

POTENTIAL HEALTH EFFECTS

EYE: Particulate matter may scratch the cornea or cause other mechanical injury to the eye.

SKIN: None.

INGESTION: Relatively non-toxic. Ingestion is not anticipated under normal working conditions.

INHALATION: Inhalation of high concentrations of dust may cause coughing and mild, transitory respiratory irritation.

SIGNS AND SYMPTOMS: Scratching or physical damage to the eyes can cause irritation, redness, pain, tear formation, blurred vision, and light sensitivity. Symptoms of lung fibrosis may include, phlegm, coughing, x-ray changes, and decreased lung function.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Long-term dust exposure may aggravate pre-existing respiratory disease.

CHRONIC:

Studies indicate that fused silica may have a fibrogenic potential similar but slightly less than that of quartz.

TARGET ORGANS: Lungs

CARCINOGENICITY: NTP: No IARC: No OSHA: No

Amorphous silica is not classified as a possible, probable, or confirmed carcinogen by IARC, NTP, or OSHA.

4. FIRST AID MEASURES

EYE: Flush eyes with lukewarm water for 15 minutes opening and closing eyelids to ensure adequate rinsing. If redness, irritation, pain, or tearing occurs, seek medical attention.

SKIN: Exposure not anticipated.

INHALATION: Not anticipated. If large amounts of dusts are inhaled, remove to fresh air. If breathing problems occur, a certified professional should administer oxygen or CPR if indicated. Seek immediate medical attention.

INGESTION: None required.

C-E Minerals: MSDS for Teco Sil Grains/ EMC Powders

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: Not Applicable

FLAMMABLE LIMITS: LEL: Not Applicable UEL: Not Applicable

NFPA CLASSIFICATION:

HEALTH: 0

FLAMMABILITY: 0

INSTABILITY: 0

EXTINGUISHING MEDIA: Any. Use media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARDS: Non-flammable, non-combustible. Product will not burn.

HAZARDOUS DECOMPOSITION PRODUCTS: None known. At high temperatures fused silica will form cristobalite.

FIRE FIGHTING INSTRUCTIONS: Firefighters should wear a NIOSH approved full-facepiece self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout or bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Do not walk through or otherwise scatter spilled material. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent dust recirculation. For large spills, use a fine spray or mist to control dust creation and carefully scoop or shovel into clean, dry container for later reuse or disposal. **DO NOT USE DRY SWEEPING OR COMPRESSED AIR TO CLEAN SPILLS.** Appropriate protective equipment including respiratory protection is essential for all clean-up personnel (See Section 8). Completely remove all dusts from spill area.

7. HANDLING AND STORAGE

Store in dry area in closed containers. Storage and work areas should be periodically cleaned to minimize dust accumulation. Avoid dust inhalation and promulgation. **DO NOT** use compressed air or dry sweeping to remove dust from work area. Dusts should be removed using an appropriately equipped vacuum. If an appropriate vacuum is unavailable, only wet-clean-up methods should be used (i.e. misting). Moisture should be added as necessary to reduce exposure to airborne respirable dust.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY: Under normal working conditions, below acceptable exposure guidelines, none is required. Appropriate respirator selection is dependent upon the magnitude of exposure. Wear respiratory protection in accordance with 29 CFR Part 134.

SKIN: None required.

EYES: Safety glasses with side shields or goggles to prevent dust and particles from entering the eye.

ENGINEERING CONTROLS: General ventilation used in combination with local exhaust as necessary to control airborne contaminants to below acceptable exposure guidelines.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White
ODOR:	Odorless
SOLUBILITY IN WATER:	Insoluble
SPECIFIC GRAVITY (H₂O = 1):	2.2
MELTING POINT:	+ 3000 °F (+ 1094 °C)
pH (10% slurry):	5.5-8
% VOLATILE	0
TYPES:	Size range from cullet to powders

10. STABILITY AND REACTIVITY

STABILITY: Stable

REACTIVITY/INCOMPATIBILITY: Silicon dioxide is incompatible with strong oxidizers (i.e.: fluorine, oxygen difluoride, and chlorine trifluoride).

DECOMPOSITION PRODUCTS: At high temperatures fused silica will form cristobalite.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

EYE: Particulate matter may cause physical injury to the eye.

SKIN: Skin irritation is not anticipated.

INHALATION: May cause minor transient respiratory irritation at high concentrations.

INGESTION: Product is relatively non-toxic if ingested.

CHRONIC: Limited data is available concerning the health effects of fused silica in animals or humans; however, animal studies indicate a fibrogenic potential less than that of quartz.

IARC has found inadequate evidence to link exposure to amorphous silica to cancer in animals.

OTHER:

The percent of respirable fused silica present in Teco Sil Grains/EMC Powders depends on the particle size. This product may contain < 0.1% quartz and/or Cristobalite. Although overexposure to quartz and/or Cristobalite is not expected at concentrations present, quartz and/or Cristobalite is a confirmed human carcinogen. Repeated inhalation of quartz and/or Cristobalite over time may cause fibrotic lung disease and respiratory cancer.

12. ECOLOGICAL INFORMATION

Fused Silica Teco Sil Grains/EMC Powders is an inert material. It does not contain ozone depleting substances and is not expected to exert an ecotoxic effect or bioconcentrate in the food chain.

13. DISPOSAL CONSIDERATIONS

Dispose of according to applicable federal, state, and local regulations. Dispose per 40 CFR 261 and 262.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT): Not Classified

15. REGULATORY INFORMATION

CANADIAN WHMIS: D2B

EPCRA Section 302 (EHSs): This product does not contain ingredients subject to reporting requirements of 40 CFR Part 355, Appendices A and B (Extremely Hazardous Substances).

CERCLA, Section 304: This product does not contain ingredients subject to state and local reporting under Section 304 of SARA Title III as listed in 40 CFR Part 302, Table 302.4

SARA 313 REPORTING REQUIREMENTS: This product does not contain ingredients subject to the reporting requirements of Section 313 SARA, and Section 6607 of the Pollution Prevention Act:

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and by definition meets the requirements of the following category:
Chronic Health Hazard

TSCA (Toxic Substances Control Act): All ingredients contained in this product are on the TSCA inventory.

CALIFORNIA PROPOSITION 65: This product contains crystalline silica, an ingredient known to the State of California to cause cancer.

16. OTHER INFORMATION

C-E Minerals: MSDS for Teco Sil Grains/ EMC Powders

Revision Date: 10/31/02 – Product created.
8/15/03 Health and Safety review and update
9/13/03 Added EMC Powders and Quartz/Cristobalite warning.

KEY:

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service
(C): Ceiling Limit
DOT: Department of Transportation
IARC: International Agency for Research on Cancer
MSHA: Mine Safety and Health Administration
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
SARA: Superfund Amendment and Reauthorization Act
TLV: Threshold Limit Value

DISCLAIMER

Although reasonable care has been taken in the preparation of the information contained herein, C-E Minerals extends no warranties, makes no representation and assumes no responsibility as to the accuracy of suitability of such information for application to purchaser's intended purposes or for consequences of its use.