

# Material Safety Data Sheet

## 1. MATERIAL & COMPANY IDENTIFICATION

**Product Name** : SmartFlex  
**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

**Latex Emulsion** : Styrene Acrylic copolymer

**CAS Reg. No.** : 390069-00-0

**Chemical Additives** : Additive are essentially defoamer, wetting agents, in can preservative.

**CAS Reg. No.** : Mixture ( Not Available)

**OPC** : Tricalcium silicate ( $3\text{CaO}\cdot\text{SiO}_2$ ) and dicalcium silicate ( $2\text{CaO}\cdot\text{SiO}_2$ ) are Portland cement's essential constituent, along with varying amount of alumina, tricalcium aluminate and iron oxide as tetracalcium aluminoferrate. Small amounts of magnesia, sodium, potassium and sulphur 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

**DOT Classification** : Not Hazardous by DOT classifications.

**Silica Sand** : Silica oxide ( $\text{SiO}_2$ ) are essential constituent in silica sand.

**CAS Reg. No.** : 14808-60-7

**Chemical additives** : Essentially defoamer and wetting agent.

**CAS Reg. No.** : Mixture (Not Available )

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## 3. HAZARDS IDENTIFICATION

### Part A

#### 3.1 Ingestion

Material can cause nausea and poisoning.

#### 3.2 Inhalation

Inhalation of vapor or mist can cause headache, nausea, irritation of nose, throat and lungs.

#### 3.3 Eye Contact

Direct contact with material can cause slight irritation.

#### 3.4 Skin Contact

Prolonged or repeated skin contact can cause slight skin irritation and reddening.

### Part B

#### 3.5 Ingestion

Material can cause burning and alkaline poisoning. Ingestion of the powder may cause burns in the esophagus and stomach. Chronic bronchitis may result from long term exposures. There are reports of x-ray changes without symptoms in cement workers that are exposed to Portland cement. Other studies showing x-ray changes with pulmonary symptoms are noted in workers exposed primarily to silica containing products.

#### 3.6 Inhalation

Inhalation symptoms include eye, nose and upper respiratory tract irritation, cough, expectoration, shortness of breath and wheezing. Within 12 to 48 hours after an exposure duration of 1 to 6 hours, 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-ray scans are also signs of exposure.

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

#### 3.7 Eye Contact

Splashes into the eyes can cause corneal edema.

#### 3.8 Skin Contact

Portland cement 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 prolonged 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 metals such as chromium in the mixture.

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## 3. HAZARDS IDENTIFICATION (Continued)

### Part A & B (Mixed)

#### 3.9 Ingestion

Material can cause burning and alkaline poisoning.

#### 3.10 Inhalation

Currently no known effects aside from the symptoms from both Part A & Part B.

#### 3.11 Eye Contact

Direct contact with material can cause irritation.

#### 3.12 Skin Contact

Prolonged or repeated skin contact can cause slight skin irritation and reddening. Wet material is sticky, and the cured material is difficult to remove. This can cause dermal abrasion during cleaning by mechanical means.

## 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 – 8 oz. of milk or water. **Contact a physician immediately.**

#### 4.2 Inhalation

Move the victim to an area with fresh air. If breathing is difficult, give oxygen; if victim is not breathing, give artificial breathing. **Seek medical assistance immediately.**

#### 4.3 Eye Contact

Flush eyes including under the eye lids with copious amounts of clean water until the victim is transported to an emergency medical facility.

#### 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. Seek medical assistance if necessary. Cured material less than a few hours old can be removed by mechanical means and washing.

#### 4.5 General

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

## 5. FIRE-FIGHTING MEASURE

### Part A & B & Mixed

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 wear appropriate protective equipment when handling spills of this material. Keep spectators away, the floor may be slippery, so it is best to contain material immediately with inert material (e.g. sand, earth). Transfer liquids, powder and contamination containing materials to separate containers for proper disposal.

## 7. HANDLING AND STORAGE

**Handling** : Avoid breathing any vapor or dust produced from the product.  
Wear water impermeable rubber gloves when handling product.  
Safety glasses or goggles should be worn as well.

**Storage** : Store in a dry place in sealed packaging in a general (mechanical) ventilated room

## 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 in the area.

### 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** : Part A – White milky liquid  
Part B – Grey odorless powder

**Odour** : Part A – Faint aromatic odor  
Part B – Odorless

**pH** : Part A – 8  
Part B – 12 (when mixed with Part A or water)

**Solubility** : Part A – Dilutable with water  
Part B – Not soluble (hydration occurs)

**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**

Part A – Not resistant to frost and coagulation will form on thawing.

Part B – Avoid moisture.

Mixed – None currently known.

### **10.3 Hazardous Decomposition Products**

Part A – When water evaporates, polymer residue can burn and product carbon dioxide and carbon monoxide.

Part B – Calcium hydroxide forms when water is added to Portland cement and is alkaline, abrasive and a hygroscopic material.

Mixed – Calcium hydroxide forms when part A is mixed with part B. This results in an alkaline, abrasive, sticky and hygroscopic material.

## **11. TOXICOLOGICAL INFORMATION**

### **Part A**

#### **11.1 Ingestion**

Material can cause nausea and poisoning.

#### **11.2 Inhalation**

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#### **11.3 Eye Contact**

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### **Part B**

#### **11.5 Ingestion**

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## 11. TOXICOLOGICAL INFORMATION (Continued)

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### Part A & B (Mixed)

#### 11.9 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.