SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION.

Sauereisen, Inc.
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412/963-0303
CHEMICAL EMERGENCY HOTLINE Chemtrec: 800-424-9300/703-527-3887

PRODUCT NAME: **8 ELECTROTEMP CEMENT, POWDER**
ITEM NUMBER: 8-Q
ITEM DESCRIPTION: ELECTROTEMP CEMENT, POWDER
PRODUCT DESCRIPTION: ELECTROTEMP CEMENT, POWDER
CHEMICAL FAMILY: MAGNESIUM PHOSPHATE CEMENT: aMgHx(POy)z.bH2O
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·PRODUCT USE: High temperature bonding/adhesive compounds

SECTION 2. COMPOSITION AND DATA ON COMPONENTS WITH LIMITS

COMPONENT/CAS #	ACGIH TLV	OSHA PEL	% WT	NOTES
SILICA, CRYSTALLINE				
14808-60-7	0.025 MG/M³ TWA	0.1 MG/M³ STEL	<1%	
MAGNESIUM PHOSPHATE MONO BASIC				
7757-86-0	NE (TWA)	NE (STEL)	<11-18%	
ZIRCONIUM SILICATE				
14940-68-2	10 MG/M3 (TWA)	15 MG/M3(STEL)	<68-78%	
MAGNESIUM OXIDE				
1309-48-4	10 MG/M³ (DUST)	10 MG/M³ (DUST)	<10-15%	
BORIC ACID				
10043-35-3	2 MG/M3 (TWA)	NE (STEL)	<2%	

·Exposure values shown for guidance only. Please follow applicable regulations.

SECTION 3. HAZARDS IDENTIFICATION

·HMIS rating

Health	1
Flammability	0
Physical Hazard	0
Personal protection	E

Chronic Effects- The adverse health effects-- silicosis, lung cancer, autoimmune and chronic kidney diseases, tuberculosis, and non-malignant respiratory diseases-- are chronic effects.
Lung Cancer- Crystalline Silica (Quartz) inhaled from occupational sources is classified as carcinogenic to humans.
Tuberculosis- Silicosis increases the risk of tuberculosis
Autoimmune and Chronic Kidney Diseases- Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end stage kidney disease in workers exposed to respirable crystalline silica.
Non-Malignant Respiratory Diseases (other than silicosis)- Some studies show an increased incidence in chronic bronchitis and emphysema in workers exposed to respirable crystalline silica.

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·THRESHOLD LIMIT VALUE: Zr02·Si02 - 10 mg/m³; Si02 - 0.025 mg/m³.
OSHA and ACGIH have not established specific exposure limits for magnesium phosphate monobasic; however, OSHA and ACGIH have established limits for nuisance dusts. These limits are the least stringent exposure limits applicable to dusts. OSHA and ACGIH PEL/TWA for nuisance dusts is 15 mg/m3 respirable dust. The OSHA and ACGIH TLV/TWA for nuisance dusts is 10 mg/m3 total dust.
·EFFECTS OF OVEREXPOSURE: Since this product is a mixture, there is no exposure limit established for it. Hazardous components and their associated permissible exposure limits are listed in the section titled 'Composition and Data on Components'. Specific health hazards from the various ingredients include burns to the eyes and irritation of the nose, throat, and skin. Excessive inhalation of nuisance dusts for long periods of time (10 years or more) may reduce breathing capacity and increase susceptibility to lung disease. Repeated inhalation of respirable free silica dust may cause delayed lung injury (silicosis).

SECTION 4. FIRST AID MEASURES

·EYE CONTACT: Check for and remove all contact lenses. Flush eyes immediately with water or physiological saline for at least 15 minutes while lifting upper and lower lids. Do not use eye ointment. Seek medical attention.
·INGESTION: If swallowed, do not induce vomiting. Give large quantities of water. Seek medical attention immediately. Never give anything by mouth to an unconscious person.
·INHALATION: If difficulty breathing, move to fresh air at once. Apply artificial respiration if breathing has stopped. Seek medical attention.
·SKIN CONTACT: Wash exposed area immediately with plenty of water for 15 minutes.

