

MATERIAL SAFETY DATA SHEET
Colloidal Silica Binder Solution For "Docs' Casting Plaster Only
SECTION I PRODUCT IDENTIFICATION

TRADE NAME: Colloidal Silica

DESCRIPTION: A colloidal silica dispersion

HMIS RATING: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

HAZARD RATINGS:

LEAST: 0 SLIGHT: 1 MODERATE: 2 HIGH: 3 EXTREME: 4

SECTION II HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient (s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section XIV for the nature of the hazard(s).

INGREDIENTS (s)	CAS #	APPROX. %
Amorphous silica	7631-86-9	40-70

Ingredients are listed on the TSCA Inventory of Chemical Substances. Those not identified are non-hazardous.

SECTION III PRECAUTIONARY LABEL INFORMATION

CAUTION: Inhalation of mist or dust may be harmful. Avoid repeated or prolonged breathing of spray mist or dusts. Keep container closed when not in use. Use with adequate ventilation.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION IV FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.

SKIN: Flush with water for 15 minutes.

INGESTION: Do not induce vomiting. Give water. Call a physician.

INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION V HEALTH EFFECTS INFORMATION

PRIMARY ROUTE (S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Can cause mild, short-lasting irritation.

SKIN CONTACT: Can cause mild, short-lasting irritation.

INHALATION: May cause irritation to the respiratory tract and lungs if dust is inhaled.

SYMPTOMS OF EXPOSURE:

CHRONIC:	Amorphous silica. Prolonged inhalation of <u>dust</u> can cause pneumoconiosis.
AGGRAVATION OF EXISTING CONDITIONS:	Prolonged inhalation of <u>dust</u> can increase lung injury in individuals with emphysema, asthma or other lung disorders.

SECTION VI TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but acute studies have been conducted on a similar product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD₅₀ = Greater than 15,380 mg/kg

Some hypo activity was exhibited at 10,250 mg/kg and above within 5 minutes after dosage which subsided within 6-22 hours. No pharmacotoxic symptoms were noted. Necropsy did not reveal any gross pathologic alterations.

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):

SKIN IRRITATION INDEX DRAIZE RATING: 0.4/8.0 Minimally irritating

COMMENTS: Some redness was noted at 24-hours only on the abraded backs which returned to normal at 72 hours. All intact skin sites showed no irritation at both 24 and 72 hours after contact.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING: 3.3/110.0 Minimally irritating

COMMENTS: Conjunctivitis, redness, was noted at 1-hour after contact. By 48-hours all irritation was gone. No corneal or iridial involvement was noted.

CHRONIC TOXICITY RESULTS ON: Prolonged inhalation of dust, if generated, may cause pneumoconiosis.

HUMAN HAZARD CHARACTERIZATION: Based on our hazard characterization, the potential human hazard is: LOW

SECTION VII PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Milky white	FORM: Liquid	ODOR: Odorless
DENSITY:	11.5-11.77 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.38-1.40 @ 68°C	ASTM D-1298
pH (NEAT) =	9.8-10.2	ASTM E-70
VISCOSITY:	20 cps @ 77°F	ASTM D-2983
BOILING POINT:	100°C @ 760 mm Hg	ASTM D-86
FLASH POINT:	None	

NOTE: These physical properties are typical values for this product.

SECTION VIII FIRE AND EXPLOSION INFORMATION

FLASH POINT:	None
EXTINGUISHING MEDIA:	Not applicable

SECTION IX REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with aluminum.

Avoid contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.

SECTION X PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION:	Respiratory protection is not normally needed since the volatility and toxicity are low. If significant vapors, mists or aerosols are generated, wear a NIOSH approved or equivalent respirator. For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.
VENTILATION:	General ventilation is recommended.
PROTECTIVE EQUIPMENT:	Use impermeable gloves and chemical splash goggles when attaching feeding equipment or doing maintenance. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.
HUMAN EXPOSURE CHARACTERIZATION:	Based on PACE Technologies Consumables recommended product application and our recommended personal protective equipment, the potential human exposure is LOW

SECTION XI SPILL AND DISPOSAL INFORMATION

SPILL CONTROL AND RECOVERY:

Small liquid spills:	Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvaged drums for disposal. Refer to CERCLA in Section XIV.
Large liquid spills:	Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section XIV.
DISPOSAL:	If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D. As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be deep-well injected in accordance with local, state and federal regulations.

SECTION XII ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section XIV.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: Based on our Hazard Characterization, the potential environmental hazard is: LOW.

Based on PACE Technologies recommended product application and the product's characteristics, the potential environmental exposure is: LOW.

SECTION XIII TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORTATION

SECTION XIV REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Amorphous silica = TWA 10 mg/m³ (total dust) ACGIH/TLV

Amorphous silica = TWA 6 mg/m³ OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302- EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312- MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

XX Immediate (acute) health hazard

XX Delayed (chronic) health hazard

-- Fire hazard

-- Sudden release of pressure hazard

-- Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313- LIST OF TOXIC CHEMICALS (40 CFR 372): This product does not contain ingredients on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA): The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D: Consult Section XI for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311): None of the ingredients are specifically listed.

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances): This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product does not contain any chemicals that require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for amorphous silica as a criteria for listing.

SECTION XV ADDITIONAL INFORMATION

None

SECTION XVI RISK CHARACTERIZATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

- The human risk is: LOW
- The environmental risk is: LOW

Any use inconsistent with PACE Technologies recommendations may affect our risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

SECTION XVII OTHER INFORMATION

FOR COMPANY USE

THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE TAKEN FROM SOURCES BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF; HOWEVER PACE TECHNOLOGIES MAKES NO WARRANTY, EXPRESS OR IMPLIED WITH RESPECT TO THE ACCURACY OF THE INFORMATION OR THE SUITABILITY OF THE RECOMMENDATIONS, AND ASSUMES NO LIABILITY TO ANY USER THEREOF.

DATE PREPARED: 2/04/03