

**R&R®**  
**DENTSPLY®**

**Ransom & Randolph**

3535 Briarfield Boulevard, Maumee, OH 43537

EMERGENCY TELEPHONE: 419/865-9497

Information Telephone : 419/865-9497

## MATERIAL SAFETY DATA SHEET

<b>FORM NUMBER:</b> 285	<b>ISSUE DATE:</b> 09/04	<b>REVISED DATE:</b>
<b>PRODUCT TRADE NAME:</b> Kwik-Core™ Binder		

### SECTION I - GENERAL INFORMATION

<b>Part (Item) Number</b>	
<b>Chemical Name</b>	Colloidal Silica
<b>Synonyms</b>	Silica Sol
<b>DENTSPLY Contact</b>	
<b>Formula</b>	SiO <sub>2</sub> /H <sub>2</sub> O
<b>Chemical Family</b>	Silica, water

### SECTION II - PRODUCT INGREDIENTS

Chemical Name (Ingredients)	CAS #	%	TLV mg/m <sup>3</sup>	OSHA PEL mg/m <sup>3</sup>
Silica (Amorphous)	7631-86-9	20 - 40	0.1* 10.0**	0.1* 0.3*
Water	7732-18-5		None	None

\* Respirable Dust  
\*\*Total Dust

### SECTION III - PHYSICAL PROPERTIES

<b>Boiling Point</b>	212° F (100C)	<b>Specific Gravity</b>	1.20
<b>Vapor Pressure</b>	17.5 mm Hg	<b>pH</b>	9.25 - 10.5
<b>Vapor Density</b>	0.016	<b>Evaporation Rate</b>	1 (water = 1)
<b>Critical Temperature</b>	N/A	<b>Viscosity</b>	N/A
<b>Decomposition Temperature</b>	N/A	<b>% Volatile by Volume</b>	70% (water)
<b>Melting/Freezing Point</b>	32° F (0C)	<b>Magnetism</b>	N/A
<b>Solubility in Water</b>	Disperses	<b>Autoignition Temperature</b>	N/A
<b>Critical Pressure</b>	N/A	<b>Corrosion Rate</b>	N/A
<b>Permeable Exposure Limit</b>	N/A	<b>Molecular Weight</b>	N/A
<b>Appearance and Odor</b>	White, translucent liquid		

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

<b>Flash Point (Method Used)</b>	N/A		
<b>Flammable (Explosion) Limits:</b>	<b>UEL:</b> N/A	<b>LEL:</b> N/A	
<b>Extinguishing Media -</b>	<b>Water Spray:</b> Y	<b>Carbon Dioxide:</b> Y	<b>Foam:</b> Y
	<b>Dry Chemical:</b> Y	<b>Other:</b> N/A	

<b>Special Fire Fighting Procedures and Equipment</b>	<b>Avoid eye and skin contact:</b> Y
<b>Do not breathe fumes</b> : Y	<b>Other:</b> None
<b>Unusual Fire and Explosion Hazards:</b> None	

### SECTION V - HEALTH HAZARD DATA

<b>Effects of Over Exposure:</b>	Slightly caustic (pH 10). May tend to dry out skin. Avoid contact with eyes. Prolonged exposure to amorphous silica (respirable) can lead to delayed lung injury (silicosis, pneumoconiosis).
<b>Emergency and First Aid Procedures</b>	In case of eye contact flush with flowing water at least 15 minutes.
<b>Eyes:</b>	Flush with water. If irritation persists, call a physician.
<b>Skin:</b>	Wash with soap and water.
<b>Inhalation:</b>	Remove to fresh air. Call a physician.
<b>Ingestion:</b>	Call a physician.
<b>NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAVING CONVULSIONS!</b>	
<b>Carcinogenicity:</b>	<p>In the as shipped form this product was not evaluated by the IARC, not listed by NTP and not regulated by OSHA.</p> <p>Although amorphous silica is not a carcinogen as purchased in this product, portions of it may convert to crystalline silica (cristobalite) when subjected to higher temperatures (e.g. 1700° F), such as when used in a mold for ferrous and other high temperature alloy castings. The exposure to crystalline silica is highest at the mold knockout stage of the casting process.</p> <p>The specifics on carcinogenicity of respirable crystalline silica follow:</p>
<p>The exposure limits for respirable crystalline silica; specifically cristobalite, established by OSHA-PEL = 0.05 mg/m<sup>3</sup>.</p> <p>The IARC and NTP report the following on the carcinogenicity of respirable crystalline silica:</p> <p>The National Toxicology Program (NTP) published its Ninth Annual Report on Carcinogens which concludes that "silica, crystalline (respirable)" is known to be a human carcinogen. The NTP conclusion is based on experimental animals and limited evidence in humans.</p> <p>IARC Monograph Volume 68: Silica, silicates, coal dust and para-aramid fibrils states that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the forms of quartz and cristobalite from occupational sources. Crystalline silica is categorized in the "Group 1" category which the IARC defines as the agent is carcinogenic to humans.</p> <p>For more detailed information on the effects of crystalline silica contact the manufacturer.</p>	
<b>Medical Conditions Aggravated:</b>	None known.

