

Material Safety Data Sheet

1. MATERIAL & COMPANY IDENTIFICATION

Product Name : SmartShear Key Grout
Manufacturer : S3 Technologies Sdn Bhd
Address : PT 5889, Jalan Changkat Larang, 31007 Batu Gajah, Perak
Contact : Tel: 05-3651232 Fax: 05-3651233

2. COMPOSITION / INFORMATION ON INGREDIENTS

OPC : Grey Portland Cement
Tricalcium silicate ($3\text{CaO}\cdot\text{SiO}_2$) and dicalcium silicate ($2\text{CaO}\cdot\text{SiO}_2$) are Portland cement's constituent, along with varying amount of alumina, tricalcium aluminate and iron oxide as tetracalcium aluminoferrate. Small amounts of magnesia, sodium, potassium and sulfur are also present. Chromium may be present in the finish cement since kiln's refractory lining and steel balls used in the finish-milling operations are possible sources.

CAS Reg. No. : 65997-15-1
OSHA PEL : 10 mg/m³ TDust
ACGIH TLV : 10 mg/m³ TDust

Silica Sand : Silica oxide (SiO_2) are essential constituent in silica sand.
CAS Reg. No. : 14808-60-7
OSHA PEL : 10 mg/m³
ACGIH TLV : 0.1 mg/m³ crystalline silica

Calcium Carbonate : Limestone
CAS Reg. No. : 1317-65-3
OSHA PEL : 15 mg/m³ TDust
ACGIH TLV : 10 mg/m³ TDust, 9192

Chemical additives : Essentially fluidizing agents e.g. naphthalene-sulphonate formaldehyde salts and defoaming agent e.g. silicone or oil base.
CAS Reg. No. : Propriety Mixture (Not Available)

3. HAZARDS IDENTIFICATION

3.1 Ingestion

Material can cause burning and alkaline poisoning.

3.2 Inhalation

Inhalation symptoms include eye, nose and upper respiratory tract irritation, cough, expectoration, shortness of breath and wheezing. Within 12 to 48 hours after 1 to 6 hours exposures, first, second and third-degree burns may occur. There may be no obvious pain at the time of exposure. Allergic reactions and changes in x-rays are also sign of exposure.

Individuals with a sensitivity to hexachromium salts should avoid exposure. Individuals with chronic respiratory disorder or skin diseases should minimize exposure.

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3. HAZARDS IDENTIFICATION

3.3 Eye Contact

Splashes into the eyes can cause corneal edema.

3.4 Skin Contact

Powder mixture contain Portland cement, the latter is a nuisance dust and an irritant to skin, eyes and mucous membranes. Its principle health hazard occurs from the formation of alkaline calcium hydroxide (forming from the addition of water to Portland cement); this material is abrasive and can burn the skin, Dry cement will not cause alkaline burns. Some individuals appear to tolerate brief skin contact with wet cement but others develop extensive skin burns. Repeated or prolong skin exposure can cause dermatitis, including skin dryness, fissures, eczematous rashes and dystrophy of the nails. Extensive burns with dermal necrosis can occur. Allergic dermatitis may result from the presence of heavy metal such as chromium in the mixture.

4. FIRST AID MEASURES

4.1 Ingestion

Never give anything by mouth to an unconscious or convulsing person. If ingested, have the conscious victim drink 4 to 8 oz. of milk or water. **Contact the physician immediately!**

4.2 Inhalation

Move the victim to fresh air. If breathing is difficult, give oxygen; if victim is not breathing, give artificial breathing, and seek immediate medical assistance.

4.3 Eye Contact

Immediately flush eyes, including under the eye lids with copious amounts of water until victim is transported to an emergency medical facility. **Contact the physician immediately! This material can cause corneal edema!**

4.4 Skin Contact

Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. If irritation persists, seek medical assistance.

4.5 General

In all cases of doubt, or where symptoms persist, medical advice should be obtained.

5. FIRE-FIGHTING MEASURE

Specific Hazards : Non-Combustible material

Extinguishing Media : General extinguishing media such as water, spray carbon dioxide, chemical form type applied as appropriate for surrounding fire.

Flammability Limits : Not Applicable

Fire Fighting Advice : Non-Combustible material

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6. ACCIDENTAL RELEASE MEASURES

Notify safety personnel of large leaks. Provide adequate ventilation. Clean-up Personnel must be protected against dust inhalation and direct contact with the wet powder mixture containing cement. Avoid airborne dust conditions. Clean-up method such as vacuuming or wet mopping minimizes dust dispersion. Carefully scoop up dry material into suitable container or disposal of reclamation.

7. HANDLING AND STORAGE

7.1 Handling

Those handling cementitious products should wear protective eyeglass or chemical safety goggles, per OSHA eye and face protection regulations. Wear other protective clothing such as gloves, boots and aprons to prevent skin contact. Wear a NIOSH approved respirator for prolonged exposure or exposure above the TLV.

Warning: Air purifying respirators will not protect workers in an oxygen-deficient atmosphere.

Never eat, drink, smoke in the work area. Launder soiled clothing before wearing.

Provide general and local ventilation systems to maintain airborne concentrations below the OSHA PELs and ACGIH TLV. Local exhaust ventilation is preferred since it prevents contaminant dispersion into the work and area by controlled it at its source. Store in tightly closed containers in a cool, dry and well-ventilated areas. Protect containers from physical damage.

7.2 Storage

Store in a dry place in the original bags.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Engineering Controls

Avoid generating dust. Where dust could be generated whilst handling product, use local mechanical ventilation or extraction to minimize exposure to those involved.

8.2 Personal Protection

When handling or mixing the dry product, avoid inhaling dust. Wear dust mask, safety glasses, chemical resistant apron and impervious gloves. Precaution should be taken to avoid skin or eye contact or ingesting the product. Always wash hand before eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Grey Powder
Odour	: None
pH	: Approximately 12
Solubility	: Insoluble but undergoes hydration
Specific Gravity	: Not applicable
Vapour Pressure	: Not applicable
Vapour Density	: Not applicable
Viscosity	: Not applicable
Freezing Point	: Not applicable
Flammability	: Not applicable

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10. STABILITY AND REACTIVITY

10.1 Stability

Stable at normal temperatures when kept dry. When wet, sets to a hard lump with evolution of small amounts of heat.

10.2 Materials and Conditions to Avoid

React with moisture and become alkaline.

10.3 Hazardous Decomposition Products

Calcium Hydroxide forms when water is added to OPC. OPC is an alkaline, abrasive and hygroscopic material.

11. TOXICOLOGICAL INFORMATION

11.1 Ingestion

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12. ECOLOGICAL INFORMATION

This product is not biodegradable. Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Product should be disposed in accordance with local regulations and legal requirements.

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14. TRANSPORT INFORMATION

No special packaging requirement. Not classified as dangerous goods under the United Nations Transport Recommendations.

15. REGULATORY INFORMATION

Not classified as dangerous under current regulation.

16. OTHER INFORMATION

The information contained in this MSDS is provided for use in assessing the hazardous nature of material. Information was prepared carefully, using current references available to us. Information provided is to be the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself/ herself as to the suitability and completeness of information provided here for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information.