SECTION 5. FIRE FIGHTING MEASURES

·AUTO IGNITION TEMPERATURE: NA
·EXPLOSION DATA: Not sensitive to mechanical impact or static discharge.
·EXTINGUISHING MEDIA: Water, carbon dioxide, dry chemical, and foam.
·NOTE: Many dusts and aerosols may exhibit explosive characteristics if ignited by static discharge or spark. Exercise care to avoid causing dusting or misting operations such as grinding or drilling.
·FIRE AND EXPLOSION HAZARDS: NA
·FIRE FIGHTING PROCEDURES: Normal precautions are satisfactory.
·FLAMMABILITY - Not flammable in presence of open flame, sparks, excessive heat and static discharge.
·FLAMMABLE LIMITS LEL: NA
·FLAMMABLE LIMITS UEL: NA
·FLASHPOINT: NA

SECTION 6. ACCIDENTAL RELEASE MEASURES

·CLEAN-UP PROCEDURE: Sweep, scoop, or vacuum the discharged material. Respiratory protection should be worn at all times and skin contact should be avoided. Observe environmental regulations.

SECTION 7. HANDLING AND STORAGE

·Avoid contact with eyes, skin, and clothing.
·Avoid breathing dust.
·For industrial use only!
·Harmful if inhaled.

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·May cause irritation.
·Wear chemical splash goggles, gloves, and protective clothing.
·Use adequate ventilation and employ respiratory protection where dust or fumes may be generated.
·Wash thoroughly after handling.
STORAGE: Store in a cool, dry place.
STORAGE: Keep container closed when not in use.
STORAGE: Always mix well before using.
HANDLING: Do not breathe dust. Keep airborne dust concentrations below permissable exposure limit ("PEL"). Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. Do not permit dust to collect on walls, floors, sills, ledges, machinary, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

See Section 2 for the components that have limit values that require monitoring at the workplace.
Crystalline Silica (quartz)- ACGIH TLV/TWA-.025mg/m3-----NIOSH REL/TWA-.025mg/m3
The OSHA PEL for crystalline silica as trydimite or cristobalite is one half of the OSHA PEL for crytalline silica (quartz).
·EYE PROTECTION: Safety glasses with side shields, chemical-type goggles, or face shield. Contact lenses should not be worn.
·RESPIRATORY PROTECTION: A suitable respirator complying with the most current NIOSH/ANSI/EN requirements should be used. In the U.S. use dust respirators in compliance with OSHA Standard 1910.134, and in the E.U. use dust respirators in compliance with EN149:2001FFP2 or FFP3 and be rated for at least 10x WEL. For emergency, a self-contained positive pressure, breathing appartus or full-face respirator is recommended. If TLV of any component is exceeded, use appropriate respiratory protection or ventilate in accordance with OSHA Regulation 29 CFR Part 1910.
·SKIN PROTECTION: Suitable protective gloves (neoprene, butyl rubber, or viton). Clothing should be clean, long-sleeved workclothes. Synthetic apron. Boots. Wash thoroughly before eating, smoking, applying cosmetics, etc. Thoroughly launder work clothes before reuse. Safety shower nearby.
·VENTILATION: Provide adequate general and local exhaust ventilation to meet PEL requirements. Provide workers with dust respirators for use in emergency or non-routine situations where dust levels may exceed PEL. A NIOSH approved half face-piece respirator can be used up to 10x PEL. For up to 100x PEL, use a full-piece respirator with replacement dust filter. Higher exposures need an approved, air-supplied respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

·% VOLATILE BY VOLUME: NA
·APPEARANCE AND ODOR: White to tan granular powder.
·BOILING POINT: NA
·COEFFICIENT OF WATER/OIL DISTRIBUTION: NA
·EVAPORATION RATE: NA
·MELTING POINT: NA
·ODOR THRESHOLD: Not available

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·PH: NA
·SPECIFIC GRAVITY: 4.5 gm/cc
·SOLUBILITY IN WATER: 0.3
·VAPOR DENSITY: NA
·VAPOR PRESSURE: NA

SECTION 10. STABILITY AND REACTIVITY

·CONDITIONS TO AVOID: None.
·HAZARDOUS DECOMPOSITION PRODUCTS: None
·HAZARDOUS POLYMERIZATION: Will not occur.
·INCOMPATIBILITY: (Materials to avoid) None
·STABILITY: Stable under ordinary conditions of use and storage.

