Tanalith® C treated timber
Safety Data Sheet

1. Identification of Substance & Company

Product

Product name	Tanalith® C treated timber
Other names	CCA treated H3.2, H4, H5 and H6 wood components
Product code	Not allocated
HSNO approval	Not applicable – the timber treatment chemical used for this product has been approved under HSNO (Approval number HSR000833).
Proper shipping name	Not allocated
UN number	Not allocated
DG class for transport	Not allocated
Packaging group	Not allocated
Hazchem code	Not allocated
Poison schedule	Not allocated
Uses	Preservative treated radiata pine suitable for external, out of ground, use. Refer to Australian Standard AS1604:1993 and/or New Zealand Standard MP3640:1992 for penetration and retention requirements for Hazard Class H3.

Company Details

Company	**Sutherland Timber**	
Address	14 Stone Street, Kaiapoi, 7630 New Zealand	PO Box 150 Kaiapoi 7644 New Zealand
Telephone no	03 327 8843	
Email	sales@sutherlandtimber.co.nz	

2. Hazard Identification

Hazard Classifications

The timber treatment chemical used to manufacture Tanalith® C treated timber has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR000833): The wood is considered a manufactured article and is not covered under the HSNO act.

SYMBOLS

None allocated

Other Classifications

Although under HSNO, this product is considered to be a manufactured article, wood dust (including treated wood dust) should be considered irritating to eyes, skin and respiratory tract, sensitizing to some individuals. Prolonged exposure to wood dusts of certain species may be considered carcinogenic. Note: the properties of treated wood will be dependent on the type of wood and its state, i.e. dust is considered hazardous.

Wood is also flammable and high concentrations of wood dust may be explosive.

Hazard and Precautionary Statements

Hazard	NA
Precautionary	NA

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
timber typically pinus radiata	N/A	>99%
Tanalith® C, includes Copper(II), Chromium(III) & Arsenic(V)	7440-50-8 7440-47-3 and 9011-05-6	>0.37% m/m total CCA for H3

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 poisoned, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). IF exposed or concerned: Get medical advice.

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

Exposure

Swallowed	Unlikely to occur, however if CCA treated wood dust (5-6 g/kg body weight) is swallowed abdominal discomfort and vomiting may occur. In case of persistent symptoms, contact the National Poisons Centre or a Doctor. If consious, give plenty of water to drink. Do NOT induce vomiting. Seek medical assisitance. If vomiting occur, place victim face downwards, with head turned to the side and lower than hips to prevent vomit entering the lungs.
Eye contact	Treated or untreated wood dust irritate the eye. If product gets in eyes, wash material from them with running water for 15 minutes. If symptoms persist, seek medical advice.
Skin contact	Avoid skin contact with freshly treated timber as residual solvent and/or dust may cause mild dermatitis or skin sensitivity. If symptoms persist, seek medical advice. Wash contaminated skin with plenty of soap and water.
Inhaled	Wood dust may cause irritation to nose, throat and lungs resulting in breathing difficulty. Inhalation of vapour can result in headaches, dizziness and possible nausea. Take care to avoid breathing any fumes from freshly treated timber. Wood dust is a possible sensitiser and so 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:	Treated wood is combustible. In addition, wood dusts may be explosive at high concentrations. LEL of wood dust: 40g/m^3 or air.
Suitable extinguishing substances	Flammability of timber after treatment is the same as other wood products. Fire may be extinguished using water or other firefighting mediums.
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. The formation of nitrous oxides is also possible at high temperatures.
Protective equipment	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
Hazchem code	Not allocated.

6. Accidental Release Measures

Containment	There is no current legal requirement for containment of this product.
Emergency procedures	Not applicable.
Clean-up method	Not applicable.
Disposal	Not applicable.
Precautions	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours or dust from freshly impregnated timbers and sawdust. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. After working with CCA treated wood wash hands before eating, drinking, smoking or otherwise placing your hands near your mouth or rubbing your eyes. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of the vapour of freshly treated timber and with sawdust.

