

Safety Data Sheet (SDS)



TJI® Joist with TRIB II®

1. Identification

TRADE NAME(S): TJI® Joist with TRIB II®

SYNONYMS and/or GRADES: None

PRODUCT USES: Building Materials

CHEMICAL NAME/CLASS: Treated Wood Products

MANUFACTURER'S NAME: Honolulu Wood Treating LLC

ADDRESS: 91-291 Hanua Street, Kapolei, Hawaii 96707

EMERGENCY PHONE: 808-682-5704

BUSINESS PHONE: 808-682-5704


INTERNET ACCESS: See Section 16

REVISED DATE: February 13, 2018


2. Hazard(s) Identification

Signal Word: **DANGER**

NOTE: The wood portion of this product is not hazardous in the form in which it is shipped by the manufacturer but may become hazardous as the result of downstream activities (e.g. cutting, sanding) that reduces its particle size resulting in the potential hazards as described below.

Classification	Hazard Statement(s)	Pictogram(s)
HEALTH Carcinogen- Category 1A (H350) *	Wood dust may cause nasopharyngeal cancer and/or cancer of the nasal cavities and paranasal sinuses by inhalation	

2. Hazard(s) Identification (cont'd.)

<p>Skin Irritation Category 2 (H315)</p> <p>Specific Target Organ Toxicity- Single Exposure (STOT) Category-3 (H335)</p> <p>Skin Sensitization Category 1 (H317)</p>	<p>May cause skin irritation</p> <p>May cause respiratory irritation</p> <p>May cause an allergic skin reaction</p>	
<p>Eye Irritation Category 2B (H320)</p>	<p>Causes eye irritation</p>	<p>None</p>
<p>Combustible Dust (OSHA Defined Hazard)</p>	<p>If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air</p>	<p>None</p>

*Hazard codes (GHS)

HMIS Rating (Scale 0-4): **Health = 2*** **Fire = 1** **Physical Hazard = 0**
NFPA Rating (Scale 0-4): **Health = 1** **Fire = 1** **Reactivity = 0**

Precautionary Statement(s):

Prevention Statements:

- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P260, P261: Avoid breathing dust.
- P270: Do not eat, drink or smoke when using this product.
- P280, 285: Wear appropriate protective equipment for eye and skin exposure. In case of inadequate ventilation wear an approved respirator suitable for conditions of use.
- P362, P363: Take off contaminated clothing and wash before reuse.

Response Statements:

- P304, P340: If inhaled and breathing becomes difficult, remove person to fresh air and keep comfortable for breathing.
- P308, P313: If experiencing respiratory symptoms, following removal to fresh air, call a doctor or other qualified medical professional.
- P313: If skin irritation or rash occurs get medical advice/attention.
- P352, P264: If on skin wash with plenty of soap and water.
- P338, P351: If in eyes, rinse cautiously for several minutes. Remove contact lenses if present and easy to do so.

2. Hazard(s) Identification (cont'd.)

Disposal:

P501: Dispose of in accordance with Federal, state and local regulations

Ingredients of Unknown Acute Toxicity (>1%): NAP

3. Composition/ Information on Ingredients

Ingredients	CAS#	Wt.%
Wood (wood dust, softwood or hardwood)	None assigned	94-96
Resin Solids: Polymeric Phenol-Formaldehyde (C ₇ H ₆ O ₂) _n	9003-35-4	1-9
Polymeric Diphenylmethane Diisocyanate [C ₆ H ₃ (NCO)CH ₂] _n	101-58-8	4-6
Distillates, petroleum, hydrotreated light**	64742-47-8	<1-8
Paraffin Wax	8002-74-2	0.5-1

**Distillates will dissipate over time following the treating process leaving residues of permethrin, 3-iodo-2 propynyl butyl carbamate and other proprietary wood treating chemicals in concentrations <1% (wt.%).

4. First Aid Measures

Inhalation: Remove to fresh air if respiratory symptoms are experienced. Seek medical help if persistent irritation, severe coughing, breathing difficulty or other serious symptoms occur.

Eye Contact: Treat dust in eye as a foreign object. Flush with water to remove dust particles. Remove contact lenses if present and easy to do so. Avoid touching or rubbing eyes to avoid further irritation or injury. Seek medical help if irritation persists.

Skin Contact: Product dust can elicit contact dermatitis. Seek medical help if rash, irritation or dermatitis persists.

Skin Absorption: Not known to be absorbed through the skin.

Ingestion: Not applicable under normal use.