SECTION 11. TOXICOLOGICAL INFORMATION

·ACGIH NOT AVAILABLE
·IARC YES
·EFFECTS OF ACCUTE EXPOSURE: Refer to Section 3.
·EFFECTS OF CHRONIC EXPOSURE: Refer to Section 3.
·MUTAGENIC EFFECTS: If not addressed in Section 3, the data is not available.
·REPRODUCTIVE TOXICITY: If not addressed in Section 3, the data is not available.
·TERATOGENIC EFFECTS: If not addressed in Section 3, the data is not available.
·NAME(S) OF TOXICOLOGICALLY SYNERGISTIC PRODUCTS AND EFFECTS: If not addressed in Section 3, data is not available.
·LC50/LD50: There is no data available.
·EYE IRRITANT: Yes
·INGESTION IRRITANT: Yes
·INHALATION IRRITANT: Yes
·RESPIRATORY SENSITIZER: No
·SKIN IRRITANT: Yes
·SKIN SENSITIZER: Yes
The method of exposure to crystalline silica that can lead to the adverse health effects described below is inhalation.

A.Silicosis
The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis (Often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.

Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability.

Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis

or PMF can result in heart disease secondary to the lung disease (cor pumonale).

Accelerated Silicosis can occur with exposure to high concentrations of respirable crytalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid.

Acute Silicosis can occur with exposure to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

B.Cancer
IARC- The International Agency for Research and Cancer ("IARC") concluded that there was "sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources",and that there is "sufficient evidence in experimental animals for the carcinogenicity of quartz and cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)". The IARC evalutaion noted that "carcinogenicity was not detected in all industrial circumstances studies. Carcinogenicity may be dependent on inherent characterisitics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates..." (1997)

NTP- The National Toxicology Program, in its Ninth Annual Report on Carcinogens, classified "silica, crytalline (respirable)" as a known human carcinogen.

OSHA- Crystalline Silica (Quartz) is not regulated by the US Occupational Safety and Health Administration as a carcinogen.

C. Automimmune Diseases- Several studies have reported excess cases of several autoimmune disorders,-- scleroderma, systemic lupus erythematosus, rheumatoid arthritis-- among silica-exposed workers. For a review of the subject, the following may be consulted: "Occupational Exposure to Crystalline Silica and Autoimmune Disease", Environmental Health Perspectives, Volume 107, Supplement 5, pp. 793-802 (1999); "Occupational Scleroderma", Current Opinion in Rheumatology, Volume 11, pp. 490-494 (1999).

D.Tuberculosis- Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be conulted for further information: Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994); "Risk of pulmonary tuberculosis relative to silicosis and exposure to silica dust in South African gold miners," Occup Environ Med., Volume 55, pp.496-502 (1998).

E. Kidney Disease- Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).

F. Non-Malignant Respiratory Diseases- The reader is referred to section 3.5 of the NIOSH special hazard review cited below, for information concerning the association between

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exposure to crystalline silica and chronic bronchitis, emphysema, and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exists only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in dust).

SECTION 12. ECOLOGICAL INFORMATION

·Crystalline silica (quartz) is not known to be an environmental hazard.
Crystalline silica (quartz) is not known to be ecotoxic; i.e., there are no data that suggests that crystalline silica (quartz) is toxic to birds, fish, invertebrates, microorganisms or plants.

SECTION 13. DISPOSAL CONSIDERATIONS

General- The packaging and material may be landfilled; however, material should be covered to minimize generation of airborne dust.
RCRA- Crystalline silica (quartz) is not classified as a hazardous waste under the Resource COnservation and Recovery Act, or its regulations, 40 CFR 261 et seq.
·WASTE DISPOSAL: Sweep up excess; flush area with large quantities of water. Material could be disposed of in approved landfill according to Federal, state, and local regulations.
·EUROPEAN COMMUNITY WASTE DISPOSAL KEY: Not known
·UNCLEANED PACKAGINGS: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

Crystalline silica (quartz) is not a hazardous material for purposes of transportation under the US Department of Transportation Table of Hazardous Materials, 49 CFR 172.101.
·DOT I.D. NO.: NOT REGULATED
·DOT SHIPPING NAME: NA
·DOT HAZARD CLASS: NOT REGULATED
·DOT LABEL: NONE
·OTHER: NA
·NMF CLASSIFICATION: HIGH TEMPERATURE BONDING MORTAR

SECTION 15. REGULATORY INFORMATION

·U.S. FEDERAL REGULATIONS:

·TSCA Status:
·Components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

·SARA TITLE III:
·Section 302 Extremely Hazardous Substances: None above detection limits.

