

NZIC Cement Type GP and HE

1. Identification

Product Name: Cement and Blends

Other names: Portland Cement Type: GP and HE

Proper Shipping Name: Not applicable

Recommended Use: Cement for the production of concrete, mortar and paste.

Emergency Contacts: Emergency Services (Fire, Ambulance, Police) – Dial 111
National Poisons Information Centre – 0800 764 766 (0800 POISON)

2. Hazard Identification

Statement of Hazardous Nature:

This preparation is classified as a health or environmental hazard according to the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017.
Not classified as a Dangerous Good according to NZS 5433.

Hazard Classification:

6.1E (respiratory tract irritant), 6.3A,6.5B, 6.9B*, 8.2C†, 8.3A, 9.1D†

* Classification only relates to the addition of Fly Ash in the cement blend (see composition in Section 3)

† Classification only relates to the addition of Calcium Oxide in the cement blend

Hazard Statements:



DANGER

May cause respiratory irritation.
Causes skin irritation.
May cause an allergic skin reaction.
May cause damage to organs (lungs) through prolonged or repeated exposure through inhalation.*
Causes severe skin burns and eye damage.†
Causes serious eye damage.
Harmful to aquatic life.†

Prevention Statements:

Keep out of reach of children.
Read safety data sheet before use.
Do not breathe dust.
Wash hands and exposed skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves and eye/face protection.

Note: The properties of cement and associated hazards change when water is added.

3. Composition & Information on Ingredients

Ingredient	CAS Number	GP and HE Cement
Portland Cement	65997-15-1	60 – 100%
Fly Ash	68131-74-8	-
Calcium Oxide (Lime)	14808-60-7	-
Silica Fume	69012-64-2	-
<i>Portland Cement includes:</i>		
Calcium carbonate (limestone)	13397-26-7	< 10%
Calcium sulphate (gypsum)	13997-24-5	5%
Silica (quartz)* Crystalline silica	14808-60-7	18 – 22% / < 0.05%

4. First Aid Measures

New Zealand Poisons & Hazardous
Chemicals National Information Centre
Phone 0800 POISON – 0800 764 766

Inhalation: IF INHALED, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell or experience breathing difficulties.

Skin: IF ON SKIN (or hair), wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation or rash occurs, seek medical advice/attention.

Eyes: IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub eyes as this may cause possible corneal damage by mechanical stress. Immediately call a POISON CENTRE or doctor/physician.

Ingestion: IF SWALLOWED, rinse mouth and lips with water. Do NOT induce vomiting. Immediately call a POISON CENTRE or doctor/physician.

Advice to Doctor: Treat symptomatically. Wet cement is corrosive to skin and eye tissue and may cause caustic type burns. Cement burns with little warning – little heat is sensed.

5. Fire Fighting Measures

Flammability: Non-combustible, non-explosive.

Extinguishing media: Use appropriate for surrounding materials. Prevent contamination of drains or water ways.

Hazardous Combustion products: May evolve toxic gases if strongly heated. Carbon and nitrogen oxides may be formed in any fire.

Instructions to firefighters: None specified.

6. Accidental Release Measures

Protect yourself and others from harm. Wear appropriate protective equipment (see Section 8) including suitable respiratory protection in dusty environments or when ventilation is insufficient.

Spills: Use dry clean-up methods that do not disperse dust into the air such as gentle sweeping or an industrial vacuum cleaner with filters suitable for this product. Do not use compressed air. Avoid inhalation of dust and contact with skin.

Do not use water for cleaning bulk material as this will cause cement to set. Prevent spill from entering drain or waterways. Contain spillage, collect and place in suitable containers for reuse or disposal. If water is used to clean up residual material, ensure the water is recovered and neutralised before disposal.

If product is spilt into a waterway notify the Regional Council.

7. Handling & Storage

Safe Handling:

The material should be kept free from moisture until used.

Do not breathe dust. Avoid eye and skin contact. Do not allow wet cement to remain in contact with skin. Wash hands / exposed skin thoroughly after handling. Immediately after working with cement or cement- containing materials, workers should shower with soap and water.

Promptly remove dusty clothing or clothing which is wet with cement or associated liquid and launder before reuse.

Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wear protective gloves and eye/face protection.

Certified Handler: Not required.

Storage:

Store locked up.

Store in a well-ventilated area. Keep container / package tightly closed. Keep dry and store off the ground.

8. Exposure Controls & Personal Protection

Exposure Standards

Workplace Exposure Standards (WES):

Ingredient	CAS Number	TWA
Cement (dsen)	65997-15-1	3 mg/m ³ 1 mg/m ³ (respirable dust)
Calcium Oxide	1305-78-8	2 mg/m ³
Silica, crystalline (all forms) 6.7A	14808-60-7	0.05 mg/m ³ (respirable dust)

dsen Dermal sensitiser

Data source: *Workplace Exposure Standards and Biological Indices (11th Edition, Nov 2019, WorkSafe)*

Engineering Controls

Ventilation: Use only outdoors or in a well-ventilated area. An exhaust fan ducted from near point of dust generation can be used to control airborne dust levels. When handling large amounts, a dust collection system should be considered. Dust levels and any other discharge of dust should comply with Health and Safety rules, Resource Consents and any relevant District or Regional rules.

Personal Protection (PPE)

Precautions must be taken. Cement burns with little warning - little heat is sensed on the skin during this process. Do not kneel in wet cement.

Wear protective gloves and eye/face protection. Contaminated clothing should not be allowed out of the workplace.

Eyes/Face: Use tight fitting goggles or protective eyewear in dusty environments. Eye protection must comply with AS/NZS 1337.

Skin: Use impervious, abrasion- and alkali-resistant gloves and barrier creams, boots and protective clothing to protect the skin from prolonged contact with wet cement in plastic concrete, mortar or slurries.

10. Stability & Reactivity

Stability: Stable under normal conditions of use and storage. Keep dry until used.

Conditions to avoid: Unintended contact with water, excessive dust generation.

Incompatible / Materials to avoid: Incompatible with oxidising agents (e.g. hypochlorites), ethanol, acids.

Aluminium powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas.

Hazardous decomposition products: May evolve toxic gases if heated to decomposition.

Hazardous polymerisation: Does not occur.

11. Toxicological Information

Health Effects / Symptoms of Exposure

Acute Exposure (short term)

Inhalation: May cause respiratory irritation. Inhalation of dust can cause irritation and inflammation of the upper respiratory system.

Skin: Causes skin irritation. May cause an allergic skin reaction. Contact with powder may result in rash or dermatitis. Wet cement, especially as an ingredient in plastic (unhardened) concrete, mortar or slurries, can dry the skin and cause caustic burns.

Eyes: Causes serious eye damage. Direct contact with the eyes can cause irritation, lacrimation (formation of tears), inflammation or burns of the cornea and possible permanent damage.

Ingestion: Not an expected route of entry. Ingestion may result in burns to the mouth and throat, nausea, vomiting and abdominal pain.

Chronic Exposure (long term)

Respiratory / Skin sensitisation: Contact sensitiser; may cause an allergic skin reaction. Portland Cement is a known dermal sensitiser.

Mutagenicity: Not expected to be a mutagen.

Carcinogenicity: Product is not classified as a carcinogen.

Note: This product may contain varying amounts of crystalline silica which is classified as carcinogenic to humans (IARC Group 1). Repeated exposure to dust may result in chronic inflammation of the respiratory system. Repeated exposure to crystalline silica may cause bronchitis, silicosis, and other respiratory disorders.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity: May cause damage to organs (lungs) through prolonged or repeated exposure through inhalation (when Fly Ash is a component of the cement blend).

Aspiration Hazard: This product is a solid and aspiration hazards are not expected to occur.

Other Effects: Cement may contain trace [less than 0.05%] amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals.

Toxicological Data

No toxicological data available for the product or its ingredients.

Biological Exposure Indices

No biological limit allocated.

12. Ecological Information

Avoid release to the environment. Do not allow to enter drains or waterways.

Persistence in environment: No data available.

Mobility: No data available.

Biodegradability: No data available.

Ecotoxicological Data

The product forms an alkaline slurry when mixed with water which may affect the pH of aquatic systems if contact occurs in large quantities. Once set, product is persistent and has low degradability.

Calcium hydroxide	LC50 (96hr):	33.9mg/L (Clarias gariepinus (Zambezi barbel) [Fish])
(forms from reaction of calcium oxide with water)	Bioaccumulative:	No
	Rapidly degradable:	Yes

Data source: Chemical Classification and Information Database (CCID)

13. Disposal Considerations

Dust from product is hazardous. Small amounts of material can be disposed of as common waste or returned to the container for later use if it is not contaminated. Large amounts may require special handling. Material should be kept out of storm water and sewer drains. Any discharge during clean-up should comply with Resource Consent requirements and any relevant District or Regional Council rules.

Containers / packaging may only be recycled if clean and free of residue as to be non-hazardous.

14. Transport Information

Not classified as a Dangerous Good according to NZS 5433:2007.

Proper Shipping Name: Not applicable

UN Number: Not applicable

DG Class: Not applicable

Packing Group: Not applicable

15. Regulatory Information

HSNO Approval

HSNO Group Standard:

Portland cement and blends
(other than Pavcem)

Construction Products (Subsidiary Hazard) Group Standard 2017 –
HSR002544

Pavcem

Construction Products (Corrosive [8.2C]) Group Standard 2017 –
HSR002542

Health and Safety at Work (Hazardous Substances) Regulations

IMPORTANT: Quantities of all hazardous substances present at a site contribute to HSNO Control thresholds.

Location Certification: Not required

Refer to the following for full details:

Tracking: Not required

- Construction Products Group Standard(s)
(available at www.epa.govt.nz)

Certified Handlers: Not Required

- Health and Safety at Work (Hazardous Substances)
Regulations (available at www.legislation.govt.nz)

Secondary containment: Not required (solid)

16. Other Information

Hazard Classifications:

6.1E (respiratory) – Substances that are a respiratory tract irritant. 6.3A – Substances that are irritating to the skin.

6.5B – Substances that are contact (dermal) sensitisers.

6.9B – Substances that have specific systemic or target organ toxicity. 8.2C – Substances that are corrosive to dermal tissue.

8.3A – Substances that are corrosive to ocular tissue.

9.1D – Substances that are slightly harmful to the aquatic environment or otherwise designed for biocidal action.

Note: Crystalline Silica (quartz) in respirable form is a known or presumed human carcinogen, however the EPA classification information includes the following statement:

EXPERT JUDGEMENT: This substance only triggers 6.7A if it is in the form of a fine respirable dust in an occupational (chronic exposure) setting.

Total respirable crystalline silica reported at less than 0.05%; however, it should be assumed that silica content is sufficient to create a silica hazard in work conditions where fine, respirable dust becomes airborne.

Abbreviations / Terminology:

AS/NZS	Joint Australian New Zealand Standard
AS/NZS 1337	Personal eye-protection
AS/NZS 1715	Selection, use and maintenance of respiratory protective equipment
AS/NZS 1716	Respiratory protective devices
CAS#	Chemical Abstract Service number (a unique identifier for chemicals)
d _{sen}	Dermal sensitiser
HSNO	(New Zealand) Hazardous Substances and New Organisms Act
IARC	International Agency for Research on Cancer
LD50	Median lethal dose, being a statistically derived single dose of a substance that can be expected to cause death in 50 percent of animals.
NZIoC	New Zealand Inventory of Chemicals
NZS 5433	Transport of Dangerous Goods on Land
TWA	Time Weighted Average
WES	Workplace Exposure Standard
6.7A	Substances that are known or presumed human carcinogens

Prepared with reference to: *Hazardous Substances (Safety Data Sheets) Notice 2017* published by Environmental Protection Authority, New Zealand.

Current Version: 12th August 2024

Revision Information: SDS may be revised from time to time, please ensure you have a current copy.

This revision: Updated existing SDS to current NZ requirements and Workplace Exposure Standards.

Previous revision dated: N/A

Disclaimer:

This safety data sheet attempts to describe as accurately as possible the potential exposures associated with normal use of the product described herein. Health and safety precautions in the data sheet may not be adequate for all individuals and/or situations. Users have the responsibility to evaluate and use this product safely and to comply with all applicable laws and regulations.

Whilst the information contained in this document is based on data, which, to the best of our knowledge, was accurate and reliable at the time of preparation, no warranty or responsibility can be accepted by us for errors and omissions. The provision of this information should not be construed as a recommendation to use any of our products in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond our control, no responsibility can be accepted by us for any loss or damage caused by any person acting or refraining from action as a result of this information.

- END OF SDS