Symptoms or Effects:

Acute Symptoms/Effects – Product dust may cause mechanical irritation of the eyes and respiratory system. Dust can cause physical obstructions in the nasal passages, resulting in dryness of nose, dry cough, and sneezing. May cause an allergic skin reaction, dermatitis and rash.

Delayed Symptoms/Effects – Unique delayed effects are not anticipated after exposure. See Section 11 for additional information on chronic effects.

5. Fire-fighting Measures

Extinguishing Media and Restrictions: Water, carbon dioxide, dry powder and sand.

Specific Hazards, Anticipated Combustion Products: Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas. Thermal decomposition (i.e. smoldering, burning) can release carbon monoxide, oxides of nitrogen, carbon dioxide, iodine, aliphatic aldehydes including formaldehyde, resin acids, terpenes and polycyclic aromatic hydrocarbons and other toxic gases.

Autoignition Temperature: Variable [typically 400°-500°F (204°-260°C)]

Special Firefighting Equipment/Procedures: No special equipment anticipated. Beware of potential combustible dust explosion hazard.

5. Fire Fighting Measures (cont'd.)

Unusual Fire and Explosion Hazards: Depending on moisture content, particle diameter and concentration, product dust may pose a flash fire or deflagration hazard. If suspended in air in an enclosure or container and ignited, an explosion may occur due to the development of internal pressure causing rupture. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the Minimum Explosible Concentration (MEC) for wood dusts. Conduct regular housekeeping inspections and cleaning to prevent excessive dust accumulations. Design and maintain control equipment to minimize fugitive combustible dust emissions. Ensure that ventilation systems are operating properly to capture, transport and contain combustible dust while controlling ignition sources. Reference NFPA 652 "Standard on the Fundamentals of Combustible Dust".

6. Accidental Release Measures

Steps to be taken in case Material Is Released or Spilled: Sweep or vacuum up for recovery and disposal. Avoid creating dusty conditions whenever feasible. Maintain good housekeeping to avoid accumulation of product dust on exposed surfaces. Use approved filtering facepiece respirator ("dust mask") or higher levels of respiratory protection as indicated and goggles where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort.

7. Handling and Storage

Precautions to be taken in Handling and Storage: Dried product dust may pose a combustible dust hazard. Keep away from ignition sources. Avoid eye contact. Avoid prolonged or repeated contact with skin. Avoid prolonged or repeated breathing of product dust. These products may release some formaldehyde in gaseous form. Specific handling and storage conditions should be assessed to determine potential formaldehyde concentrations. Store in well-ventilated, cool, dry place away from open flame.

8. Exposure Control Measures/Personal Protection

Exposure Limits/Guidelines:

Ingredient(s)	Agency	Exposure Limit(s)	Comments
Wood (wood dust, softwood or hardwood)	OSHA	PEL-TWA 15 mg/m ³ (see footnote ^A below)	Total Dust (PNOR)
	OSHA	PEL-TWA 5 mg/m ³ (see footnote ^A below)	Respirable dust fraction (PNOR)
	ACGIH	TLV-TWA 1 mg/m ³	Inhalable fraction
Resin Solids: ,Polymeric phenol-formaldehyde ^B	OSHA	PEL-TWA 0.75 ppm	Free gaseous formaldehyde
	OSHA	PEL-STEL 2 ppm	
	ACGIH ACGIH	TLV- TWA 0.1 ppm TLV- (STEL) 0.3 ppm	STEL
Polymeric Diphenylmethane Diisocyanate ^C	OSHA ACGIH	None None	
Distillates, petroleum, hydrotreated light	OSHA ACGIH	PEL-TWA None TLV-TWA 200 mg/m ³	Total hydrocarbon Vapor- 8 hours
Paraffin wax	OSHA	PEL-TWA 2 mg/m ³	Paraffin wax fume

	ACGIH	TLV-TWA 2 mg/m ³	Paraffin wax fume
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8. Exposure Control Measures/Personal Protection (cont'd.)

^A In *AFL-CIO v OSHA*, 965 F. 2d 962 (11th Cir. 1992), the Court overturned OSHA's 1989 Air Contaminants Rule, including the specific PEL's for wood dust that OSHA had established at that time. The 1989 vacated PEL's were: 5 mg/m³ PEL-TWA and 10 mg/m³ STEL (15 min), all softwood and hardwood except Western Red Cedar. Wood dust is now regulated by OSHA as "Particulates Not Otherwise Regulated" (PNOR), which is also referred to as "nuisance dust". However, some states have regulated wood dust PEL's in their state plans. Additionally, OSHA indicated that it may cite employers under the OSH Act general duty clause in appropriate circumstances.