·Section 311/312 (40 CFR 370) Hazardous Categories:
·Carcinogen
·Irritant
·There are no listed chemicals above detection limits in this compound.

CERCLA:
·None

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·STATE REGULATIONS:
·California: Proposition 65 substances (components) known to the State of California to cause cancer and reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Act of 1986".
·It has not been determined and cannot be ascertained that this product would not expose users to the listed chemicals at the very low levels prescribed in the regulations. Therefore, it is the user's responsibility to determine if the percent of hazardous/carcinogenic ingredients listed elsewhere in the MSDS comply with State of California regulations.

CANADA
·This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by CPR.

·CANADA
·DSL: Components included on inventory.

WHMIS HAZARD CLASS(ES):
·Class D, Division 2, Subdivision A: Materials cause other toxic effects, very toxic material.

WHMIS TRADE SECRET REGISTRY NUMBER(S): Not Applicable

WHMIS SYMBOLS:
·Stylized T

·EUROPEAN ECONOMIC COMMUNITY (EEC)
EINECS Inventory: Components included on inventory

EEC SYMBOL(S):
·Irritant
·Harmful
EINECS No- 238-878-4
IARC- Crystalline silica (quartz) is classified in IARC Group 1.
TSCA NO- Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7

RCRA- Crystalline silica (quartz) is not classified as a hazardous waste under the resource conservation and recovery act, or its regulations, 40 CFR 261 et seq

CERCLA- Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the comprehensive environmental response compensation and liability act (CERCLA), 40 CFR 302

Emergency Planning and Community Right to Know Act (SARA Title III)- Crystalline silica (quartz) is not an extremely hazardous substance under section 302 and is not a toxic chemical subject to the requirements of section 313.

Clean Air Act- Crystalline silica (quartz) used by Sauereisen Inc. is not processed with or does not contain any Class I or Class II ozone depleting substances

FDA- Silica is included in the list of substances that may be included in coatings used in

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food contact surfaces, 21 CFR 175.300(b)(3)(xxvi).

NTP- Respirable crystalline silica, primarily quartz dusts occuring in industrial and occupational settings, is classified as known to be a human carcinogen.

OSHA Carcinogen- Crystalline silica (quartz) is not listed

California Proposition 65: "Warning: This product contains a chemical, crystalline silica, known to the state of California and other state and regional authorities to cause cancer.

California Inhalation Reference Exposure Level (REL)- California established a chronic REL of 3 ug for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act- Silica, Crystalline (respirable size, <10microns) is toxic for purposes of the Massachusetts Toxic Use Reduction Act

Pennsylvania Worker and Community Right to Know Act- Quartz is a hazardous substance under the act, but it is not a special hazardous substance or an environmental hazardous substance.

EEC RISK PHRASES:
·R36/37/38 Irritating to eyes, respiratory system, and skin.
·R40 Limited evidence of a carcinogenic effect.
·R48/20 HARMFUL: Danger of serious damage to health by prolonged exposure through inhalation.

EEC SAFETY PHRASES
·S22 Do not breathe dust.
·S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
·S36/37/39 Wear suitable protective clothing, gloves, and eye and face protection.
·S38 In case of insufficient ventilation, wear suitable respiratory equipment.
·S7/8 Keep container tightly closed and dry.

SECTION 16. OTHER INFORMATION

·This MSDS contains information and recommendations based upon our present knowledge and data believed to be reliable. All data shown here are subject to reasonable variation and are supplied as an accommodation to the buyer. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. This MSDS applies only to the product in its "as manufactured" state, since the application to which the product is subjected may change its characteristics. The buyer is responsible for determining the safety, toxicity, and suitability of the product under the conditions of their use of the product. Buyers also have the responsibility for insuring that the MSDS is available to their employees, product users, and handlers.

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·NAV=NOT AVAILABLE NE=NOT ESTABLISHED NA=NOT APPLICABLE ND=NOT DETERMINED EV=UNDER

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EVALUATION