**SECTION VI - REACTIVITY DATA**

<b>Stability:</b>	<b>Stable:</b> Y	<b>Unstable:</b> N
<b>Conditions to avoid (Stability):</b>	Freezing	
<b>Incompatibility (Materials to Avoid):</b>	N/A	
<b>Hazardous Decomposition Products:</b>	None	
<b>Hazardous Polymerization:</b>	<b>Will Occur:</b> N	<b>Will Not Occur:</b> Y
<b>Conditions to Avoid (Polymerization):</b>	N/A	

**SECTION VII - SPECIAL PRECAUTIONS AND SPILL OR LEAD PROCEDURES**

<b>Handling and Storage Precautions:</b>	Normal warehouse handling and storage.
<b>Other Precautions:</b>	For industrial use only. Read technical data bulletin about this product prior to use.
<b>Steps to be Taken in Case Material is Released or Spilled:</b>	Flush with water. Wash area with soap and water.
<b>Waste Disposal Procedure:</b>	Flush to drain with plenty of water or use sanitary landfill. Follow all pollution regulations.
<b>Neutralizing Agent:</b>	

**SECTION VIII - OCCUPATIONAL PROTECTION MEASURES**

<b>Respirator Protection:</b>	Use NIOSH approved respirator for dust and particulates, N95 filter classification (e.g. 3M 8210)	
<b>Ventilation</b>	<b>Local Exhaust:</b> N	<b>Mechanical (General):</b> Y
	<b>Special:</b> N/A	<b>Other:</b> N/A
<b>Protective Gloves</b> : Y - rubber		
<b>Eye Protection - not normally necessary but recommended:</b> Y		
	<b>Chemical Workers Goggles:</b> Y	<b>Other:</b> N/A
<b>Other Personal Protective Equipment:</b> Eye wash and shower.		

**SECTION IX - TRANSPORTATION INFORMATION**

<b>U.S. DOT Hazard Classification</b>	
<b>Proper Shipping Name:</b> Not regulated	<b>Hazard Class/Packing Group:</b> N/A
<b>Technical Name:</b> N/A	<b>Labels Required:</b> None
<b>UN Number:</b> N/A	<b>DOT Packaging Requirements:</b> N/A
<b>Exceptions:</b>	

**SECTION X - ECOLOGICAL INFORMATION**

No ecotoxicity data is available. This product is not expected to present an environmental hazard.
--

**SECTION XI - OTHER INFORMATION**

<b>NFPA Hazard Rating</b>	<b>Health:</b> 1	<b>Flammability:</b> 0	<b>Reactivity:</b> 0
<b>HMIS Hazard Rating</b>	<b>Health:</b> 1	<b>Flammability:</b> 0	<b>Reactivity:</b> 0
	<b>Personal Protection:</b> Use NIOSH/OSHA approved respirator.		

The information set forth herein has been gathered from standard reference materials and/or Ransom & Randolph Company test data and is, to the best knowledge and belief of Ransom & Randolph Company accurate and reliable. Such information is offered solely for your consideration, investigation and verification and it is not suggested or guaranteed that the hazard precautions or procedures mentioned are the only ones which exist. Ransom & Randolph Company makes no warranties, express or implied, with respect to the use of such information or the use of the specific material identifies here in combination with any other material or process, and assumes no responsibility therefore.