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.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	Wood dusts:		
	Hardwood dust	0.5 mg/m^3, sen	Data unavailable
	Softwood dust	2 mg/m^3 (8hr and 12hr)	Data unavailable
	Copper (II)	0.01 mg/m^3 (Cu)	Data unavailable
	Chromium (VI)*	0.00002 mg/m^3, dsen, rsen	0.00005mg/m^3
	Arsenic (V)	0.001 mg/m^3	Data unavailable

NOTES: The NZ exposure standard is higher than in other countries. Exposure should be kept as low as practicable to reduce the risk of lung cancer.
Hardwood dust is a confirmed/suspected carcinogen depending on hard wood type, sensitiser.

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 when machining treated timber and sawdust is likely.

Skin Avoid repeated or prolonged exposure to treated wood. Wear overalls, safety boots and gloves when handling treated wood. If sawdust accumulates on clothes, launder before re-use. Wash work clothes separately from other household clothing.

Respiratory Avoid breathing wood dust. Use a dustmask, e.g. class P1 or P2 disposable respirators, when machining treated timber and sawdust is likely. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

WES Additional Information

Hard wood dusts are considered a confirmed of suspected carcinogen depending on the wood type. Pine is regarded as soft wood. Wood dust is listed as a sensitizer.

9. Physical & Chemical Properties

Appearance	Products appear as standard timber ranging from solid wood to plywood.
Odour	similar to other wood products.
pH	Not applicable
Vapour pressure	Not applicable
Boiling point	Not applicable
Volatile materials	Not applicable
Freezing / melting point	Not applicable
Solubility	Not soluble
Specific gravity / density	Not applicable
Flash point	>200°C
Danger of explosion	Certain wood dust may be explosive at high concentrations. $LEL_{(wood\ dust)}$ = 40g/m^3 air.
Auto-ignition temperature	Not established
Upper & lower flammable limits	$LEL_{(wood\ dust)}$ = 40g/m^3 air.
Corrosiveness	Not corrosive

10. Stability & Reactivity

Stability	Stable under normal use and storage conditions.
Conditions to be avoided	Keep away from sources of ignition and flammable materials (see below). Treated timber off-cuts should not be used as fuel for barbeques or heating fires, garden mulch or animal bedding.
Incompatible groups	Not specified.

Substance Specific Incompatibility	There are no specific incompatibilities for this chemical.
Hazardous decomposition products	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Water.
Hazardous reactions	No specific hazards.

11. Toxicological Information

Summary

Adverse health risks due to absorption of arsenic through direct exposure to treated wood surfaces are highly unlikely. Tests conducted in the USA on playground equipment have shown dislodgeable arsenic on most samples to be at levels that do not pose a health risk.
An independent panel of physicians in Florida have reviewed all the literature on the natural occurrence and bioavailability of arsenic and its impact on people and the environment. They concluded that the amount of arsenic that could be absorbed from CCA treated wood and surrounding soil was insufficient to adversely affect the health of children and adults. It was not significant compared to natural sources and would not result in a detectable arsenic intake.

Supporting Data

Acute	**Oral**	No data for timber is available. The wood preservative Tanalith® C is considered toxic if swallowed: Data for the individual ingredients: Cupric oxide: no data Chromium trioxide: 80 mg/kg (rat), Arsenic Acid: 48mg/kg (rat).
	Dermal	No data for timber is available. The wood preservative Tanalith® C is considered toxic by dermal contact: Data for the individual ingredients: Cupric oxide: data unavailable, Chromium trioxide: 55 mg/kg, Arsenic Acid: Data unavailable.
	Inhaled	No data for timber is available. The wood preservative Tanalith® C is considered toxic by inhalation: Data for the individual ingredients: Cupric oxide: data unavailable, Chromium trioxide: 0.217 mg/L 4h (rat) or 0.124 mg/L 4h (rat), Arsenic Acid: 0.5-2.0 mg/L.
	Eye	No data for timber is available. The timber is not considered to be an eye irritant, although wood dusts may cause irritation.
	Skin	No data for timber is available. The timber is not considered to be a skin irritant, although wood dusts may cause irritation.
Chronic	**Sensitisation**	No data for timber is available. No ingredient present at concentrations > 0.1% is considered a sensitizer. Wood dust is listed as a sensitizer.
	Mutagenicity	No data for timber is available. The wood preservative Tanalith® C is considered to be a mutagen.
	Carcinogenicity	No data for the timber is available. Wood dusts are considered carcinogenic. The National Toxicology Program (NTP) and The International Agency for Research on Cancer (IARC) classify wood dust as a human carcinogen (IARC Group 1). This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the naval cavities and paranasal sinuses associated with exposure to wood dust. The evaluation did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoitic systems, stomach, colon or rectum with exposure to wood dusts. Tanalith® C is considered to be a known carcinogen. Recent research (NIOSH, 2013) indicates that chromium causes an increase in lung cancer from exposure to very low levels (significantly lower than the current NZ WES).
	Reproductive / Developmental	No data for timber is available. Tanalith® C is considered to be a known reproductive toxicant.
	Systemic	No data for timber is available. The wood preservative Tanalith® C is considered to be a known or presumed target organ toxicant and may affect liver and kidney damage, dermatitis, fatigue, disturbance of the digestive and nervous systems.
	Aggravation of existing conditions	Repeated exposures over many years to uncontrolled dust, gas and vapours from these timbers may increase the risk of allergic dermatitis, asthma, or chronic nose or throat irritation in some people. The risk of nasal or paranasal sinus cancers may also be increased. If workplace practices noted in this SDS are followed, no chronic health effects are anticipated.

