

**1. Identification of Substance & Company****Product**

Product name	XYPEX CONCENTRATE
Other names	XYPEX MODIFIED XYPEX CONCENTRATE DS-1, DS-2 XYPEX PATCH'N PLUG XYPEX CONCENTRATE
Product code	HSR002545
HSNO approval	Construction Products (Toxic [6.7A]) Group Standard 2017
Approval description	
UN number	NA
DG class	NA
Packaging group	NA
Hazchem code	1T (recommended)
Uses	Waterproofing and protection of concrete.

Company Details

Company	Demden Limited	
Address	29 Grey Street Tauranga New Zealand	P.O. Box 704 Tauranga 3140 New Zealand
Telephone	+64 7 575 5410	
Website	www.demden.co.nz	

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 HSR002545, Construction Products (Toxic [6.7A]) Group Standard 2017). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

Classes

Classes	Hazard statement
6.3A	H315 - Causes skin irritation.
8.3A	H318 - Causes serious eye damage.
6.7A	H350 - May cause cancer.
6.9A	H370 - Causes damage to organs through prolonged or repeated exposure.
9.1D	H402 - harmful to aquatic life.

SYMBOLS**DANGER****Other Classifications****Notes:**

This product contains cement, which 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. Cement and sand may contain crystalline silica (as quartz). 6.7A and 6.9A apply if quartz silica is present as a fine respirable dust.

Precautionary Statements

- P102 - Keep out of reach of children.
- P103 - Read label before use.
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe dusts.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P273 - Avoid release to the environment.



P280 - Wear protective gloves/eye protection/face protection*.

P281 - Use personal protective equipment as required.

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.

P101 - If medical advice is needed, have product container or label at hand.

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.

P308+P313 - IF exposed or concerned: Get medical advice/ attention.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (% w/w)
Portland cement	65997-15-1	30 – 60
Alkaline Earth Compound	1317-65-3	10 – <30
Silica Sand (graded)	14808-60-7	30 – 60
Calcium Aluminates	Mixture	<10%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

4. First Aid

General Information

You should call the National Poisons Centre if you feel that you may have been harmed, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

If medical advice is needed, have this SDS, product container or label at hand. If exposed or concerned: Get medical advice/ attention.

Recommended first aid facilities Ready access to running water is required. 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. Get medical advice.

Skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention.

Inhaled

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor. If experiencing respiratory symptoms: Immediately call a POISON CENTER or doctor/physician.

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

Not applicable.

substances:

Unsuitable extinguishing

Unknown.

substances:

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 and emergency plans to manage any potential spills must be in place.
Emergency procedures	In the event of large spillage (>100kg) of the solid or concentrated aqueous solution 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	Mop 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
	Portland cement	10mg/m ³	Data unavailable
	Alkaline Earth Compound	10mg/m ³	Data unavailable
	Silica Sand (graded) - Quartz	0.1mg/m ³ (Respirable dust)	Data unavailable
	Calcium Aluminates	Data unavailable*	Data unavailable

* Calcium Aluminates may contain some Calcium Sulphate which has a WES-TWA of 10mg/m³.

NOTE: WorkSafe considers its current WES-TWA of 0.1 mg/m³ for silica-crystalline (respirable dust) to be inadequate to protect workers exposed in the workplace, based on current knowledge. It is proposed that WorkSafe adopt WES-TWA for silica-crystalline of 0.05 mg/m³ (respirable fraction).

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 be 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.

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 concrete entering boots.



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 concrete does not become trapped within gloves, boots or clothing – leaving concrete in contact with the skin for extended period of time may cause skin burns.



It is important that skin is also covered when concrete dust is created (e.g., sanding, grinding, crushing or cutting concrete). The dust may also irritate and/or damage the skin.

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). If sanding, grinding, crushing or cutting cement, it is possible that the silica dust WES (0.1 mg/m³) will be exceeded hence a respirator will be required. If exposure to the concentrated aqueous solution, dust and mist is likely, a full face respirator with a particulate filter is recommended.

WES Additional Information

No additional information

9. Physical & Chemical Properties

Appearance	grey solid
Odour	odourless
pH	10 to 13
Vapour pressure	no data
Viscosity	no data
Boiling point	>1200°C
Volatile materials	no data
Freezing / melting point	no data
Solubility	2.0g/L in water
Specific gravity / density	2.8 - 3.0
Flash point	not flammable
Danger of explosion	not explosive
Auto-ignition temperature	not flammable
Upper and lower flammable limits	not flammable
Corrosiveness	non corrosive to metals, wet product is alkaline and is corrosive to ocular tissue

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. Keep from extreme heat and open flames.
Incompatible groups	Strong acids.
Hazardous decomposition products	Reaction with strong acids generates toxic gases (e.g. sulphur oxides).
Hazardous reactions	Reactions with strong acids liberates heat. This material will react exothermically with water. The contaminated water will be strongly alkaline.



11. Toxicological Information

Summary

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

IF IN EYES: Contact with wet (unhardened) mixture, cement mixtures or concrete dust can cause effects ranging from irritation to serious eye damage/burns and blindness. Note: the level of irritation/damage is dependent on the quantity of the product, the pH, and the length of time exposed. E.g., if product is washed out of the eye immediately, effects will be minor. However, if dust or wet concrete is left in contact with the eye, serious damage/blindness could result.

