


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

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

2. HAZARD IDENTIFICATION

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

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

3. COMPOSITION / INFORMATION AND INGREDIENTS

Structural Formula	Mainly mixture of: 3 CaO-SiO ₂ , 2CaO-SiO ₂ , 3CaO-Al ₂ O ₃ , 4CaO-Al ₂ O ₃ Fe ₂ O ₃ -CaSO ₄ . Contains less than 1 % crystalline Silica.	Chemical Family	Calcium compounds
		Molecular weight	
CAS No		Molecular Formula	3 CaO-SiO ₂ , 2CaO-SiO ₂ , 3CaO-Al ₂ O ₃ , 4CaO-Al ₂ O ₃ Fe ₂ O ₃ -CaSO ₄ .
Name	Product identifier	%	Classification
Cement		100%	

4. FIRST AID MEASURE

Ingestion	Do not induce vomiting. Wash out mouth with water and give patient plenty of water to drink, Seek medical help
Inhalation	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.
Eyes	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.
Skin	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.
Antidote	

Most important symptoms/ effects, acute and or delayed	<p>Eye Contact- Eye contact with cement (dry or wet) may cause serious and potentially irreversible injuries.</p> <p>Inhalation- Frequent inhalation of large quantities of cement dust over a long period of time increases the risk of developing lung diseases.</p> <p>Skin contact- 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>Ingestion- No Relevant routes of entry, only by accident</p>
Indication of immediate medical attention and special treatment needed	

5. FIRE FIGHTING MEASURES

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


6. ACCIDENTAL RELEASE MEASURES

Personal precaution	<ul style="list-style-type: none"> • 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.
Precautions for the environment	Do not attempt to wash Portland cement down drains. Dispose of waste material according to local, state and federal regulations.
Clean up method	<ul style="list-style-type: none"> • 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. • Do not wash cement down sewage and drainage system

7. HANDLING AND STORAGE

General precaution	<ul style="list-style-type: none"> • Do not handle or store near food, drinks or tobacco products. • Bagged cement used in open mixers: First put the water and then carefully add the cement. • 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. • Carry the bags carefully to avoid straining and bruising your back, arms, shoulders and legs. Load the bags carefully and use suitable control measures.
Personal protection	Refer to Section 8.
Storage	<ul style="list-style-type: none"> • 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. • Bags should be stacked in a stable manner.
Incompatibilities	Moisture (Water). Keep away from unintentional contact with water.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

9. PHYSICAL AND CHEMICAL PROPERTIES

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

10. STABILITY AND REACTIVITY

Chemical Stability	Dry cements are chemically stable	Possibility of Hazardous reaction	Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.
Hazardous Reactions/ Decomposition products	Cement does not decompose in any hazardous substances	Incompatible Materials	Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.
Condition to avoid	<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

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

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

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

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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