

SAFETY DATA SHEET

BB
BB Cement

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Manufacturer and plant

BB Cement (Pty) Ltd
187 Iron Street
Ga-Rankuwa Industrial
Zone 15

Revision date

2024/10/03

Name of Substance

Portland Cement & Portland Blended Cements CAS # 65997-15-1.
Portland cement and Portland blended cement are grey to off-white powder which are slightly soluble in water.

Synonyms

Cement, Cement Blends, Masonry Cement, Slag Cement, Fly Ash Cement, Silica Fume Cements, covered by the following standards:

Common cement standards SANS 50197-1 and masonry cement standards SANS 50413 and the cement extender standards SANS 50450, SANS 55167 and SANS 53263 for fly ash, GBFS (granulated blast-furnace slag) & silica fume respectively.

U.N No.

No U.N Number

Hazchem

Code awaited

NIOSH No.

W8770000(RTECS)

Product Names & Nomenclature

BB30 MC 22.5X
BB35 CEM IV B(V) 32.5R
BB45 CEM IV A(V) 42.5N

Physical Description & Use

Portland Cement, Portland-composite Cement and Pozzolanic Cement are used as hydraulic binders to produce concrete, mortar and plaster and are sold in bags.



Physical Description & Use	Portland Cement, Portland-composite Cement and Pozzolan Cement are used as hydraulic binders to produce concrete, mortar and plaster and are sold in bags.	
Physical Properties	Relative Density (Water= 1)	2,3 — 3,2
	Solubility in Water	Slightly soluble <1%
	Melting Point	> 1250°C
	Boiling Point	Not applicable >1000 °C
	Flammability	Not applicable
	Fire Fighting Procedures	Not applicable
	Explosiveness	Nil
	Alkalinity	pH 7-13
	Molecular Weight	Variable
	OEL Total Inhalable (RL)	10 mg/m3
	OEL Respirable Dust	5 mg/m3
Chemical Formula	Tri- and Di-Calcium Silicate, Tetra Calcium Alumino- Ferrite, Tri-Calcium Aluminate and Silicone Dioxide.	
Packaging	Packed in 25 and 50 kg bags.	
Other Characteristics	Stability	Stable
	Incompatibility with Other Substances	Avoid moisture
	Hazardous Decomposition	Nil
	Hazardous Polymerization	Nil

SECTION 2: HAZARDS IDENTIFICATION

Inhalation
Inhalation may cause irritation in the upper respiratory system. It may also leave unpleasant deposits in the nose.

Skin
Prolonged exposure could lead to chemical burns if wet and eventually to Contact Dermatitis.

Eyes
Cement may cause irritation and Calcium Oxide may cause acute corneal damage which could lead to blindness. In case of contact with eyes, rinse eyes with plenty of clean water for 1 5 minutes and seek medical attention if irritation persists.



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS



Compound name	%	CAS No. (CAS = Chemical Abstract Services)
Tri-Calcium Silicate	<70	12168-85-3
Di-Calcium Silicate	<40	10034-77-2
Tri-Calcium Alumino-Ferrite	<18	12068-35-8
Tri-Calcium Aluminate	<15	12042-78-3
Calcium Sulphate	<10	Various
Magnesium Oxide	<5	1309-48-4
Calcium Oxide	0-5	1305-78-8
Crystalline Silica	<0.2	14808-60-7
Chromates	<0.005	Various

Occupational Health and Safety Act – Exposure limits

Time Weighted Average Exposure		Short term
Compound name	ppm or mg/m ³	ppm or mg/m ³
Portlant Cement (CAS# 65997-15-1) Respirable dust Total dust	5 mg/m ³ 10 mg/m ³	
Calcium Sulphate (Gypsum) Respirable dust Total dust	5 mg/m ³ 10 mg/m ³	
Calcium Carbonate Respirable dust Total dust	5 mg/m ³ 10 mg/m ³	
Calcium Oxide	2 mg/m ³	
Crystalline Silica Quarts Quarts respirable	0.4 mg/m ³ (SiO ₂)	0.05 mg/m ³
Chromates	0.5 mg/m ³ (CrO ₃)	

SECTION 4: FIRST AID MEASURES

Inhalation

Demarcate dust areas with 'zebra' lines. Use dust masks in accordance with SABS 1455 EN and Govt. Gazette 1 200 of 22/10/89. Move exposed persons to fresh air, away from dusty area.

Skin

Wear gloves and long sleeves. Wash with water and non-sensitizing soap.

Eyes

Wear fully sealing eye protection. Wash eyes with large volumes of water. Seek medical attention.

Ingestion

Do not eat in areas exposed to cement dust. Ingestion in harmful quantities is unlikely to occur. If ingested, drink large quantities of water and consult a doctor immediately. DO NOT INDUCE VOMITING.

Other - Wet Cement & Concrete

Due to caustic nature, contact with the skin is undesirable and suitable protection must be worn at all times. In the case of contact with the skin, wash immediately with water and soap.

SECTION 5: FIREFIGHTING MEASURES

Flash Point	None
Lower Explosion Limit	None
Upper Explosion Limit	None
Auto Ignition Temperature	Non combustible
Extinguishing Media	None required
Special Fire Fighting Procedures	None required
Hazardous Combustion Products	None
Unusual Fire & Explosion Hazards	Portland cement, Portland-composite Cement and Pozzolan Cement are stable substances and will not decompose into hazardous by-products

SECTION 6: ACCIDENTAL RELEASE & SPILLAGES

Portland & Portland Blended Cements

In the case of a spillage or the accidental release of cement powder, remove all people out of the immediate area where dust is still airborne and wait for the dust to settle before cleaning up operations to start. Cleaning must preferably be with industrial vacuum cleaners or with brooms; never use compressed air to clean cement spillages. Recovered material to be disposed of as per environmental rules and keep product out of storm water and sewer drains. Wetting during clean-up will cause cement to set. Personal Protective Equipment (PPE) should be worn during spill clean-up.



SECTION 7: HANDLING AND STORAGE

Store clear of the ground, in a dry place and out of the wind and weather. If bagged, store at proper stacking height. If stored in silos beware of bridging and sudden flow of powder (dangerous to people). If clothing is contaminated with cement dust wash thoroughly before re-use. Manual handling of bagged cement without due care and attention could result in personal injury. Keep a straight back and bend knees when lifting.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Skin

Prolonged exposure could cause severe damage to the skin and even dermatitis in severe cases. Personnel working with dry or wet cement should wear protective clothing, impervious footwear, and gloves. To avoid contamination of the face and lips, wash hands before eating, drinking, or smoking.

Inhalation

Avoid actions that cause dust to become airborne. Exposure over long periods of time could cause coughing and phlegm (since cement is caustic and can burn the respiratory tract). Use NIOSH / MHSA- approved (under 30 CFR 11) or NIOSH -approved (under 42 CFR 84) respirators in poorly ventilated areas.

Eye Contact

Wear fully sealing goggles. Flush eyes with large volumes of water and seek immediate medical attention. Contact lenses must not be worn in dusty areas.

Back Strain

As cement is heavy, prevent back and neck injuries by using proper bending and lifting maneuvers.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	Powder
Colour	Grey to off-white
Odour	No distinct colour
Melting point	Not applicable
Density	2.3 – 3.2
Boiling Point	Not applicable
Explosive	Non-explosive
Flammability	Non-flammable
Solubility in water	Negligible (< 1%). Reacts on mixing with water, forming an alkaline solution (pH > 11).

SECTION 10: STABILITY AND REACTIVITY

Stability	Chemically stable
Conditions to avoid	Accidental contact with water e.g. during storage
Incompatibility	Cement is alkaline and therefore it will react with mist acids, ammonium salts and phosphorous. Fly ash will react violently with bromine trifluoride, fluorine, hydrogen fluoride and phosphorus.
Hazardous Decomposition	No spontaneous decomposition will occur and by adding water it will release Calcium Hydroxide (caustic).
Hazardous Polymerization	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

The following medical procedures should be made available to all persons who are exposed to Portland cement dust at potentially hazardous levels:

Initial Medical Examination

A complete history and physical examination should be carried out, the purpose being to detect pre-existing conditions that might place the exposed person at increased risk, and to establish a baseline for future health monitoring. Examination of the respiratory tract and eyes should be stressed. The skin should be examined for evidence of chronic disorders.

14"x 17" Chest roentgenogram: Portland cement mixtures have been reported to cause X-ray changes. Surveillance of the lungs is indicated.

FCV and FEV (1 sec) Portland cement mixtures may cause signs of respiratory impairment. Persons with impaired pulmonary function may be at risk from exposure. Periodic surveillance is indicated.

Periodic Medical Examination

The medical examination should be repeated on an annual basis, except that an X-ray is necessary only when indicated by the results of pulmonary function testing or by signs and symptoms of respiratory disease.

Summary of Toxicology

Portland cement irritates eyes and may cause dermatitis. There are reports of increased incidents of bronchitis and chest X-ray changes after prolonged heavy exposure to undefined mixtures of cement and other dusts. Exposure to cement can cause chronic conjunctivitis, blepharitis, and skin ulcers of the nose. Repeated and prolonged skin contact with cement can result in dermatitis of the hands, forearms, and feet. This is a primary irritant dermatitis and may be complicated in some instances.

Contact persons/institutions

Poison Information Centre Johannesburg General Hospital 011 495 S112 (24 Hours)

When contacting poison information center, ask for information on:

Poison Informatio Common cements, Portland cements, cement blends and cement extenders.

SECTION 12: ECOLOGICAL INFORMATION

Eco-Toxicity

No recognized unusual toxicity to plants and animals except in large volumes when suffocation can occur.

Aquatic Toxicity Relating to Fish & Daphnia Algae

Non-toxic in small quantities. Large quantities, especially in static water, will result in an increase in the pH and pH up to 12 may result in death of aquatic life.



SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of waste cement in accordance with local, municipal, provincial, and national regulations. Since Portland cement is unstable when aerated, dry uncontaminated cement powder can be recovered and still be used. Bags must be disposed of on approved landfill sites or incinerated. Please dispose of packaging appropriately.

SECTION 14: TRANSPORT INFORMATION

Tremcard No.	None
U.N. No	Portland cement and cement blends are not hazardous cargo in terms of the International Maritime Dangerous Goods Code and as such do not have a U.N. number.
Portland cement by road	Portland cement is not hazardous under National Road Traffic Act 93 of 1996 regulations and SANS 10228.

SECTION 15: REGULATORY INFORMATION

The status of Portland cement is covered under OHS Act, 85 of 1993 Reg. 1179 dated 25/08/1995. Portland cement is considered a hazardous chemical under this regulation and should be part of any hazard communication program.

Recommended exposure limits are for dust concentration only.

SECTION 16: OTHER INFORMATION

Portland cement and all its blended forms is used in the construction industry and should therefore be handled with care and preferably be used by knowledgeable people to use the products safely.

Inexperienced users should get proper training before using this product.

This Material Safety Data Sheet (MSDS) cannot provide precautions for all anticipated uses and precautions are therefore limited to known proper uses of cement.

The data given in this MSDS is based on current knowledge and experience. The purpose of this MSDS is to describe the products in terms of their safety requirements. The data does not provide any warranty with regards to the product performance or other properties; these are covered by the cement specifications in accordance with which these products are produced.



PROUDLY SOUTH AFRICAN PRODUCTS, DISTRIBUTED NATIONALLY

**BB
Cement**