

SAFETY DATA SHEETS

This SDS packet was issued with item:

077276967

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

077276942

**MATERIAL SAFETY DATA SHEET**

(Revision: 06/01/2011)

1. Identification of the Substance/Preparation and of the Company/Undertaking.

- Product Type: Phosphate Casting Investment
- Trade Names:

AccuVest
Formula 1
Polyvest

Cera-Fina
Hi-Temp
Ti21

Ceramigold
PC 15
V.H.T. Industrial

FastFire 15
PowerCast
X-20

- Company: **Whip Mix Corporation**
361 Farmington Ave.
Louisville, Kentucky, USA 40209
Emergency Telephone Number: (502)-637-1451
Fax Number: (502) 634-4512

Transportation **CHEMTREC 1(800) 424-9300 (U.S. and Canada)**

Emergencies: **International Calls: 1- 703-527-3887 (Collect calls accepted)**

2. Hazard Identification.

- This product contains Crystalline Silica (CS), which is considered a hazard by inhalation. IARC has classified inhalation of CS as carcinogenic for humans (Group 1). CS is listed by NTP as a known human carcinogen. Inhalation of CS is also a known cause of Silicosis, a non-cancerous lung disease.
 - Pre-existing upper respiratory and lung disease such as, but not limited to Bronchitis, Emphysema and Asthma. Lungs and eyes are target organs.
 - Acute health effects involve transitory upper respiratory or eye irritation.
 - Chronic health effects from inhalation of crystalline silica has been classified by IARC as carcinogenic for humans (group 1). Inhalation of crystalline silica is also a known cause of Silicosis, a non cancerous lung disease caused by excessive exposure to crystalline silica
- Inhalation of excessive dust over a prolonged period can result in lung damage, silicosis.

3. Composition/Information on Ingredients.

Substance	CAS No.	EINECS	Concentration, %	R	S
Silica, Crystalline, Quartz	14808-60-7	238-878-4	5-70	N/A	N/A
Silica, Crystalline, Cristobalite	14464-46-1	238-455-4	0-60	N/A	N/A
Nuisance Dusts (Phosphates)	Not Assigned	Not Assigned	10-30	N/A	N/A
Metallic Oxides	Not Assigned	Not Assigned	5-15	N/A	N/A

4. First-Aid Measures.

- For inhalation: Remove exposed person to fresh air, drink water to clear throat and blow nose to evacuate dust.
- For eyes: Flush with large quantities of water. If irritation persists consult a physician.

5. Fire-Fighting Measures.

- Nonflammable. Use whatever measure of extinction is appropriate for surrounding fire.
- Water may cause product to solidify.

6. Accidental Release Measures.

- Vacuum spilled material. Avoid creating dust. Wipe surfaces with wet cloth.
- Avoid washing down drains as material can plug drains.

7. Handling and Storage.

- Minimize dusts generation and accumulation. Avoid breathing dust. Avoid contact with eyes. Seal broken bags immediately. Continue to follow all MSDS Label warnings when handling empty containers.
- Insure proper respiratory protection

8. Exposure Controls/Personal Protection.

- Exposure Limits (as respirable dust). All values as mg/m³

	<u>OSHA-PEL</u>	<u>ACGIH-TLV, 2011</u>
Nuisance Dusts (Phosphate)	5	Withdrawn
Metal Oxides	5	Withdrawn
Silica – Quartz	0.1	0.025
Silica – Cristobalite	0.05	0.025

- Personal protective equipment: None required during normal laboratory use.
- Engineering controls: Use local ventilation to keep employee exposure to respirable dust below 0.025 mg/m³.
- Respirator: Use respirator approved by NIOSH/MSHA – 1/2 face with dust/mist cartridges for exposures up to 10 times exposure limit.

9. Physical and Chemical Properties.

- Solid, odorless powder, with variety of colors
- | | |
|-----------------------|----------------|
| Vapor pressure (mmHg) | Not Applicable |
| Vapor density (air=1) | Not Applicable |
| Evaporation rate | Not Applicable |
| Boiling point °C | Not Applicable |
| Freezing point °C | Not Applicable |
| pH | Not Applicable |
| Specific gravity | Not Applicable |
| Flammability | Not Applicable |
| Flash point °C | Not Applicable |
- No dangerous reactions are known to occur with correct handling and storage.

10. Stability and Reactivity.

- Basically stable, may solidify if contacted by water.
- Incompatible with hydrofluoric acid.
- No hazardous decomposition products.

11. Toxicological Information.

- Route of entry: Inhalation.
- Effects of acute exposure: None known.
- Inhalation of excessive dust over a prolonged period can result in lung damage, Silicosis.
- Carcinogenicity: The International Agency for Research on cancer (IARC) reports inhaled crystalline silica is a Group 1 carcinogen to humans. NTP has listed crystalline silica as carcinogen.
- Synergistic products: Mycobacterium Tuberculosis.

12. Ecological Data.

- No ecotoxicological studies are available. Generally considered chemically inert in the environment. Not dangerous to water.

