

R&R®
DENTSPLY®

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MATERIAL SAFETY DATA SHEET

FORM NUMBER: 089	ISSUE DATE: 11/85	REVISED DATE: 02/03
PRODUCT TRADE NAME: Core Hardener 2000™ Binder		

SECTION I - GENERAL INFORMATION

Part (Item) Number	Silica, amorphous
Chemical Name	
Synonyms	
DENTSPLY Contact	
Formula	
Chemical Family	Silica

SECTION II - PRODUCT INGREDIENTS

Chemical Name (Ingredients)	CAS #	%	TLV mg/m ³	OSHA PEL mg/m ³
Silica (Amorphous)	7631-86-9	<75	0.1* 10.0**	0.1* 0.3**
Water	7732-18-5		None	None
Dipotassium Fluorescein	6417-85-2	<1	None	None
* Respirable Dust **Total Dust				

SECTION III - PHYSICAL PROPERTIES

Boiling Point	212° F (100C)	Specific Gravity	1.4
Vapor Pressure	17.5 mm Hg	pH	9.0 (typical)
Vapor Density	0.016	Evaporation Rate	1 (water = 1)
Critical Temperature	N/A	Viscosity	N/A
Decomposition Temperature	N/A	% Volatile by Volume	50% (water)
Melting/Freezing Point	32° F (0C)	Magnetism	N/A
Solubility in Water	100%	Autoignition	N/A
Critical Pressure	N/A	Temperature	N/A
Permeable Exposure Limit	N/A	Corrosion Rate	N/A
Appearance and Odor	Yellow, odorless liquid	Molecular Weight	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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

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

SECTION V - HEALTH HAZARD DATA

Effects of Over Exposure:	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).
Emergency and First Aid Procedures	In case of eye contact flush with flowing water at least 15 minutes.
Eyes:	Flush with water. If irritation persists, call a physician.
Skin:	Wash with soap and water.
Inhalation:	Remove to fresh air. Call a physician.
Ingestion:	Call a physician.

NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAVING CONVULSIONS!

Carcinogenicity:	<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 Deg 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>
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The exposure limits for respirable crystalline silica; specifically cristobalite, established by OSHA-PEL = 0.05 mg/m³.

The IARC and NTP report the following on the carcinogenicity of respirable crystalline silica:

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.

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.

For more detailed information on the effects of crystalline silica contact the manufacturer.

Medical Conditions Aggravated:	None known.
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SECTION VI - REACTIVITY DATA

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

SECTION VII - SPECIAL PRECAUTIONS AND SPILL OR LEAD PROCEDURES

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

SECTION VIII - OCCUPATIONAL PROTECTION MEASURES

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

SECTION IX - TRANSPORTATION INFORMATION

U.S. DOT Hazard Classification	
Proper Shipping Name: Not regulated	Hazard Class/Packing Group: N/A
Technical Name: N/A	

	Labels Required: None
UN Number: N/A	DOT Packaging Requirements: N/A
Exceptions:	

SECTION X - ECOLOGICAL INFORMATION

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

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

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