^B These products may contain free formaldehyde (<0.1%, wt. %), which may be released depending on concentration and environmental conditions.

^C This ingredient is the polymerized form of MDI resin.

Ventilation:

LOCAL EXHAUST – Provide local exhaust as needed so that exposure limits are met. Ventilation to control dust should be considered where potential explosive concentrations and ignition sources are present. The design and operation of any exhaust system should consider the possibility of explosive concentrations of product dust within the system. See "SPECIAL" section below.

MECHANICAL (GENERAL) – Provide general ventilation in processing and storage areas so that exposure limits are met.

SPECIAL – Ensure that exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or suppression systems designed and operated in accordance with applicable standards if the operating conditions justify their use.

OTHER ENGINEERING CONTROLS – Cutting and machining of product should preferably be done outdoors or with adequate ventilation and containment.

Personal Protective Equipment:

RESPIRATORY PROTECTION – Use filtering face piece respirator ("dust mask") tested and approved under appropriate government standards such as NIOSH (US), CSA (Canada), CEN (EU), or JIS (Japan) if exposure limits may be exceeded or for additional worker comfort or symptom relief. Use respiratory protection in accordance with jurisdictional regulatory requirements similar to the OSHA respiratory protection standard 29CFR 1910.134 following a determination of risk from potential exposures.

EYE PROTECTION – Approved goggles or tight fitting safety glasses are recommended when excessive exposures to dust may occur (e.g. during clean up) and when eye irritation may occur.

PROTECTIVE GLOVES – Cloth, canvas, or leather gloves are recommended to minimize potential slivers or mechanical irritation from handling product.

NOTE: Impervious gloves are recommended, when handling freshly processed product before the treating compounds are completely dry. In the production phase when the wood is still wet from treatment, durable nitrile or butyl gloves are recommended.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT – Outer garments which cover the arms may be desirable in extremely dusty areas or areas where the wood is still wet from surface treatment.

WORK/HYGIENE PRACTICES – Follow good hygienic and housekeeping practices. Clean up areas where dust settles to avoid excessive accumulation of this combustible material. Avoid skin contact with settled dusts. Minimize compressed air blowdown or other practices that generate high airborne-dust concentrations.

9. Physical/Chemical Properties

Appearance: Solid composite product with a solvent and wood odor.

Odor/Odor Threshold(s):	NAV
pH:	NAP
Melting/Freezing Point:	NAP
Boiling Point (@ 760 mm Hg) and Range:	NAP
Flash Point:	NAV
Evaporation Rate:	NAP
Flammability:	NAV
Lower/Upper Explosive Limits:	40,000 mg of dust per cubic meter of air is often used as the LEL for wood dusts.
Vapor Pressure (mm Hg):	NAP
Vapor Density (air = 1; 1 atm):	NAP
Relative Density:	NAP
Solubility:	NAP
Partition Coefficient (n-octanol/water):	NAP
Autoignition Temperature:	Variable [typically 400°-500°F (204°-260°C)]
Decomposition Temperature:	NAV
Viscosity:	NAP
Other Properties:	NAP

10. Stability and Reactivity

Reactivity: NAP

Hazardous Polymerization: May occur Will not occur

Stability: Unstable Stable

Conditions to Avoid: Avoid all sources of ignition, protect from moisture.

Incompatibility (Materials to Avoid): Avoid contact with strong acids, bases, oxidizing agents and drying oils.

Hazardous Decomposition or By-Products: Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas. Spontaneous and rapid hazardous decomposition will not occur.

Sensitivity to Static Discharge: Airborne wood and resin dust may be ignited by a static discharge depending on airborne concentrations, particle size and moisture content (for wood particles).

11. Toxicological Information

Likely Route(s) of Exposure:

- Ingestion:
- Skin: Dust
- Inhalation: Dust
- Eye: Dust

Signs and Symptoms of Exposure: See section 4 for acute hazards. Chronic hazards addressed below:

11. Toxicological Information (cont'd.)

Wood Dust - NTP: According to its Report on Carcinogens, Fourteenth Edition, NTP states, "Wood dust is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans". An association between wood dust exposure and cancer of the nasal cavity has been observed in many case reports, cohort studies, and case-control studies that specifically addressed nasal cancer. Strong and consistent associations with cancer of the nasal cavities and paranasal sinuses were observed both in studies of people whose occupations are associated with wood dust exposure and in studies that directly estimated wood dust exposure. This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal 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 hematopoietic systems, stomach, colon or rectum with exposure to wood dust. There is inadequate evidence for the carcinogenicity of wood dust from studies in experimental animals according to NTP.

