

# Material Safety Data Sheet

## 1. MATERIAL & COMPANY IDENTIFICATION

**Product Name** : SmartGrip TG  
**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** : White 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/m<sup>3</sup> TDust  
**ACGIH TLV** : 10 mg/m<sup>3</sup> TDust  
**Silica Sand** : Silica oxide ( $\text{SiO}_2$ ) are essential constituent in silica sand.  
**CAS Reg. No.** : 14808-60-7  
**OSHA PEL** : 10 mg/m<sup>3</sup>  
**ACGIH TLV** : 0.1 mg/m<sup>3</sup> crystalline silica  
**Calcium Carbonate** : Limestone  
**CAS Reg. No.** : 1317-65-3  
**OSHA PEL** : 15 mg/m<sup>3</sup> TDust  
**ACGIH TLV** : 10 mg/m<sup>3</sup> TDust  
**Chemical additives** : Essentially water retention agent and wetting agent  
**CAS Reg. No.** : Propriety Mixture (Not Available)

## 3. HAZARDS IDENTIFICATION

- 3.1 Ingestion**  
May cause temporary irritation to the gastro intestinal tract.
- 3.2 Inhalation**  
May irritate nose, throat, and upper respiratory tract.
- 3.3 Eye Contact**  
May cause eye itching, redness and pain.
- 3.4 Skin Contact**  
May cause irritation

## 4. FIRST AID MEASURES

- 4.1 Ingestion**  
Never give anything by mouth to an unconscious or convulsing person. If ingested wash mouth out with water and seek immediate medical assistance.
- 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**  
Flush with plenty of water for 15 minutes and seek medical advice without delay.
- 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.

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## 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

## 6. ACCIDENTAL RELEASE MEASURES

Wear protective equipment to prevent skin and eye contact. Sweep, vacuum or shovel spilled material whilst trying to minimize dust generation. Dispose according to local authority guidelines. Do not allow material to enter drain or waterways.

## 7. HANDLING AND STORAGE

Handling : Avoid direct contact with skin and eyes. Bagged material should be stacked in a safe and stable manner.  
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 minimise 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** : White or coloured shades powder  
**Odour** : Very light sweet odour  
**pH** : 12 (when mixed with water, hydration of cement components occur)  
**Solubility** : Insoluble but undergo hydration  
**Specific Gravity** : Not applicable  
**Vapour Pressure** : Not applicable  
**Vapour Density** : Not applicable  
**Viscosity** : Not applicable  
**Freezing Point** : Not applicable  
**Flammability** : Not applicable

## 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 SmartGrip TG. OPC is an alkaline, abrasive hygroscopic material.

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## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Ingestion**

Material can cause burning and alkaline poisoning.

### **11.2 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.

### **11.3 Eye Contact**

Splashes into the eyes can cause corneal edema.

### **11.4 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.

## **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.

## **14. TRANSPORT INFORMATION**

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

## **15. REGULAORY 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.