

SAFETY DATA SHEET

Version: 3.0
Date of Issue: 18-Apr-2017
Date of First Issue: 24-Oct-2012


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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

Product identifier used on the label	PBX Cement
Other means of identification	
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
Recommended use of the chemical and restrictions on use	
Recommended use	PC14 Metal surface treatment products, including galvanic and electroplating products.
Restrictions on use	None known.
Details of the supplier of the safety data sheet	
Supplier	VISHAY MEASUREMENTS GROUP, INC.
Address of Supplier	Post Office Box 27777 Raleigh, NC 27611 USA
Telephone	+1 919-365-3800
Fax	+1 919-365-3945
E-Mail (competent person)	mm.us@vishaypg.com
Emergency telephone number	1-800-424-9300 CHEMTREC (24 hours)

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200	
Physical hazards	Not classified
Health hazards	Specific target organ toxicity — repeated exposure, Category 1 Specific target organ toxicity — single exposure, Category 3 Carcinogen, category 1
Environmental hazards	Not classified
Hazard Symbol	
Signal Word(s)	Danger
Hazard Statement(s)	Causes damage to organs through prolonged or repeated exposure by inhalation. May cause respiratory irritation. May cause cancer.
Precautionary Statement(s)	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wash hands and exposed skin thoroughly after handling. Wear protective gloves/eye protection/face protection. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

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Store locked up.
Dispose of contents in accordance with local, state or national legislation.

Other hazards

None.

Percent of the mixture consists of ingredient(s) of unknown acute toxicity:

0%

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard Statement(s)
Quartz (SiO ₂) (crystalline silica)	30 - 50	14808-60-7	238-878-4	Specific target organ toxicity — repeated exposure, Category 1 Specific target organ toxicity — single exposure, Category 3 Carcinogen, category 1
Aluminium oxide	5 - 15	1344-28-1	215-691-6	Not classified
Chromium oxide	< 5	1308-38-9	215-160-9	Not classified

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid all contact. Do not breathe vapour. Apply artificial respiration if necessary (do not employ mouth-to-mouth method). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply artificial respiration if breathing has ceased or shows signs of failing. Get medical advice/attention if you feel unwell.

Skin Contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If irritation (redness, rash, blistering) develops, get medical attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if eye irritation develops or persists.

Ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If symptoms develop, obtain medical attention.

Most important symptoms and effects, both acute and delayed

Causes damage to organs through prolonged or repeated exposure: Lungs. Mechanical irritation of the respiratory tract. Mechanical irritation of the skin and eyes. May cause cancer.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician:

IF INHALED: Breathing difficulties may appear with several hours delay.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Non-flammable. As appropriate for surrounding fire. Extinguish preferably with dry chemical, sand or carbon dioxide.

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

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Special hazards arising from the substance or mixture
Special protective equipment and precautions for fire fighters

Not flammable. May decompose in a fire giving off toxic fumes.
 Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure operatives are trained to minimise exposures. Contaminated clothing should be laundered before reuse. Ensure adequate ventilation. Do not breathe dust. Avoid all contact.

Large Spillages

Evacuate the area and keep personnel upwind. Only trained and properly protected personnel must be involved in clean-up operations.

Methods and material for containment and cleaning up

Sweep up spilled substance but avoid making dust. Dry sweeping is not recommended. If necessary, light water spray will reduce dust for dry sweeping, but over-wetting may produce very slippery walking surfaces. Transfer to a container for disposal. Flush spill area with copious amounts of water.

Large Spillages

A vacuum equipped with HEPA (high efficiency particulate air) filtration is recommended. Only trained and properly protected personnel must be involved in clean-up operations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Avoid all contact. In case of insufficient ventilation, wear suitable respiratory equipment. Keep good industrial hygiene. Wash hands thoroughly after handling. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place. Keep from direct sunlight.

Conditions for safe storage, including any incompatibilities

Keep only in original container. Store in a well-ventilated place. Keep container tightly closed.