Wood Dust: IARC – Group 1: Carcinogenic to humans; sufficient evidence of carcinogenicity. This classification is primarily based on studies showing an association between occupational exposure to wood dust and adenocarcinoma to the nasal cavities and paranasal sinuses. IARC did not find sufficient evidence of an association between occupational exposure to wood dust and cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum.

Formaldehyde - NTP: According to its Report on Carcinogens, Fourteenth Edition, NTP states, Formaldehyde (gas) is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans and supporting data on mechanisms of carcinogenesis.

Formaldehyde: IARC - Group 1: Carcinogenic to humans, sufficient evidence of carcinogenicity. A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries and "strong but not sufficient evidence" for leukemia. However, numerous epidemiological studies have failed to demonstrate a relationship between formaldehyde exposure and nasal cancer or pulmonary diseases such as emphysema or lung cancer.

Carcinogenicity Listing(s):

- NTP: Wood dust- Known Human Carcinogen. Formaldehyde- Known to be a Human Carcinogen.
- IARC Monographs: Wood dust, Group 1 - carcinogenic to humans. Formaldehyde, Group 1- carcinogenic to humans.
- OSHA Regulated: Formaldehyde Gas

Toxicity Data: No specific information available for product or material in purchased form. Individual component information is listed below.

Components:

Wood dust (softwood or hardwood)

Dusts generated from sawing, sanding or machining the product may cause respiratory irritation, nasal dryness and irritation, coughing and sinusitis. NTP and IARC (Group 1) classify wood dust as a human carcinogen. See Section 2 above.

Formaldehyde

Human inhalation TC_{Lo} of 17 mg/m³ for 30 minutes produced eye and pulmonary results; human inhalation TC_{Lo} of 300 ug/m³ produced nose and central nervous system results; LC₅₀ (rat, inhalation) = 1,000 mg/m³, 30 minutes; LC₅₀ (mice, inhalation) = 400 mg/m³, 2 hours. NTP and IARC (Group 1) classify formaldehyde as a human carcinogen. See Section 2 above.

Permethrin

LD₅₀ (oral) rat 220 mg/kg; LD₅₀ (dermal) rat >5000 mg/kg.

3-iodo-2 propynyl butyl carbamate

LD₅₀ (oral) rat 1100 mg/kg.

Target Organs: Eyes, skin, and respiratory system.

12. Ecological Information

Ecotoxicity: NAV for finished product.

Biopersistence and Degradability: Wood in this product would be expected to be biodegradable.

Polymeric MDI

The effects from a simulated accidental pollution event in a pond with polymeric MDI on different trophic levels of the aquatic ecosystem were investigated (Heimbach F. et.al., 1996). Neither monomeric MDI nor its potential reaction product MDA (4, 4'-diphenylmethanedi-amine) was detected in water or accumulated by fish. The MDI polymerized to inert polyurea on the sediment of the test ponds. This polymerization formed carbon dioxide, released as bubbles which floated to the water surface. There was no direct effect on the pelagic community (phytoplankton, zooplankton, fish, and macrophytes) of the test ponds. The atmospheric concentration of MDI arising from a release is naturally low on account of MDI's very low volatility. It is expected that airborne MDI will have a rather short half-life as a consequence of ready degradation to inorganic compounds by hydroxyl radicals present in the troposphere.

Formaldehyde

Trace amounts of free formaldehyde may be released to the atmosphere and would be expected to be removed in the atmosphere by direct photolysis and oxidation by photochemically produced hydroxyl radicals (half-life of a few hours). In the aqueous phase formaldehyde biodegradation is expected to take place in a few days.

Bioaccumulation: NAV.

Soil Mobility: NAV

Other Adverse Effects: NAP

13. Disposal Considerations

Waste Disposal Method: CAUTION: Do not burn treated wood in open fires, stoves or fireplaces because toxic chemicals may be produced in the smoke and ash. It is the user's responsibility to determine at the time of disposal whether your waste meets any jurisdictional restrictions for treated wood from commercial or industrial use (for example, construction sites). Do not use treated wood as a compost or mulch. Check with your federal, state, local or provincial regulatory representatives prior to disposal.

14. Transport Information

Mode: (air, land, water) Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG) regulations. Not regulated as a hazardous material by IMDG or IATA regulations concerning the transport of hazardous materials.

UN Proper Shipping Name:	NAP
UN/NA ID Number:	NAP
Hazard Class:	NAP
Packing Group:	NAP
Environmental Hazards (Marine Pollutant):	NAP
Special Precautions	NAP

15. Regulatory Information

TSCA: All components of this product are listed on the TSCA inventory.