12. Ecological Data

Summary

CCA treated timber is safe to use in normal circumstances. The preservative reacts with the wood to form chemical complexes that are highly insoluble and leach resistant. The CCA preservative penetrates deeply into and will remain in the wood for a long period of time. However very small quantities of preservative may migrate from the preserved wood into the surrounding soil over time. This contact is highly unlikely to pose a significant environmental hazard.

Supporting Data

Aquatic	No data for timber is available. Tanalith® C is classified as very toxic in the aquatic environment. Data considered includes: Cupric oxide: no data, Chromium trioxide: 0.06 mg/L (fish), 0.1 mg/L 48 h (Daphnia), Arsenic Acid: 25.6mg/L 96h (fish), 2.1 mg/L 48h (Daphnia).
Bioaccumulation	No data for timber is available. The ingredients of Tanalith® C are known be bioaccummulative.
Degradability	No data for timber is available. No evidence of persistence in the environment.
Soil	No data available for the timber. Tanalith® C is considered to be toxic in the soil environment with a soil ecotoxicity value between 1 and 10 mg/kg.
Terrestrial vertebrate	This timber is not considered ecotoxic towards terrestrial vertebrates, however Tanalith® C is considered toxic towards terrestrial vertebrates. The calculated LD_{50} (oral, rat) of Tanalith® C is between 5 and 50 mg/kg for the mixture. Data considered: Cupric oxide: no data, Chromium trioxide: 14 mg/kg (rat), Arsenic Acid: 48mg/kg (rat).
Terrestrial invertebrate	This timber is not considered ecotoxic towards terrestrial invertebrates, however Tanalith® C is considered harmful towards terrestrial invertebrates. The estimated invertebrate toxicity value of Tanalith® C is < 25 µg/bee. Data considered: Cupric oxide: no data, Chromium trioxide: no data, Arsenic Acid: 7.7 µg/bee.
Biocidal	Treated timber

CCA treated wood should not be used where it may come into direct or indirect contact with public drinking water except for uses involving incidental contact such as fresh water docks and bridges.

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	When disposing of treated timber, shavings and sawdust, this should occur at a landfill that has regional council resource consent to receive such materials and meets the local authority landfill acceptance criteria. Do not incinerate treated off-cuts, chips, sawdust and shavings. Off-cuts, chips, sawdust and shavings from antisapstained treated timber must not be used as mulch or animal bedding."
Contaminated packaging	Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar.

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	not allocated	**Proper shipping name**	Not allocated
Class(es)	Not allocated	**Packing group**	Not allocated
Precautions	None	**Hazchem code**	Not allocated

15. Regulatory Information

This product is not considered to be a hazardous substance under the HSNO act. It is a manufactured article.

Specific Controls

Not applicable

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	For the wood preservative: Approval HSR000833 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)
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)
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
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
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	Timber treatment chemical SDS

Review

Date	**Reason for review**
March 2022	New SDS

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