1. Identification of Substance & Company

Product	
Product name	XYPEX ADMIX C-1000NF
Other names	NA
Product code	XYPEX ADMIX C-1000NF
HSNO approval	HSR002545
Approval description	Construction Products (Carcinogenic) Group Standard 2020
UN number	NA
DG class	NA
Packaging group	NA
Hazchem code	NA
Uses	Waterproofing and protection of concrete.
Company Details	
Company	**Demden Limited**
Address	29 Grey Street, Tauranga, New Zealand P.O. Box 704, Tauranga 3144, 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 (Carcinogenic) Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

Classes	Hazard statements
Skin irritant category 2	H315 - Causes skin irritation.
Eye damage category 1	H318 - Causes serious eye damage.
Carcinogen category 1	H350 - May cause cancer.
STOT* repeated exposure category 1	H372 - Causes damage to organs through prolonged or repeated exposure.

*STOT – Specific target organ toxicity

SYMBOLS

DANGER

Other Classifications

Notes:

This product contains cement, which 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). Carcinogen category 1, STOT repeated exposure category 1 apply if quartz silica is present as a fine respirable dust.

Precautionary Statements

Prevention	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.
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. P308+P313 - IF exposed or concerned: Get medical advice/ attention.
Storage	P403+P233 - Store in a well-ventilated place. Keep container tightly closed. 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 (% w/w)
Portland cement	65997-15-1	40 – 70
Alkaline Earth Compound	1317-65-3	13 – <30
Silica Sand (graded)	14808-60-7	<5

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 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 wil 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 accummulation. 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/m^3 for respirable particulates and 10mg/m^3 for inhalable particulates when limits have not otherwise been established.

	Ingredient	WES-TWA	WES-STEL
NZ Workplace Exposure Standards	Portland cement	3mg/m^3	-
		1mg/m^3 (respirable)	-
	Alkaline Earth Compound	10mg/m^3	-
	Silica Sand - crystalline silica (all forms)*	0.025mg/m^3 (Respirable dust)	

***NOTE:** carcinogen category 1; α-quartz and cristobalite are confirmed carcinogens. Significant risk to workers will remain at WES-TWA exposures of 0.025mg/m3. The US Occupational Safety and Health Administration (OSHA) has estimated the lifetime silicosis mortality risk for workers exposed at this level for 8 hours per day at between 4 and 22 deaths per 1,000 workers and the lifetime lung cancer mortality risk for workers exposed at this level for 8 hours per day at between 3 and 23 deaths per 1,000 workers. Year adopted 2023.

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 protective clothing, 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.
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. Wash hands after handling.

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 reusable respirator or a powered air purifying respirator (PAPR) with a P2/P3 filter is recommended when airborne concentrations approach or exceed the WES (section 8). If sanding, grinding, crushing or cutting concrete, it is possible that the silica dust WES (0.02 mg/m^3) 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
Odour threshold	no data
pH	10 to 13
Freezing / melting point	no data
Boiling point	>1200°C
Flash point	no data
Flammability	no data
Upper & lower flammable limits	no data
Vapour pressure	no data
Vapour density	no data
Specific gravity / density	2.8 - 3.0
Solubility	2.0g/L in water

Partition Coefficient:	no data
Auto-ignition temperature	no data
Decomposition temperature	no data
Viscosity	no data
Particle characteristics	no data

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**	The mixture is not considered to be a sensitizer, because none of the ingredients present in greater than 0.1% are classified as sensitizers.
	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 Carcinogen cat 1 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 /	No data for mixture is available. No ingredient present at concentrations > 0.1% is

Developmental	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 STOT RE cat 1 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. Water contaminated with this product is alkaline and should not be allowed to enter the environment.
Bioaccumulation	Not applicable
Degradability	Not applicable
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 (Carcinogenic) Group Standard 2020.
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 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	Approved Evacuation Scheme required if > 1000kg is stored.
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 Approval Construction Products (Carcinogenic) Group Standard 2020, HSR002568, Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC_{50}	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, 7th 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
LD_{50}	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC_{50}	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:	EU ECHA, ingredients SDS's, ChemIDplus, GESTIS

Review

Date	**Reason for review**
September 2019	5 Year Update
September 2024	5 year update, HSNO to GHS, update to group standard.

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 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: ***+64 21 1040951.***

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