CERCLA: Formaldehyde reportable quantity (100lbs RQ) is on the CERCLA chemical substance inventory.

DSL: All components of this product are listed on the Canada DSL.

OSHA: Wood products are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, wood dust generated by sawing, sanding or machining this product may be hazardous. Workplace exposure to formaldehyde is specifically regulated under 29 CFR 1910.1048.

STATE RIGHT-TO-KNOW:

California Proposition 65 – This product contains formaldehyde, a substance known to the State of California to cause cancer, which depending on temperature and humidity, may be emitted from the product. This product also contains methyl isobutyl ketone (MIBK), cumene and 1,4-dioxane in trace amounts, substances known to the State of California to cause cancer and/or developmental effects.

WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection.

Pennsylvania – When cut or otherwise machined, the product may emit wood dust. Wood dust, permethrin, cumene, 1,4-dioxane MIBK and formaldehyde appear on Pennsylvania's Appendix A, Hazardous Substance Lists.

New Jersey – When cut or otherwise machined, the product may emit wood dust. Wood dust, permethrin, cumene, 1,4-dioxane MIBK and formaldehyde appear on New Jersey's Environmental Hazardous Substance List.

SARA 313 Information: To the best of our knowledge, this product contains formaldehyde at de minimis concentrations (<0.1%) and is not subjected to the SARA Title III Section 313 supplier notification requirements.

SARA 311/312 Hazard Category: This material has been reviewed according to the EPA "Hazard Categories" promulgated under SARA Title III Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard	Yes
A delayed (chronic) health hazard	Yes
A corrosive hazard	No
A fire hazard	No
A reactivity hazard	No
A sudden release hazard	No

16. Other Information

Date Prepared: 02/13/2018

Date Revised: NAP

Prepared By: Honolulu Wood Treating LLC.

Honolulu Wood Treating SDS and label available on: <http://hwthawaii.com/>

User's Responsibility: The information contained in this Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to ensure that the most current SDS is used.

16. Other Information (cont'd.)

Definition of Common Terms:

ACGIH®	=	American Conference of Governmental Industrial Hygienists
C	=	Ceiling Limit
CAS#	=	Chemical Abstracts System Number
DOT	=	U. S. Department of Transportation
DSL	=	Domestic Substance List
EC#	=	Identifying Number Assigned to Chemicals Contained in the European Inventory of Existing Chemical Substances (EINECS)
EC ₅₀	=	Effective Concentration That Inhibits the Endpoint to 50% of Control Population
EPA	=	U.S. Environmental Protection Agency
GHS	=	Globally Harmonized System of Classification and Labelling of Chemicals
HMIS	=	(Canada) Hazardous Materials Identification System
HNOC	=	Hazards Not Otherwise Classified
IARC	=	International Agency for Research on Cancer
IATA	=	International Air Transport Association
IMDG	=	International Maritime Dangerous Goods
LC ₅₀	=	Concentration in Air Resulting in Death To 50% of Experimental Animals
LCLo	=	Lowest Concentration in Air Resulting in Death
LD ₅₀	=	Administered Dose Resulting in Death to 50% of Experimental Animals
LDLo	=	Lowest Dose Resulting in Death
LEL	=	Lower Explosive Limit
LFL	=	Lower Flammable Limit
MSHA	=	Mine Safety and Health Administration
NAP	=	Not Applicable
NAV	=	Not Available
NIOSH	=	National Institute for Occupational Safety and Health
NFPA	=	National Fire Protection Association
NPRI	=	(Canada) National Pollution Release Inventory
NTP	=	National Toxicology Program
OSHA	=	Occupational Safety and Health Administration
PEL	=	Permissible Exposure Limit
PNOR	=	Particulate Not Otherwise Regulated
PNOS	=	Particulate Not Otherwise Specified
RCRA	=	Resource Conservation and Recovery Act
STEL	=	Short-Term Exposure Limit (15 minutes)
STP	=	Standard Temperature and Pressure
TCLo	=	Lowest Concentration in Air Resulting in a Toxic Effect
TDG	=	(Canada) Transportation of Dangerous Goods
TDLo	=	Lowest Dose Resulting In a Toxic Effect
TLV	=	Threshold Limit Value
TSCA	=	Toxic Substance Control Act
TWA	=	Time-Weighted Average (8 hours)
UFL	=	Upper Flammable Limit
WHMIS	=	(Canada) Workplace Hazardous Materials Information System