1. Identification of Substance & Company

Product

Product name	Allied Concrete - Ready Mix Concrete, wet
Other names	Plastic concrete, concrete slurry, concrete bleed water, wet concrete This SDS provides information on wet concrete. For information on dry and hardened concrete refer to Allied Concrete - Ready Mix Concrete, dry
Product code	NA
HSNO approval	HSR002544
Approval description	Construction Products (Subsidiary Hazard) Group Standard 2020
UN number	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	NA
Uses	Ready Mix Concrete

Company Details

Company	**Allied Concrete Limited**	
Address	14 McAlpine Street Wigram Christchurch 8042 New Zealand	PO Box 31040 Christchurch New Zealand
Telephone	+64 (0)3 217 1600	
Website	www.alliedconcrete.co.nz	

Emergency Telephone Number: 0800 425 5433

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., and is classified as follows:

GHS Classes	Hazard Statements
Skin irritation cat 2	H315 - Causes skin irritation.
Eye damage cat 1	H318 - Causes serious eye damage.

Note: concrete is considered irritating to the skin under the classification system; however, there is a possibility of burns if wet concrete is left in contact with the skin for a prolonged time.

SYMBOLS

DANGER

HSNO classes (valid until April 2021)	Hazard Statement
6.3A	H315 - Causes skin irritation.
8.3A	H318 - Causes serious eye damage.
9.1D	H402 - Harmful to aquatic life.

Precautionary Statements

P101 - If medical advice is needed, have a product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.
P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves/eye protection/face protection*.
P273 - Avoid release to the environment.
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.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Cement	65997-15-1	10-70
Flyash	68131-74-8	0-5
Aggregates (may includes crystalline silica)	mixture	10-90
Chemical additives	mixture	0-5
Water	7732-18-5	30-50

May contain one or more of the following ingredients:

Component	CAS/ Identification	Conc (%)
Metal Oxides	mixture	3-6
Limestone	1317-65-3	0-5
Calcium sulphate hemihydrate	26499-65-0	0-5
Hexavalent Chromium	1333-82-0	<0.01
Crystalline Silica	14808-60-7	0-5

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.
Note: classifications for ingredients are confirmed through EPA records where available. If unconfirmed, and based on hazardous property information, the classifications are indicated in italics.

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 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 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 There are no specific risks for fire/explosion for this chemical. It is non-combustible.

hazards:	
Suitable extinguishing substances:	Not applicable.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Product does not burn. Products will react exothermically with water. Contaminated water will be strongly alkaline. Products 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 or wet mixture 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 spillage from entering drains, sewers, or water courses.
Clean-up method	Collect products 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 an 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/m^3 for respirable particulates and 10mg/m^3 for inhaling particulates when limits have not otherwise been established.

	Ingredient	WES-TWA	WES-STEL
NZ Workplace Exposure Standards	Cement	3mg/m^3 1mg/m^3 (respirable)	no data
	Limestone	10mg/m^3	no data
	Calcium sulphate	10mg/m^3	no data
	hemihydrate	0.025mg/	no data
	Chromium oxide	m^3	no data
		See crystalline silica	

Flyash	See crystalline silica	no data
Aggregates	0.05mg/m^3 (as respirable dust)	no data
Crystalline Silica (all forms)		

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 airborne 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 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. 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. Protective gloves are recommended. Nitrile, PVC, Rubber or Neoprene gloves are recommended. 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 be selected and maintained in accordance with AS/NS2210.1.
Tuck overalls inside boots and seal with duct tape to reduce the 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

The product does not present an inhalation hazard when wet.
However, when dust is created a well fitted dust mask should be used (this is not recommended when exposure is close to the WES). Refer to SDS for Allied Concrete Ready Mix Concrete, dry.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	Wetted concrete.
Odour	bland
pH	>12 (wet concrete)
Vapour pressure	not applicable
Viscosity	no data
Boiling point	not applicable
Volatile materials	no data
Freezing / melting point	no data
Solubility	slightly soluble in wet state to form alkaline solution (pH >12)
Specific gravity / density	2300-2400kg/m^3
Flash point	not applicable
Danger of explosion	no data
Auto-ignition temperature	no data

Upper & lower flammable limits	not applicable
Corrosiveness	May be corrosive when wet. Note that dust is also corrosive when mixed with water.

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	Concrete dissolves in hydrofluoric acid producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, chlorine, trifluorides, and oxygen difluoride.
Hazardous decomposition products	Does not readily decompose. Respirable dust particles may be generated when concrete is sawed, drilled, sanded or grinded.
Hazardous reactions	Will not polymerise

11. Toxicological Information

Summary

The following summary is for wet concrete:
IF IN EYES: Contact with wet (unhardened) concrete, mortar, cement mixtures or concrete dust can cause effects ranging from irritation to serious eye damage/burns and blindness. The pH of the mixture is >12. 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, the 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) concrete, mortar, cement, or cement mixtures can cause skin irritation, severe chemical burns (third degree). Drying concrete is hygroscopic, i.e. absorbs water. It will draw water away from any material it contacts-including skin. This 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 concrete 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.
IF SWALLOWED: Ingestion of this product may cause gastrointestinal irritation.
For toxicological information on the dry concrete or concrete dust, refer to the SDS “Allied Concrete Ready Mix Concrete, dry”

Supporting Data

Acute	**Oral**	The estimated LD_{50} (oral, rat) for the mixture is > 5,000 mg/kg.
	Dermal	The estimated LD_{50} (dermal, rat) for the mixture is > 5,000 mg/kg.
	Inhaled	The wet concrete is not considered to be harmful if inhaled. The estimated LC_{50} (inhalation, rat) for the mixture is >5 mg/L (dust mist).
	Eye	This mixture is considered to be an eye corrosive. pH >12
	Skin	This mixture is considered to be a skin irritant.
	Sensitisation	There is evidence that chromium present in some cement mixtures may induce occupational asthma and skin sensitisation (allergic reactions). This mixture contains less than 0.01% hexavalent chromium and hence is not considered sensitising.
	Mutagenicity	No ingredient presents 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). This mixture is wetted concrete and no respirable particles are present. Refer to SDS for dry concrete is dust or dry concrete is present.
	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 may contain crystalline silica. 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 mixture does not contain respirable particles (wetted). Refer to SDS for dry concrete is dust or dry concrete is present.
	Aggravation of existing conditions	People with existing lung conditions may be at a higher risk of further adverse health effects (as above). Smokers have an increased risk of lung cancer and silicosis.

12. Ecological Data

Summary

Wet concrete is considered to be harmful in the environment when in a soluble form. This is primarily due to the high pH of the product.

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. This implies that concrete should be considered harmful in the aquatic environment. 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	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 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

There are no specific restrictions for this product (not a dangerous good).

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 NZIoC.

Specific Controls

Note: the controls apply to the wet product, and to the dust of hardened concrete.

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 Construction Products (Subsidiary Hazard) Group Standard 2020, 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 workday (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:	Ingredients SDS's.

Review

Date	Reason for Review
December 2011	NA - new SDS
December 2016	Update, DOL to WorkSafe, HSE to HSAW, formatting, update of section 11
December 2020	5 yearly update, HSNO to GHS, WES update, group standard.
December 2025	5 yearly update, HSNO to GHS, WES update, group standard.