

1. Identification of Substance & Company

Product

Product name	POW-R WRAP
HSNO approval	HSR002679
Approval description	Surface Coatings and Colourants (Toxic [6.7]) Group Standard 2017
UN number	NA
DG class	NA
Proper Shipping Name	Not regulated
Packaging group	NA
Hazchem code	NA
Uses	Repair of leaks in all types of pipes, hoses and lines that may contain fluids, gases or any other type of material.

Company Details

Company	HYDROFLOW
Address	221 Bush Road, Albany, North Shore City 0632
Telephone	09 415 6151
Fax	09 415 6150
Email	info@hydroflow.co.nz

National Poison Centre NZ (24 hours): 0800 POISON [764 766]

2. Hazard Identification

Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002679, Surface Coatings and Colourants (Toxic [6.7]) Group Standard 2017), and is classified as follows:

Classes

Hazard Statements

66.1D (inhalation)	H332 - Harmful if inhaled.
6.3A	H315 - Causes skin irritation.
6.4A	H319 - Causes serious eye irritation.
6.5A	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
6.5B	H317 - May cause an allergic skin reaction.
6.7B	H341 - Suspected of causing cancer.
6.1E (respiratory irritation)	H335 - May cause respiratory irritation.
6.9B	H373 - May cause damage to organs through prolonged or repeated exposure.

SYMBOLS

DANGER



Other Classifications

NOTE: Contains isocyanates. May produce an allergic reaction.

Precautionary Statements

- P101 - If medical advice is needed, have product container or label at hand.
- 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 vapours.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P281 - Use personal protective equipment as required.
P285 - In case of inadequate ventilation wear respiratory protection.*

P308+P313 - IF exposed or concerned: Get medical advice/ attention.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P304+P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P312 - Call a POISON CENTRE or doctor/physician if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
For repeated exposure:
P405 - Store locked up.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

This substance is made up of a fibre glass tape which is impregnated with a liquid with the following components:

Component	CAS/ Identification	Conc (%)
Fiberglass	65997-17-3	40-60%
Polyisocyanate Prepolymer	trade secret	30-50%
Diphenylmethane-4,4-diisocyanate	101-68-8	10-20%
Diphenylmethanediisocyanate, isomers and homologues	9016-87-9	<5%
Diphenylmethane Diisocyanate (MDI) Mixed Isomers	26447-40-5	<5%
Polyester resin	NA	<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

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). IF exposed or concerned: Get medical advice/ attention.

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

Exposure

Swallowed Do NOT induce vomiting. Give a glass of water to drink. IF exposed or concerned: Get medical advice/ attention.

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. If eye irritation persists: Get medical advice.

Skin contact IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash 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 experiencing respiratory symptoms: 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 not classed as flammable.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.
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. In all cases design storage to prevent discharge to stormwater.
Emergency procedures	The nature of the substance will usually limit a spill. In the event of a large spillage (e.g. >100kg) alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. 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. (If this occurs contact your regional council immediately).
Clean-up method	Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
Disposal	Collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill.
Precautions	Dispose of only in accord with all regulations. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Store out of reach of children. Store in original container only protected from direct sunlight in a dry, cool well ventilated area. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Do not store above 25°C. Avoid contact with incompatible substances as listed in Section 10.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

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 Std	Ingredient	WES-TWA	WES-STEL
	Polyisocyanate Prepolymer	0.02mg/m ³	0.07mg/m ³
	Diphenylmethane-4,4-diisocyanate	0.02mg/m ³	0.07mg/m ³
	Diphenylmethanediisocyanate, isomers and homologues	0.02mg/m ³	0.07mg/m ³

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

Eyes



Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible.

Skin



Avoid repeated or prolonged skin contact. If discomfort is felt (e.g., if pre-existing conditions exist, such as dermatitis, cuts or sensitive skin), gloves may be helpful. If you suffer from dermatitis type skin conditions, use gloves. Neoprene, Nitrile, Latex or butyl rubber gloves are recommended. Replace gloves frequently. Gloves should be checked for tears or holes before use.

Respiratory

A respirator with an organic vapour cartridge and particulate filter when airborne concentrations approach the WES (section 8). If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. It is important to note that odour cannot be used to indicate whether a respirator should be used or cartridges be replaced (the odour threshold for isocyanate is lower than the level at which toxic effects could occur).