13. Disposal Considerations.

- Waste is not hazardous as defined by RCRA (40 CFR 261). Other state and local regulation may vary; consult local agencies as needed. Used material, which has become contaminated, may have significantly different characteristics based on contaminants and should be evaluated accordingly.

14. Transport Information.

- No special transport requirements, non dangerous goods.

15. Regulatory Information.

- OSHA Hazard Communications Standard, 29 CFR 1910.1200: Contained material considered hazardous.
- RCRA: This material is not defined as hazardous waste, per 40 CFR 261.
- TSCA: These products contain materials listed in the TSCA inventory and is not otherwise regulated by TSCA Sec. 4, 5, 6, 7 or 12.
- CERCLA: Materials not reportable under CERCLA. Local requirements may vary.
- SARA: 311/312 hazard categories - immediate and delayed health, 313 reportable ingredients - none
- California Proposition 65: Investments contain Crystalline Silica known to the state of California to cause cancer.

16. Other Information.

- HMIS Rating: Health 3 Flammability 0 Reactivity 0 Other 0
Hazard: 4-Severe; 3-Serious; 2-Moderate; 1-Slight; 0-Minimum

Prepared By: Donna Ringo, CIH

Translated By:

Date: 6/13/2011

Date:



SAFETY DATA SHEET

(Revision: 01/25/2017)

1. Identification

- Product Type: Phosphate Casting Investment
- Trade Names:

AccuVest	Cera-Fina	Ceramigold	FastFire 15
Formula 1	Hi-Temp	PC 15	PowerCast
Polyvest	Ti21	V.H.T. Industrial	X-20
Resinvest			
- Company: **Whip Mix Corporation**
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2. Hazard Identification.

OSHA Hazcom 2012 Classification:

Health Hazards	Physical Hazards
Specific Target Organ Toxicity – Repeat Exposure Category 1 Carcinogen Category 1A	Not Hazardous

Labeling:

Danger!



Hazard Statements:

May cause cancer if inhaled.

Causes damage to lung through prolonged or repeated exposure by inhalation.

Precautionary Statements:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves and eye protection.

IF exposed or concerned: Get medical attention.

Get medical attention if you feel unwell.

Store locked up.

Dispose of contents and container in accordance with local and national regulations.

3. Composition/Information on Ingredients.

<u>Substance</u>	<u>CAS No.</u>	<u>%</u>
Silica, Crystalline, Quartz	14808-60-7	0-75
Silica, Crystalline, Cristobalite	14464-46-1	0-30
Zirconium Silicate	14940-68-2	0-95

Phosphates	Mixture	1-40
Aluminum Oxide	1344-28-1	0-5
Graphite	7782-42-5	0-5
Glass Fibers	65977-17-3	0-2

4. First-Aid Measures.

Inhalation: Remove exposed person to fresh air. If irritation or other symptoms persist, get medical attention.

Eyes: Flush with large quantities of water, holding the eyelids apart. If irritation persists consult a physician.

Skin: No first aid is generally required. Wash skin with soap and water.

Ingestion: May cause gastrointestinal discomfort and intestinal blockage. If swallowed, drink 1 or 2 glasses of water to dilute. Never give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

Most important symptoms/effects, acute and delayed: May cause eye irritation. Inhalation of dust may cause mucous membrane and respiratory irritation. When mixed with water, this material hardens and becomes very hot – may cause burns.

Indication of Any Immediate Medical Attention and Special Treatment Needed: Immediate medical attention is required for ingestions.

5. Fire-Fighting Measures.

Suitable (and unsuitable) Extinguishing Media: Use media appropriate for surrounding fire. Water may cause product to solidify.

Specific Hazards Arising From the Chemical: The product does not burn but may decompose producing phosphorus oxides.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear full emergency equipment and approved positive pressure self-contained breathing apparatus. Cool fire exposed containers with water.

6. Accidental Release Measures.

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing as described in Section 8.

Environmental Hazards: Report releases as required by local and national authorities.

Methods and Materials for Containment and Cleaning up: Collect using dustless method (HEPA vacuum or wet method) and place in appropriate container for use. Do not use compressed air.

7. Handling and Storage.

Precautions for Safe Handling: Avoid contact with eyes. Do not breathe dust. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation and proper dust collection methods to keep exposure level below occupational exposure limits. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

Conditions for Safe Storage, including Any Incompatibilities: Store in a cool, dry, well-ventilated area away from incompatible materials. Protect from physical damage

8. Exposure Controls/Personal Protection.

Occupational Exposure Limits:

Silica, Crystalline, Quartz	0.05 mg/m ³ TWA OSHA PEL 0.025 mg/m ³ TWA TLV (respirable fraction)
Silica, Crystalline, Cristobalite	0.025 mg/m ³ TWA OSHA PEL 0.025 mg/m ³ TWA TLV (respirable fraction)
Zirconium Silicate	5 mg/m ³ TWA OSHA PEL 5 mg/m ³ TWA, 10 STEL ACGIH TLV
Phosphates	5 mg/m ³ TWA OSHA PEL (respirable fraction) 15 mg/m ³ TWA OSHA PEL (total dust)
Aluminum Oxide	5 mg/m ³ TWA OSHA PEL (respirable fraction) 15 mg/m ³ TWA OSHA PEL (total dust)
Graphite	15 mppcf TWA OSHA PEL 2 mg/m ³ TWA ACGIH TLV (respirable)
Glass Fibers	1 f/cc TWA ACGIH TLV (as synthetic vitreous fibers)

Appropriate engineering controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits.