Storage temperature
 Incompatible materials

Ambient.
 Keep away from: Acids, Alkalis and Strong oxidising agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Quartz (SiO ₂) (crystalline silica)	14808-60-7	-	0.05	-	-	NIOSH
		-	30	-	-	OSHA Total Dust
		-	10	-	-	Respirable Dust
		-	0.025	-	-	ACGIH, A2
Aluminium oxide	1344-28-1	-	10	-	-	NIOSH Total Dust
		-	5	-	-	Respirable Dust
		-	10	-	-	OSHA Total Dust
		-	4	-	-	Inhalable Dust
-	10	-	-	ACGIH		

Note: OSHA PELs 1910.1000 TABLE Z-1/ NIOSH RELs / ACGIH TLVs,

A2: Suspected Human Carcinogen: Human data are accepted as adequate in quality but are conflicting or insufficient to classify the agent as a

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confirmed human carcinogen; OR, the agent is carcinogenic in experimental animals at dose(s) , by route(s) of exposure, at site(s), of histological type(s), or by mechanism(s) considered relevant to worker exposure. The A2 is primarily when there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans.

The other components listed in Section 3 do not have occupational exposure limits.

Biological Exposure Indices

Not established

Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Have available eyewash bottle with clean water.

Individual protection measures, such as personal protective equipment (PPE)

General hygiene measures for the handling of chemicals are applicable. Do not breathe dust. Avoid contact with skin, eyes or clothing. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place.

Eye/face protection



Wear eye protection with side protection.

Skin protection



Hand protection: Wear impervious gloves. Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Body protection: Wear dust-resistant protective clothing.

Respiratory protection



Do not use in areas without adequate ventilation. In case of inadequate ventilation wear respiratory protection. An approved dust mask should be worn if dust is generated during processing or handling. A suitable respirator must always be worn.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Green odourless powder.
Odor	No odour
Odor Threshold	Not available.
pH	Not established.
Melting Point/Freezing Point	Not available.
Initial boiling point and boiling range	Not available.
Flash Point	Not applicable.
Evaporation rate (Butyl acetate = 1)	Not applicable.
Flammability (solid, gas)	Non-flammable.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	4.0 (H ₂ O=1)
Solubility(ies)	Negligible.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.

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SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions to avoid	Keep away from heat and direct sunlight. Keep at a temperature not exceeding (°C): 48.9°C
Incompatible materials	Keep away from: Acids, Alkalis and Strong oxidising agents.
Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity - Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Acute toxicity - Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 5 mg/l.
Acute toxicity - Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Skin corrosion/irritation	Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Carcinogen, Category 1: May cause cancer.
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
STOT - single exposure	Specific target organ toxicity — single exposure, Category 3: May cause respiratory irritation.
STOT - repeated exposure	Specific target organ toxicity — repeated exposure, Category 1: Causes damage to organs through prolonged or repeated exposure by inhalation.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
Information on likely routes of exposure	
Inhalation	Possible – accidental exposure
Ingestion	Unlikely – accidental exposure
Skin Contact	Unlikely – accidental exposure
Eye Contact	Unlikely – accidental exposure
Early onset symptoms related to exposure	May cause respiratory irritation.
Delayed health effects from exposure	Causes damage to organs through prolonged or repeated exposure by inhalation. May cause cancer.
Other information	
NTP Report on Carcinogens	Quartz (SiO ₂) (crystalline silica) – Listed; Group K: Known To Be Human Carcinogens
IARC Monographs	Quartz (SiO ₂) (crystalline silica) - Group 1: Carcinogenic to humans.
OSHA Designated Carcinogen	Not Listed

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
Persistence and degradability	Not persistent.

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Bioaccumulative potential	The product has low potential for bioaccumulation.
Mobility in soil	No data for the mixture as a whole.
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Send after pre-treatment to an appropriate hazardous waste incinerator facility according to legislation. Dispose of contents in accordance with local, state or national legislation.
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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA
UN number	UN 3316	UN 3316	UN 3316
UN proper shipping name	CHEMICAL KIT (When shipped with PBX Solvent)	CHEMICAL KIT (When shipped with PBX Solvent)	CHEMICAL KIT (When shipped with PBX Solvent)
Transport hazard class(es)	9	9	9
Packing group	II	II	II
Environmental hazards	Not classified as a Marine Pollutant/ Environmentally hazardous substance	Not classified as a Marine Pollutant/ Environmentally hazardous substance	Not classified as a Marine Pollutant/ Environmentally hazardous substance
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.		
Special precautions for user	See Section: 2		

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

TSCA (Toxic Substance Control Act)

Quartz (SiO₂) (crystalline silica): Subject to 25,000 lb reporting threshold
Aluminium oxide: Subject to 25,000 lb reporting threshold
Chromium oxide: Subject to 25,000 lb reporting threshold
Not listed

EPCRA/SARA Section 302 Extremely Hazardous Substances

Aluminium oxide: De Minimis limit: 1%
Chromium oxide: Chromium III compound - De Minimis limit: 1%
Quartz (SiO₂) (crystalline silica): Listed
Not listed

EPCRA Section 313 Toxics Release Inventory (TRI) Program

NIOSH Occupational Carcinogen List
OSHA List of highly hazardous chemicals, toxics and reactives

NTP Report on Carcinogens (RoC) List
Poison Prevention Packaging Act

Quartz (SiO₂) (crystalline silica): Group K: Known To Be Human Carcinogens
Not listed

US State Regulations

California State, Proposition 65 List
California State, Safer Consumer Products Regulations
Maine State, Toxic Chemicals in Children's Products Act
New Jersey State Worker and Community RTK Act

Quartz (SiO₂) (crystalline silica): Listed
Quartz (SiO₂) (crystalline silica): Candidate Chemicals List
Quartz (SiO₂) (crystalline silica): COC list. CHC list
Quartz (SiO₂) (crystalline silica): RTKHSL. SHHSL
Aluminium oxide: RTKHSL
Chromium oxide: RTKHSL

Pennsylvania State, Worker and Community RTK Act

Quartz (SiO₂) (crystalline silica): Hazardous Substance List
Aluminium oxide: Hazardous Substance List. Environmental Hazard List
Chromium oxide: Hazardous Substance List. Environmental Hazard List
Quartz (SiO₂) (crystalline silica): Hazardous Substance List
Aluminium oxide: Hazardous Substance List
Chromium oxide: Chromium (III) compound - Hazardous Substance List

Rhode Island State, Hazardous Substances RTK Act

Non-Regional

IARC Monographs, List of Classifications

Quartz (SiO₂) (crystalline silica): Group 1

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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Updated substance / mixture classification. New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

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References:

Existing Safety Data Sheet (SDS)
Existing ECHA registration(s) for Aluminium oxide (CAS#: 1344-28-1) and Chromium oxide (CAS#: 1308-38-9)
EU C&L Inventory listing for Silicon dioxide (CAS#: 14808-60-7)

Literature References:

1. Silica, Some Silicates, Coal Dust and para-Aramid Fibrils, IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS, Volume 68 (1997)
2. Ziskind M, Jones RN, Weill H, 1976, Silicosis. American review of respiratory disease, 113:643-665.

Website: <http://www.epa.govt.nz/search-databases/Pages/ccid-details.aspx?SubstanceID=2971>

GHS Classification of the substance or mixture	Classification Procedure
Specific target organ toxicity — repeated exposure, Category 1	Threshold Calculation
Specific target organ toxicity — single exposure, Category 3	Threshold Calculation
Carcinogen, category 1	Threshold Calculation

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists
BEI: Biological Exposure Indices (ACGIH)
IARC: International Agency for Research on Cancer
Irr: Irritation
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: The Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PEL: Permissible exposure limit

ACGIH: American Conference of Governmental Industrial Hygienists
BEI: Biological Exposure Indices (ACGIH)
IARC: International Agency for Research on Cancer
Irr: Irritation
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: The Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PEL: Permissible exposure limit

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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