

1. Identification of Substance & Company

Product

Product name	XTRA-CEM
Generic names	Portland Cement, General Purpose Cement
HSNO approval	HSR002544
Approval description	Construction Products (Subsidiary hazard) Group Standard 2020
UN number	NA
Proper Shipping Name	NA
DG class	NA
Packaging group	NA
Hazchem code	NA
Uses	Building and civil engineering construction

Company Details

Company	HR CEMENT LTD
Address	60 Aerodrome Road, Mount Maunganui 3116, New Zealand
Telephone	0508 CEMENT

Emergency Telephone Number: 0800-764 766

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002544, Construction Products (Subsidiary hazard) Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

GHS Classes

Skin irritant category 2
Eye damage category 1

Hazard Statements

H315 - Causes skin irritation.
H318 - Causes serious eye damage.

SYMBOLS

DANGER



Other Classifications

Cement is considered irritating to the skin under the classification system; however, there is a possibility of burns if wet cement or cement mixture is left in contact with the skin for a prolonged time.

Precautionary Statements

Prevention	P103 - Read label before use. P102 - Keep out of reach of children. P264 - Wash hands thoroughly after handling. P280 - Wear protective gloves/eye protection.
Response	P101 - If medical advice is needed, have product container or label at hand. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P332+P313 - If skin irritation occurs: Get medical advice/ attention. P362 - Take off contaminated clothing and wash before re-use. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTRE or doctor/physician.
Storage	P405 - Store locked up.
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Portland Cement	65997-15-1	<95%
Gypsum (calcium sulphate)	13397-24-5	2-6%
Calcium Carbonate	471-34-1	<10%
Calcium Oxide	1305-78-8	1-3%

This is a commercial product whose exact ratio of components may vary slightly. Trace quantities of impurities are also likely. NOTE: Crystalline silica was not detected in Xtra-Cem by XRF analysis.

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid facilities Ready access to running water is recommended. Accessible eyewash is recommended.

Exposure

Swallowed	IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. Contact a doctor if you feel unwell.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. Immediately call a POISON CENTER or doctor.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Inhaled	Generally, inhalation of dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically.

5. Firefighting Measures

Fire and explosion hazards:	There are no specific risks for fire/explosion for this chemical. It is non-combustible.
Suitable extinguishing substances:	Not applicable.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Product does not burn. Dust may form irritating atmosphere. Product will react exothermically with water. Contaminated water will be strongly alkaline. Product may decompose in a fire and produce toxic or corrosive fumes.
Protective equipment:	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
Hazchem code:	NA

6. Accidental Release Measures

Containment	If greater than 1000kg is stored, secondary containment is required. Emergency plans to manage any potential spills must be in place. Prevent spillage from spreading or entering soil, waterways or drains.
Emergency procedures	In the event of large spillage (>100kg) of the dry product or wetted cement alert the fire brigade to location and give brief description of hazard. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain spill. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses.
Clean-up method	Collect product avoiding any dust formation, and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
Disposal	Sweep up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.

Precautions

The dust may form irritating atmosphere. Contaminated water will be strongly alkaline. Do not allow contaminated water to enter the environment. Wear protective equipment to prevent skin and eye contamination and the inhalation of dust. Work up wind or increase ventilation.

7. Storage & Handling

Storage

Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep in a cool, dry place. Avoid contact with incompatible substances as listed in Section 10.

Handling

Keep exposure to a minimum, and minimise the quantities kept in work areas. Minimise dust generation and accumulation. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of dust.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	Cement	3mg/m ³ (respirable dust)	-

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

General

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate. Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

Eyes



Protect eyes with goggles, safety glasses or full face mask. Avoid wearing contact lenses. Select eye protection in accordance with AS/NZS 1337.

Skin



Avoid repeated or prolonged skin contact. Wear overalls, waterproof boots and impervious alkali-resistant gloves (e.g., nitrile, PVC, rubber, neoprene). Tuck overalls inside boots and seal with duct tape to reduce risk of cement entering boots. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Take special care to ensure that cuts/abrasions or irritated skin are not exposed to this product. It is also important to ensure that wet cement does not become trapped within gloves, boots or clothing – leaving cement in contact with the skin for extended period of time may cause skin burns.

Respiratory



To prevent irritation a well fitted dust mask should be used (this is not recommended when exposure is close to the WES). A fine particulate half or full face respirator with an effective seal is recommended when airborne concentrations approach the WES (section 8).