Respiratory protection: If the exposure limits are exceeded a NIOSH approved particulate respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in

accordance with OSHA 1910.134 or other applicable regulations and good industrial hygiene practice.

Skin protection: For prolonged use or in dusty conditions, wear rubber gloves.

Eye protection: Chemical safety goggles if needed to avoid eye contact.

Other: Impervious clothing as needed to avoid contamination of personal clothing.

9. Physical and Chemical Properties.

Appearance: Powder, with variety of colors

Odor: Odorless.

Odor threshold: Not applicable

Melting point/freezing point: Not applicable

Flash point: Not applicable

Flammability (solid, gas): Not applicable

Flammable limits: LEL: Not applicable

Vapor pressure: Not applicable

Relative density: Not applicable

Partition coefficient: n-octanol/water: Not available

Decomposition temperature: Not available

pH: Not applicable

Boiling point: Not applicable

Evaporation rate: Not applicable

UEL: Not applicable

Vapor density (air = 1): Not applicable

Solubility In Water: Not applicable

Auto-ignition temperature: Not applicable

Viscosity: Not applicable

10. Stability and Reactivity.

Reactivity: None known.

Chemical stability: Stable

Possibility of hazardous reactions: None known.

Conditions to avoid: None known.

Incompatible materials: Incompatible with hydrofluoric acid.

Hazardous decomposition products: Crystalline silica will dissolve in hydrofluoric acid and produce silicone tetrafluoride.

11. Toxicological Information.

Eyes: Dust may cause mechanical irritation and possible injury.

Skin: Dust may cause irritation.

Ingestion: No adverse effects expected for normal, incidental ingestion. Large amounts may cause gastrointestinal blockage and discomfort.

Inhalation: Inhalation of dust may cause irritation to the nose, throat and upper respiratory tract with coughing and shortness of breath.

Chronic Health Effects: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function.

Carcinogenicity: Crystalline silica quartz is listed as "Carcinogenic to Humans" (Group 1) by IARC and "Known to be a Human Carcinogen" by NTP. None of the other components of this product are listed as carcinogens by OSHA, IARC or NTP.

Acute Toxicity Data:

Silica, Crystalline, Quartz: Oral rat LD50 >22,500 mg/kg

Silica, Crystalline, Cristobalite: No toxicity data available

Zirconium Silicate: No toxicity data available

Aluminum Oxide: Oral rat LD50 15900 mg/kg, Inhalation rat LC50 7.6 mg/L/1 hr

Graphite: Oral rat LD50 >2000 mg/kg, Inhalation rat LC50 >2000 mg/m3 (no deaths occurred)

Phosphates: No toxicity data available

Glass Fibers: Oral rat LD50 >2000 mg/kg

12. Ecological Data.

Ecotoxicity:

Silica, Crystalline, Quartz: 72 hr LC50 Carp - >10,000 mg/L

Silica, Crystalline, Cristobalite: No data available

Zirconium Silicate: No data available

Aluminum Oxide: 96 hr LC50 Pimephales promelas 35 mg/L

Graphite: 96 hr EC50 Danio rerio >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC50 Pseudokirchnerella subcapitata >100 mg/L

Phosphates: No data available

Glass Fibers: No data available

Persistence and degradability: Biodegradation is not applicable to inorganic substances.

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: Not required.

13. Disposal Considerations.

Dispose in accordance with all national and local regulations.

14. Transport Information.

US DOT: Not Regulated

Canada TDG: Not Regulated

IMDG: Not Regulated

IATA/ICAO: Not Regulated

Special precautions: Not applicable

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form

15. Regulatory Information.

Safety, health, and environmental regulations specific for the product in question

US Regulations

SARA Section 313 (40 CFR 372): This product contains the following toxic chemical(s) subject to reporting requirements of SARA 313: None

SARA Section 311/312 (40 CFR 370) Hazard Categories: Chronic Health

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): This product is not subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Toxic Substances Control Act (TSCA): All of the components of this product are listed on the TSCA inventory

California: This product contains the following substances known to the state of California to cause cancer and/or reproductive toxicity:

Silica, Crystalline, Quartz	14808-60-7	0-80%	Cancer
Titanium Dioxide	13463-67-7	<0.1%	Cancer
Uranium (as radionuclides)	7440-61-1	<300 ppm	Cancer
Thorium as radionuclides)	7440-29-1	<160 ppm	Cancer

International Regulations

Canadian Environmental Protection Act: Not determined

16. Other Information.

•HMIS Rating: Health 1* Flammability 0 Reactivity 0 Other 0

Hazard: 4-Severe; 3-Serious; 2-Moderate; 1-Slight; 0-Minimum

Prepared By:

Denise A. Deeds

Date: 01/25/2017

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Date: