



## Health and Safety Data of Tata Shudh Cement

### 1. Identification of Substance

An odorless white to gray powder mainly insoluble in water. When water is added it becomes a binder for construction applications. This datasheet applies to the following cements

- Ordinary Portland cement – OPC Gr 53.
- Pozzolano Portland cement – PPC.
- Masonry Cement.

### 2. Composition/Information on Ingredients

#### 2.1 Chemical Description

The principal constituents of these cements are calcium silicates, aluminates, ferro-aluminates and sulfates. Small amounts of alkalis, lime and chlorides are also present together. Additional constituents may also be present eg. pulverized fuel ash, if the product is PPC or Masonry cement.

#### 2.2 Hazardous Ingredients

The lime, calcium silicates and alkalis within the cement are partially soluble and during application by end user, when mixed with water will give rise to a potentially hazardous alkaline solution.

### 3. Hazards Identification

When cement is mixed with water such as when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced. If this comes into contact with the eyes or skin it may cause serious burns and ulceration. The eyes are particularly vulnerable and damage will increase with contact time. Strong alkaline solutions in contact with the skin tend to damage the nerve endings first before damaging the skin, therefore chemical burns can develop without pain being felt at the time. Cement mortar and concrete mixes may until set, cause irritant contact dermatitis.

Irritant contact dermatitis is due to a combination of the wetness, alkalinity and abrasiveness of the constituent materials

### 4. Fire Fighting Measures

Cements are not flammable and will not facilitate combustion with other materials.

### 5. Accidental Release Measures

#### 5.1 Personal Precautions

See 8 – First aid measures.

#### 5.2 Cleaning Up

Recover the spillage in a dry state if possible. Minimize generation of airborne dust. The product can be slurried by the addition of water but will subsequently set as a hard material. Keep children away from clean up operation.

### 6. Storage and Handling

#### 6.1 Storage

Bags should be stacked in a safe and stable manner as per BIS standards.

**CIN: L24239MH1939PL0002893**

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## 6.2 Handling

When handling cement bags due regard should be paid to the guidelines provided by BIS and instructions on 'Manual handling' if any. Some bags may have a small amount of cement on the outer surface. Appropriate personal protective clothing should therefore be used whilst handling.

## 7. Exposure Controls

### 7.1 Occupational Exposure Standard (OES)

OES 8hr Time Weighted Average (TWA)	
Total inhalable dust	10mg/m <sup>3</sup> 8hrTWA
Respirable dust	4mg/m <sup>3</sup> 8hrTWA

### 7.2 Engineering Measures

Where reasonably practicable, dust exposures should be controlled by engineering methods.

## 8. First Aid Measures

### *Eye Contact*

Wash eyes immediately with clean water for at least 15 minutes and seek medical advice without delay.

### *Skin Contact*

Wash the affected area thoroughly with soap and water before continuing. If irritation, pain or other skin trouble occurs, seek medical advice. Clothing contaminated by wet cement, concrete or mortar should be removed and washed thoroughly before use.

### *Ingestion*

Do not induce vomiting. Wash out mouth with water and give patient plenty of water to drink.

### *Inhalation*

If irritation occurs, move to fresh air. If nose or airways become inflamed seek medical advice.

## 9. Physical/Chemical Properties

### *9.1 Physical Data*

Physical state	Particulate
Mean particle size	5–30 micron
Odour	Not applicable (N/A)
pH of wet cement	12-14
Viscosity	N/A
Freezing point	N/A
Boiling point	N/A
Melting point	N/A
Flash point	not flammable
Explosive properties	not explosive
Density	3.15
Solubility	N/A



## 9.2 Chemical Compounds

Mainly a mixture of: 3 CaO – SiO<sub>2</sub>

2 CaO – SiO<sub>2</sub>

3 CaO – Al<sub>2</sub>O<sub>3</sub>

4 CaO – Al<sub>2</sub>O<sub>3</sub>

Fe<sub>2</sub>O<sub>3</sub> – CaSO<sub>4</sub>

Contains less than 1% crystalline silica.

## 10. Stability and Reactivity

Conditions contributing to chemical instability	– none
Hazardous decomposition products	– none
Special precautions	– none

## 11. Disposal Considerations

Dispose of empty bags or surplus cement to a place authorized to accept builder's waste. Keep out of the reach of children.

## 12. Transport Information

Classification for conveyance – not required.

## 13. Personal Protective Equipment

### *Respiratory Protection*

Suitable respiratory protection (Dust masks) should be worn to ensure that personal exposure is less than the OES.

### *Hand and Skin Protection*

Protective clothing (Gum boots & Rubber gloves) should be worn which ensures that cement, or any cement/ water mixture eg. Concrete or mortar, does not come into contact with the skin. In some circumstances such as when laying concrete, waterproof trousers/ suit may be necessary. Particular care should be taken to ensure that wet concrete does not enter the boots and persons do not kneel on the wet concrete so as to bring the wet concrete into contact with unprotected skin. Should wet mortar or wet concrete get inside boots, gloves or other protective clothing then this protective clothing should be immediately removed and the skin thoroughly washed as well as the protective clothing/footwear.

### *Eye Protection*

Dust-proof goggles should be worn wherever there is a risk of cement powder or any cement/water mixtures entering the eye.

## 14 - TOXICOLOGICAL INFORMATION

For a description of available, more detailed toxicological information contact the supplier or manufacturer.

## 15 - ECOLOGICAL INFORMATION

### Eco-toxicity

No recognized unusual toxicity to plants or animals relevant physical and chemical properties. (see serial number 9 &10)

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## 16 - DISPOSAL

Dispose of waste material according to local, state and federal regulations. (Since Portland cement is stable, uncontaminated material may be saved for future use. Dispose of bags in an approved landfill or incinerator.

**TATA CHEMICALS LIMITED**

A handwritten signature in blue ink, appearing to read 'S Chakraborty', written over a horizontal line.

(S Chakraborty)  
**Dy. General Manager – Cement**