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	fibre glass tape impregnated with grey liquid
Odour	slight aromatic odour
pH	no data
Vapour pressure	<0.0001mmHg (25°C)
Viscosity	~5400 mPas @ 25 °C
Boiling point	367°C (estimated)
Volatile materials	0%
Freezing / melting point	no data
Solubility	Insoluble, reacts slowly with water to liberate CO ₂ gas
Specific gravity / density	1.14g/cm ³ at 25°C
Flash point	237°C (Pensky Martens Closed Cup ASTM D-93)
Danger of explosion	non explosive
Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	non corrosive

10. Stability & Reactivity

Stability	Stable at room temperatures and in dry conditions. Substance reacts with water to produce carbon dioxide gas in an exothermic reaction (i.e. releases heat).
Conditions to be avoided	Keep away from sources of ignition at all times. Containers should be kept closed in order to avoid contamination.
Incompatible groups	May react with alcohols, ammonia, amines, aqueous acids and alkalis (exothermic). With water/moisture: carbon dioxide is produced; pressure may build up inside closed containers (danger of bursting). High humidity may harden contents of container or cause valve blockage.
Substance Specific Incompatibility	As above.
Hazardous decomposition products	Carbon monoxide, traces of hydrogen cyanide, oxides of nitrogen.
Hazardous reactions	This substance reacts with water. The reaction may become progressively vigorous and can be violent at high temperatures depending on the solvents present and how well it is mixed with water.

11. Toxicological Information

Summary

IF SWALLOWED: Low oral toxicity, but will irritate mouth, throat and stomach.
 IF IN EYES: causes serious eye irritation resulting in pain, watering, redness.
 IF ON SKIN: causes skin irritation. May cause an allergic skin reaction, possible effects included dermatitis (skin swelling, reddening and blistering), Effects may re-occur upon exposure to extremely low levels of isocyanate and related chemicals. Effects may be delayed after initial exposure.

IF INHALED: harmful if inhaled. May irritate respiratory tract. May cause an allergic response which can include hyperactive airway, bronchitis (wheezing, gasping, unconsciousness), neurological effects (e.g., headache, euphoria, depression). Effects may re-occur upon exposure to extremely low levels of isocyanate and related chemicals (e.g., exposure to vehicle exhaust).

CHRONIC TOXICITY: Diphenylmethane-4,4-diisocyanate is suspected of causing cancer if inhaled (EU ECHA). Sensitisation is considered a long term (chronic) effect.

Supporting Data

Acute	Oral	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: Diphenylmethane-4,4-diisocyanate 2200 mg/kg (mouse)
	Dermal	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: Diphenylmethane-4,4-diisocyanate 9400mg/kg (rabbit).
	Inhaled	Using LC ₅₀ 's for ingredients, the calculated LC ₅₀ (inhalation, rat) for the mixture is between 1 and 5mg/l in air. Data considered includes Diphenylmethane-4,4-diisocyanate 0.369 mg/l (rat).
	Eye	The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form.
	Skin	The mixture is considered to be a skin irritant, because some of the ingredients present are considered skin irritants in more concentrated form.
	Chronic	
	Sensitisation	The mixture is considered to be a contact and respiratory sensitizer. Isocyanates are considered sensitizers if inhaled and by dermal contact.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	The mixture is considered to be a suspected carcinogen. IARC have evaluated diphenylmethane-4,4-diisocyanate as not classifiable as to its carcinogenicity to humans (Group 3). However in the EU diphenylmethane-4,4-diisocyanate is classed as a suspected carcinogen.
	Reproductive / Developmental Systemic	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Aggravation of existing conditions	The mixture is considered to be a suspected target organ toxicant, because at least one of the ingredients present in greater than 1% is suspected to be a target organ toxicant. Individuals with impaired lung function or existing allergies (including dermatitis) should not work with this chemical – they are at increased risk of becoming sensitised with further potential health effects.

12. Ecological Data

Summary

This mixture is not considered ecotoxic to the environment.

Supporting Data

Aquatic	No significant effects identified. Estimated EC50 for the mixture >100mg/L. The substance will react with water to form carbon dioxide and a non hazardous polymer.
Bioaccumulation	not readily biodegradable
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	This mixture does not trigger classification as ecotoxic towards terrestrial vertebrates.
Terrestrial invertebrate	No evidence of toxicity towards terrestrial invertebrates.
Biocidal	no data
Environmental effect levels	No EELs are available for this mixture or ingredients

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.
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:	Not applicable.	Hazchem code:	1T (recommended)

IMDG

UN number:	NA	Proper shipping name:	Not regulated
Class(es)	NA	Packing group:	NA
Precautions:	NA	EmS	NA

IATA

UN number:	NA	Proper shipping name:	Not regulated
Class(es)	NA	Packing group:	NA
Precautions:	NA	ERG Guide	NA

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002679, Surface Coatings and Colourants (Toxic [6.7]) Group Standard 2017.

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 > 10000kg 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 HSR002679, Surface Coatings and Colourants (Toxic [6.7]) Group Standard 2017, 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

Review

Date	Reason for review
October 2015	Not applicable – new SDS
July 2020	5 yearly update. Hazard and Precautionary phrase numbers, HSE to HSAW, MBIE to Worksafe, review of toxicological section. Group standard, section 13, 14 and 15.

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 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 9 940 30 80.