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	Grey powder which hardens when wet
Odour	not specified
Odour Threshold	no data
pH	~12
Freezing/melting point	no data
Boiling Point	no data
Flashpoint	non flammable
Flammability	non flammable
Upper & lower flammable limits	no LEL or UEL
Vapour pressure	no data
Vapour density	no data
Specific gravity/density	2300-2400kg/m ³
Solubility	forms a slurry (pH >12), insoluble in hardened state
Partition coefficient	no data
Auto-ignition temperature	no data
Decomposition temperature	no data
Viscosity	no data
Particle Characteristics	powder

10. Stability & Reactivity

Stability	This product is unlikely to react or decompose under normal storage conditions. This product will not undergo polymerisation reactions. Keep dry until used.
Conditions to be avoided	Containers should be kept closed in order to avoid contamination.
Incompatible groups	Strong acids, ammonium salts, and aluminum metal.
Substance Specific Incompatibility	Cement products dissolves in hydrofluoric acid producing corrosive silicon tetra-fluoride gas. Silicates react with powerful oxidizers such as fluorine, chlorine, trifluorides, and oxygen difluoride.
Hazardous decomposition products	Does not readily decompose.
Hazardous reactions	Will not polymerise

11. Toxicological Information

Summary

IF SWALLOWED: large amounts of dust may result in abdominal discomfort and irritation and burns to the gastrointestinal tract.

IF IN EYES: Contact with dust can cause effects ranging from irritation to serious eye damage/burns and blindness. The pH of the wet masonry dust is >11. Note: the level of irritation/damage is dependent on the quantity of the dust, the pH, and the length of time exposed. E.g., if dust is washed out of the eye immediately, effects will be minor. However, if dust is left in contact with the eye, serious damage/blindness could result.

IF ON SKIN: Dust may cause irritation – particularly in hot conditions or when sweating. Brief exposure to the skin (i.e., washed off immediately) will result in irritation. However, if the masonry dust is left on the skin for an extended time (e.g., if inside boots or absorbed through overalls), burns to the skin are possible. Thickening of the skin and/or rash is also possible.

IF INHALED: short term effects include irritation, choking and difficulty breathing.

CHRONIC: no effect anticipated.

Supporting Data

Acute	Oral	The estimated LD ₅₀ (oral, rat) for the mixture is > 2,000 mg/kg. Ingestion of this product may cause gastrointestinal irritation and burns to the mouth.
	Aspiration	This mixture is not considered an aspiration hazard.
	Dermal	Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg.
	Inhaled	Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is >5mg/L/4h.
	Eye	Cement, is considered to be an eye corrosive. pH >11, if wetted. Dust may also be irritating to eye (mechanical irritation)
	Skin	The dry mixture is considered to be a skin irritant. NOTE: Wet product may be corrosive to the skin as pH >11
Chronic	Sensitisation	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	This product does not contain crystalline silica. No other ingredients present at concentrations >0.1% is considered a carcinogen.
	Reproductive / Developmental	No data for mixture is available. No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic Aggravation of existing conditions	No ingredients present >1% is considered a systemic toxicant. Not available.

12. Ecological Data

Summary

Cements are considered to be harmful in the environment when in a soluble form. (It does not trigger classification under GHS 7). This is primarily due to the high pH of the product. Do not allow product to enter drains and waterways.

Supporting Data

Aquatic	No data for mixture is available. Using EC ₅₀ 's for ingredients, the estimated EC ₅₀ for the mixture is between 1 and 100 mg/L. Water contaminated with this product is alkaline and should not be allowed to enter the environment.
Bioaccumulation	Not applicable
Degradability	Not applicable (predominantly natural products)
Soil	No data available for the mixture. The soil toxicity value for the mixture is estimated to be ≥ 100 mg/kg.
Terrestrial vertebrate	See acute toxicity.
Terrestrial invertebrate	The mixture is not considered harmful to terrestrial invertebrates.
Biocidal	Not designed as a biocide.

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
Contaminated packaging	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

This mixture is not considered a hazardous substance for transport on land.

UN number:	NA	Proper shipping name:	NA
Class(es)	NA	Packing group:	NA
Precautions:	NA	Hazchem code:	NA

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002544, Construction Products (Subsidiary Hazard) Group Standard 2020. All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

Specific Controls

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 1000kg is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 1000kg is stored.
Signage	Required if > 1000kg is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

16. Other Information

Abbreviations

Approval Code	Approval HSR002544, Construction Products (Subsidiary Hazard) Group Standard 2020, Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC₅₀	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
EPA	Environmental Protection Authority (New Zealand)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals, 7 th revised edition, 2017, published by the United Nations.
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
NZIoC	New Zealand Inventory of Chemicals
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
STOT RE	System Target Organ Toxicity – Repeated Exposure
STOT SE	System Target Organ Toxicity – Single Exposure
TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UEL	Upper Explosive Limit
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls	EPA notices, www.epa.govt.nz , Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz

WES The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz.

Other References: Suppliers SDS

Review

Date	Reason for review
May 2023	Not applicable - New SDS

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: **+64 21 1040951**.