IF ON SKIN: Contact with wet (unhardened) mixture can cause skin irritation or severe chemical burns (third degree). Brief exposure to the skin (i.e., washed off immediately) will result in irritation. However, if the cement or 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. Contact with dry adhesive can cause skin irritation.

IF INHALED: there may be irritation of the respiratory tract if dust is inhaled. Short term (acute) silicosis (see "systemic" below) can also occur with one-off exposures to very high levels of fine crystalline silica dust. Other short term effects include irritation, choking and difficulty breathing.

CHRONIC: this product does contain crystalline silica, inhalation of which has been linked to silicosis and lung cancer.). Symptoms include shortness of breath, cough, fever, loss of appetite and cyanosis (bluish skin). See carcinogenicity and systemic toxicity below.

Supporting Data

Acute	Oral	No data for mixture is available. Using LD ₅₀ 's for ingredients, the estimated LD ₅₀ (oral, rat) for the mixture is > 5,000 mg/kg.
	Dermal	No data for mixture is available. Using LD ₅₀ 's for ingredients, the estimated LD ₅₀ (dermal, rat) for the mixture is >2,000 mg/kg.
	Inhaled	No data for mixture is available. Using LC ₅₀ 's for ingredients, the estimated LC ₅₀ (inhalation, rat) for the mixture is >5mg/L (dust). Exposure the dust of this product may result in respiratory irritation.
	Eye	The mixture is considered to be corrosive to the eye, because one of the ingredients (Portland cement), present at >10% is considered an eye corrosive. The dust is considered a corrosive, on contact with water forms an alkaline mixture, which is caustic and may cause serious eye damage.
	Skin	The mixture is classified as a skin irritant 6.3A, because one of the ingredients (portland cement) present > 10% is considered a skin irritant. Dermatitis may develop following exposure.
	Chronic	Sensitisation
Mutagenicity		No data for mixture is available. No ingredient present at concentrations > 0.1% is considered a mutagen.
Carcinogenicity		This mixture may contain crystalline silica. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Group 1). The mixture triggers 6.7A classification (confirmed carcinogen). The carcinogenicity of silica is related to long term (e.g., 10 years) inhalation of very fine particulate (e.g., from sand blasting or dry cutting of concrete). Carcinogenicity of silica appears linked to development of silicosis (see systematic below) followed by complications and, eventually lung cancer.
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		This mixture is considered to be a target organ toxicant, because of the presence of crystalline silica at greater than 1%. Crystalline silica triggers 6.9A classification if it is in the form of a fine respirable dust in an occupational (chronic exposure) setting. This is due to the development of acute silicosis which can occur following exposure to extremely high levels of fine silica dust. Silicosis is a type of pneumoconiosis – a disease of the lung that causes inflammation, scar tissue, lesions and fibrosis in the lung (alveolar). Symptoms include shortness of breath, cough, fever, loss of appetite and cyanosis (bluish skin). Silicosis can occur following prolonged exposure (e.g., 10 years) to relatively high levels of fine crystalline silica dust.
	Aggravation of existing conditions	None known.



12. Ecological Data

Summary

This mixture is considered to be harmful in the environment when in a soluble form. 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 > 100 mg/L. Data considered includes: Portland cement no data, Alkaline Earth Compound 80 mg/l (96hr, fish), Calcium Aluminate: no data. Water contaminated with this product is alkaline and should not be allowed to enter the environment.
Bioaccumulation	No evidence of bioaccumulation.
Degradability	Rapidly biodegradable.
Soil	No data available for the mixture. This product is not classified as ecotoxic in the soil environment. The soil toxicity value for the mixture is estimated to be ≥ 100 mg/kg.
Terrestrial vertebrate	This product is not considered harmful to terrestrial vertebrates. No LC ₅₀ (diet) data for ingredients are available and the classification is based on the LD ₅₀ (oral) – see section 11 – oral toxicity.
Terrestrial invertebrate	The mixture is not considered harmful to terrestrial invertebrates.
Biocidal	Not applicable

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

IMDG

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

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

IATA

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN number:	NA	Proper shipping name:	NA
Class(es)	NA	Packing group:	NA
Precautions:	NA	ERG Code	NA



15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002545: Construction Products (Toxic [6.7A]) Group Standard 2017.
All ingredients appear on the 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 maintain.
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	Required if > 1000kg is stored.
Emergency plan	Not required.
Certified handler	Not required.
Tracking	Not required.
Bunding and 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 Construction Products (Toxic [6.7A]) Group Standard 2017, HSR002545, 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)
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
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
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
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:	EU ECHA, ingredients SDS's, ChemIDplus, GESTIS

Review

Date	Reason for review
November 2009	Not applicable – new SDS
November 2014	Update, review of classes for ingredients. Review of toxicological data, formatting. DoL to WorkSafe, including IATA and IMDG information, Address change.
September 2019	5 Year Update

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 HSNO classifications, are based on our experience, EPA Guidelines and international classifications. A compliance record is available on request. To contact the SDS author, email info@datachem.co.nz or phone: **(09) 940 30 80**.

