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Date: Oct. 15, 2005  
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## 1. CHEMICAL PRODUCT IDENTIFICATION

*Product Identifier:* NuCrete II, WP 663-20-Grey

*General Use:* Concrete admixture.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

	wt. %	CAS Registry #
Silicon Dioxide (SiO <sub>2</sub> ) amorphous	>55%	69012-64-2
Carbon (C)	<10%	7440-44-0
Sodium Sulfate	<4%	007757-82-6
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	<1%	1344-28-1
Calcium Oxide (CaO)	<1%	1305-78-8
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	<1%	1309-37-1
Magnesium Oxide (MgO)	<1%	1309-48-4
Sodium Oxide (Na <sub>2</sub> O)	<1%	1310-73-2
Potassium Oxide (K <sub>2</sub> O)	<1%	1310-58-3
Silicon Dioxide (SiO <sub>2</sub> ) crystalline	<0.5%	14808-60-7

### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	EXPOSURE LIMITS (mg/m <sup>3</sup> )	
	OSHA PEL	ACGIH TLV
Silicon dioxide (SiO <sub>2</sub> ) Amorphous	15 (total) 5 (respirable)	2 (respirable)
Silicon dioxide (SiO <sub>2</sub> ) Crystalline	0.05 (respirable)	0.05 (respirable)

Elemental analysis of the fume. The manufacturer can provide a more detailed analysis, including other trace elements.

## 3. HAZARDS IDENTIFICATION

Microsilica is of low toxicity. Handling of microsilica does not represent a health risk when usual safety rules are observed. Microsilica is generally considered to be a nuisance dust. High dust concentrations may cause irritation. Microsilica is unlikely to cause harmful effect when handled and stored as advised. Microsilica may contain trace amounts (<0.5%) of crystalline silica which has been shown to cause silicosis, and has been identified by IARC and NTP as a possible human carcinogen. (See Section 11).

## 4. FIRST AID MEASURES

### INHALATION:

Remove exposed person from dusty area to fresh air.

### SKIN CONTACT:

Wash skin with water and/or a mild detergent. Moisturizing cream or lotion may be applied to avoid skin dryness.

### EYE CONTACT:

Flush with water/saline solution to ensure no particles remain in eye. See a physician on persistent feeling of discomfort.

INGESTION: Not applicable.

## 5. FIRE FIGHTING MEASURES

NuCrete II is not combustible and the dust presents no danger of explosion.  
Extinguishing media: Not applicable (if involved in fire: cool with water).

## 6. ACCIDENTAL RELEASE MEASURES

Contain spills or leaks. Transfer spilled material into an appropriate container. Collect spilled material using a vacuum cleaner or wash down with water. Do not use compressed air to maneuver dried material. Avoid generation of airborne dust.

## 7. HANDLING AND STORAGE

HANDLING: Avoid handling that generates airborne dust.

STORAGE: Store in closed containers. Store away from hydrofluoric acid, fluorides and oxidizing materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection, eye flushing facilities and protective gloves are recommended. Ensure adequate ventilation. Wear an appropriate particulate respirator in accordance with 29 CFR 1910.134 or CSA Standard Z94.4-M1982 for dust exposure that may exceed exposure limits. If adequate ventilation is not possible, a self contained breathing apparatus or an air supplied respirator is recommended.

OCCUPATIONAL EXPOSURE LIMITS (OSHA and ACGIH):

	8hr TWA mg/m <sup>3</sup>	
	OSHA PEL	ACGIH TLV
Total inhalable dust	15	10
Respirable dust	5	3
Silicon Dioxide, Amorphous	15 (total)	2 (respirable)
Silicon Dioxide, Crystalline	0.05 (respirable)	0.05 (respirable)

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Ultrafine amorphous powder (respirable dust), dust forms agglomerates
Color:	Light to dark gray
Odor:	Odorless
Solubility (Water):	Insoluble to slightly soluble.
Melting Point (°C):	Approx. 1230
Solubility (Organic solvents)	Insoluble to slightly soluble.
Specific Gravity (water=1)	2.2-2.3
Bulk density (kg/m <sup>3</sup> ) approx	150-700 (10-45 lb/ft <sup>3</sup> )
Particle size (mm)	Approx 0.5

## 10. STABILITY AND REACTIVITY

### STABILITY:

Microsilica is stable and does not react with water.

