


**TATA CHEMICALS LIMITED**
**SAFETY DATA SHEET (SDS)**
**Name of chemical: CEMENT**
**1. PRODUCT IDENTIFICATION / COMPANY ADDRESS**

<b>Trade Name</b>	CEMENT	<b>Common Name</b>	CEMENT	<b>Synonyms</b>	Portland cement. Also known as hydraulic cement
<b>Company Name / Address / Phone / Fax</b>	<b>Tata Chemicals Limited, Mithapur</b> District: Devbhoomi Dwarka (Gujarat) 361 345 INDIA <b><u>Contact in case of Emergency Only:</u></b> +91(02892 675802 /03 ) Contact Person :+91 9227676113 Mr. Devendra Thakur				
<b>Chemical Name</b>	CEMENT				

**2. HAZARD IDENTIFICATION**

<b>Hazard Classification</b>	<b><u>Hazardous Substances</u></b>	<b>OSHA PEL (8-Hour TWA)</b>	<b>ACGIH TLV-TWA (1995–1996) (8-Hour TWA)</b>	<b>NIOSH REL (8-Hour TWA)</b>
	Portland Cement Clinker (CAS#65997-15-1) Nominal 95% by weight	50 million particles/ft <sup>3</sup>	10mg total dust/m <sup>3</sup>	
	Calcium sulphate (CAS#7778-18-9) [Gypsum (CAS#13397-24-5)] Nominal 5% by weight	5 mg respirable dust / m <sup>3</sup> 10 mg total dust / m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	
	Calcium Oxide (CAS#1306-78-8) (Free Lime) < 4% by weight	5 mg / m <sup>3</sup>	2 mg / m <sup>3</sup>	
	Magnesium Oxide (CAS #1309-48-4) < 5% by weight	15 mg total dust / m <sup>3</sup>	10 mg total dust / m <sup>3</sup>	

	Crystalline silica (CAS#14808-60-7)	10 mg of respirable dust / m <sup>3</sup> (%SiO <sub>2</sub> +2)	0.10 mg respirable quartz / m <sup>3</sup>	0.05 mg respirable quartz / m <sup>3</sup>
<b>LABEL ELEMENTS</b>				
<b>Signal word</b>	Danger			
<b>Hazard statement</b>				
<b>Precautionary statement</b>				

### 3. COMPOSITION / INFORMATION AND INGREDIENTS

<b>Structural Formula</b>	Mainly mixture of: 3 CaO-SiO <sub>2</sub> , 2CaO-SiO <sub>2</sub> , 3CaO-Al <sub>2</sub> O <sub>3</sub> , 4CaO-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.	<b>Chemical Family</b>	Calcium compounds
		<b>Molecular weight</b>	
<b>CAS No</b>		<b>Molecular Formula</b>	3 CaO-SiO <sub>2</sub> , 2CaO-SiO <sub>2</sub> , 3CaO-Al <sub>2</sub> O <sub>3</sub> , 4CaO-Al <sub>2</sub> O <sub>3</sub> Fe <sub>2</sub> O <sub>3</sub> -CaSO <sub>4</sub> .
<b>Name</b>	<b>Product identifier</b>	<b>%</b>	<b>Classification</b>
Cement		100%	

### 4. FIRST AID MEASURE

<b>Ingestion</b>	Do not induce vomiting. Wash out mouth with water and give patient plenty of water to drink, Seek medical help
<b>Inhalation</b>	Move the person to a non-polluted area. The dust in the throat and nasal ducts must be removed immediately. Consult a physician if the irritation persists.
<b>Eyes</b>	A speedy response is essential in order to avoid permanent damage to the eyes. Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.
<b>Skin</b>	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.
<b>Antidote</b>	

<b>Most important symptoms/ effects, acute and or delayed</b>	<p><b>Eye Contact-</b> Eye contact with cement (dry or wet) may cause serious and potentially irreversible injuries.</p> <p><b>Inhalation-</b> Frequent inhalation of large quantities of cement dust over a long period of time increases the risk of developing lung diseases.</p> <p><b>Skin contact-</b> Cement may have an irritating effect on moist skin (due to transpiration or humidity) after prolonged contact. Prolonged skin contact with wet cement or fresh concrete may causes serious burns because they develop without pain being felt (for example when kneeling in-fresh concrete even when wearing trousers). Repeated skin contact with wet cement may cause contact dermatitis.</p> <p><b>Ingestion-</b> No Relevant routes of entry, only by accident</p>
<b>Indication of immediate medical attention and special treatment needed</b>	

## 5. FIRE FIGHTING MEASURES

<b>Fire extinguishing media</b>	In case of fire in adjacent areas, any suitable fire-extinguishing media may be used.
<b>Hazardous decomposition products</b>	Cement is non-flammable, non-combustible and may not cause or maintain combustion processes of other materials.
<b>Special fire fighting procedure</b>	No special instruction
<b>Precaution to Fire Fighters</b>	


## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precaution</b>	<ul style="list-style-type: none"> <li>• Avoid contact with eyes and skin, do not inhale the dust. Use personal protection equipment, as mentioned under point number 8, No special procedures are necessary.</li> </ul>
<b>Precautions for the environment</b>	Do not attempt to wash Portland cement down drains. Dispose of waste material according to local, state and federal regulations.
<b>Clean up method</b>	<ul style="list-style-type: none"> <li>• Recover the spillage in a dry state if possible. Minimize generation of airborne dust. The product can be slurred by the addition of water but will subsequently set as a hard material.</li> <li>• Do not wash cement down sewage and drainage system</li> </ul>

**7. HANDLING AND STORAGE**

<b>General precaution</b>	<ul style="list-style-type: none"> <li>• Do not handle or store near food, drinks or tobacco products.</li> <li>• Bagged cement used in open mixers: First put the water and then carefully add the cement.</li> <li>• Do not pour it from a great height. Mix slowly and carefully. Do not press the empty bags, except if you put them in a clean bag.</li> <li>• Carry the bags carefully to avoid straining and bruising your back, arms, shoulders and legs. Load the bags carefully and use suitable control measures.</li> </ul>
<b>Personal protection</b>	Refer to Section 8.
<b>Storage</b>	<ul style="list-style-type: none"> <li>• Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality.</li> <li>• Bags should be stacked in a stable manner.</li> </ul>
<b>Incompatibilities</b>	Moisture (Water). Keep away from unintentional contact with water.

