcinogen

**ACGIH:** *Silica, crystalline* is listed as an A2, suspected human carcinogen  
*Barium Oxide* is listed as an A4, not classifiable as a human carcinogen.  
*Aluminum Oxide* is listed as an A4, not classifiable as a human carcinogen  
*Titanium Dioxide* is listed as an A4, not classifiable as a human carcinogen  
*Magnesium Oxide* is listed as an A4, not classifiable as a human carcinogen  
*Zirconium Oxide* 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:** Material and/or /packaging, containing powder, should be sealed inside a plastic bag when disposed of. Avoid washing down drains as material can plug drain. 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:**

**German UVV:** Protection against mineral dust which is harmful to health.

**California Proposition 65:** *Crystalline, silica* is known to the state of California to cause cancer.

**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.**