### MATERIALS TO AVOID:

Avoid contact with hydrofluoric acid, fluorides and oxidizing materials.

### HAZARDOUS REACTIONS:

Microsilica reacts with hydrofluoric acid (HF) forming toxic gas (SiF<sub>4</sub>).

### HAZARDOUS DECOMPOSITION PRODUCTS:

Prolonged heating above 500°C (930°F) will convert amorphous silica to the crystalline phases.

See Section 11.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE EFFECTS:

*INGESTION:* Dust from Microsilica may irritate and dehydrate mucous membranes.

*INHALATION:* Dust from Microsilica may irritate and dehydrate mucous membranes.

*SKIN CONTACT:* Dust from Microsilica may cause irritation and dehydration.

*EYE CONTACT:* Dust from Microsilica may cause irritation and dehydration.

### CHRONIC EFFECTS:

Microsilica dust may contain impurities of crystalline quartz (<0.5%). Inhalation of Microsilica dust is considered to entail minimal risk of pulmonary fibrosis (silicosis). Cases of lung fibrosis have been reported among workers exposed to amorphous silica in the ferrosilicon industry. The lung changes have either been transient or may have been caused by simultaneous exposure to crystalline silica (quartz).

Heating Microsilica above 500°C can result in the formation of crystalline SiO<sub>2</sub>- modifications (Cristobalite/Tridymite) which may cause silicosis. The formation rate increases with increasing temperature.

Periodic health examinations of persons exposed to the dust are recommended to include: pulmonary examination, spirometry and possibly x-ray.

## 12. ECOLOGICAL INFORMATION

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 30 and 300 mg/L in most sensitive species). Acute immobilization EC50 in water flea daphnia magna is 210 mg/L. Acute LC50 in fathead minnow (*pimpephales promelas*) is 300 mg/L.

## 13. DISPOSAL CONSIDERATIONS

Reuse all product when possible. Dispose of waste Microsilica according to applicable federal, state and local rules for non-hazardous solid waste materials. No special precautions are necessary during repacking. Microsilica is not a listed RCRA Hazardous Wastes (40 CFR 261).

## 14. TRANSPORT INFORMATION

### DOT (DEPARTMENT OF TRANSPORTATION):

Proper Shipping Name: Not regulated

Hazard Class: Not regulated

I.D. Number and Initials: Not regulated

Packing Group: Not regulated

Label(s): Not regulated

## 15. REGULATORY INFORMATION

- OSHA - Hazardous by definition of hazardous communication standard (29 CFR 1910.1200)
- TSCA (Toxic Substance Control Act):  
Components of this product are listed on the TSCA Inventory
- STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
FORMALDEHYDE	000050-00-0	PA2 PA1
SODIUM SULFATE (SOLUTION)	007757-82-6	PA1 PA3

PA1=PENNSYLVANIA HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1.0%).

PA2=PENNSYLVANIA SPECIAL HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 0.01%).

PA3=PENNSYLVANIA ENVIRONMENTAL HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1.0%).

- CERCLA (Comprehensive Response Compensation, and Liability Act):  
Microsilica is not listed in 40 CFR 302.4
- RCRA (Resource Conservation/Recovery Act):  
Microsilica is not a listed hazardous waste.
- SARA TITLE III (Superfund Amendments and Reauthorization Act):
  - ◆ 311/312 Hazard Categories: Immediate Health, Delayed Health.
  - ◆ 313 Reportable Ingredients: None.
- CALIFORNIA PROPOSITION 65: This product contains chemical(s) known to the State of California to cause cancer: Silica, crystalline

## 16. OTHER INFORMATION

The information presented in this material safety data sheet relates to this specific material. It may not be valid for this material if used in combination with any other materials or in any process. It is the user's responsibility to verify the suitability and completeness of this information for the particular use intended.

WonderPaint, Inc. believes that the information provided is accurate and reliable as of the date of this material safety data sheet and the information is given in good faith. No warranty expressed or implied is made as to the accuracy, reliability, or completeness of the information. Any use of this data and information must be determined by the user to be in accordance with applicable Federal, State and local laws and regulations. WonderPaint, Inc. urges persons receiving this information to make their own determination as to the information's suitability and applicability for an intended use.