**8. EXPOSURE CONTROL / PERSONAL PROTECTION**

<b>Personal protection</b>			
			
<b>Skin</b>	<ul style="list-style-type: none"> <li>• Chemical protective gloves, gum boots, and/or other chemical protective clothing to prevent all possible skin contact.</li> <li>• A chemical protective acid-resistant full-body encapsulating suit and respiratory protection may be required in some operations.</li> <li>• Have a safety shower/eye-wash fountain readily available in the immediate work area.</li> </ul>	<b>Eyes</b>	<ul style="list-style-type: none"> <li>• Wear appropriate protective face shield and eyeglasses or chemical safety goggles.</li> </ul>
<b>Respiration</b>	<ul style="list-style-type: none"> <li>• Use cartridge type gas mask to evacuate from area.</li> <li>• To attend emergency wear self-contained breathing apparatus or supplied airline.</li> </ul>	<b>Other</b>	
<b>Exposure limits</b>			
<b>TLV-TWA</b>	NA	<b>TLV-STEL</b>	NA
<b>Appropriate Engineering Control</b>	Use local exhaust or general dilution ventilation to control exposure below applicable limits.		

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Solid grey particles	<b>Molecular Weight</b>		<b>Specific gravity</b>	No data available
<b>Odour/Odor threshold</b>	Odorless	<b>Flash Point °C</b>	Not Pertinent	<b>pH/ Acidity</b>	11-13.5 (in saturated water solution, T = 25°C):
<b>Auto Ignition Temp. °C</b>	Not Pertinent	<b>Boiling Point °C @ 760 mm Hg</b>	Not Pertinent	<b>Melting Point °C</b>	
<b>Vapor Press. Mm Hg @ 20 °C</b>	1.41 kPa (10.6 mm Hg) at 20 °C	<b>Vapour Density</b>		<b>Water Solubility @ 20 °C</b>	Slightly Soluble
<b>LEL %</b>		<b>UEL %</b>		<b>% Volatile</b>	
<b>Evaporation rate</b>		<b>Viscosity @ 25 °C</b>		<b>PH</b>	
<b>Octanol / Water Partition Coefficient</b>	No data Available			No data available	

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Dry cements are chemically stable	<b>Possibility of Hazardous reaction</b>	Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.
<b>Hazardous Reactions/ Decomposition products</b>	Cement does not decompose in any hazardous substances	<b>Incompatible Materials</b>	Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.
<b>Condition to avoid</b>	<p>If stored appropriately dry cements are stable and compatible with most building materials. When mixed with water they cure and form a stable mixture which may not react with the environment.</p> <p>Presence of moisture during storage may cause lumps and product quality loss.</p> <p>Avoid uncontrolled application of aluminium powder with wet cement as it liberates hydrogen.</p>		

**11. TOXICOLOGICAL INFORMATION**

<b>Routes of exposure</b>	Inhalation.				
<b>LD50 (oral / rats) mg/kg</b>	----	<b>LD50 (dermal/ rats) mg/kg</b>		<b>LC50 (inhalation / rats)</b>	----
<b>Target Organ Effects</b>	lungs				
<b>Symptoms related to physical, chemical &amp; toxicological characteristics</b>					

**12. ECOLOGICAL INFORMATION**

<b>Mobility in Soil</b>	No data available
<b>Persistence and degradability</b>	No data available
<b>Bio accumulative Potential</b>	No data available
<b>Effects on fish (Ecotoxicity)</b>	Large quantity of cement in water can raise pH and therefore can be toxic to water life under certain circumstances.
<b>Effects on birds</b>	No recognized unusual toxicity to plants or animals.
<b>Effects on bees</b>	No

**13. DISPOSAL CONSIDERATIONS**

Waste bags must be disposed of in accordance with federal, state and local environmental control regulations

**14. TRANSPORT INFORMATION**

<b>UN No.</b>	.....	<b>IMDG No.</b>	---
<b>Shipping Name</b>	cement	<b>Hazard class</b>	---
<b>Packing group</b>	---	<b>Hazard Sub class</b>	---
<b>Marine Pollutant</b>	---	<b>Labels required</b>	---
<b>Warning Statement</b>	---		
<b>Packaging / Precaution</b>			
<b>Shipping Marking</b>			

**15. REGULATORY INFORMATION****LABELING:****PHRASES R:**

R37/38 Irritates respiratory system and skin  
R41 Risk of serious damage to eyes  
R43 Possible sensitization in case of skin contact.

**PHRASES S:**

S 2 Keep out of the reach of children  
S22 Do not breathe dust  
S24/25 Avoid contact with eyes and skin  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection  
S46 If swallowed, seek medical advice immediately and show this container or label

**16. OTHER INFORMATION**

The information provided in this Material Safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with other materials

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