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SAFETY DATA SHEET

DRICORE SUBFLOOR

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Safety Data Sheet

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

EMERGENCY CONTACT

Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

Synonym	Oriented Strand Board
Trade Name	Norbord: OSB, TailWall, Windstorm, Stabledge, Solarbord, TruFlor, Pinnacle, Trubord, Rimboard, Rimboard Plus, Durastrand Rimboard, Durastrand Point Six, Point Six, and SteadiTread. Ainsworth: OSB, CE Marked, JAS Rated and Tai-Q.
Product Description	These panel products contain hardwood and/or softwood strands bonded with phenol formaldehyde copolymer adhesive resin and/or polymeric diphenylmethane diisocyanate (PMDI) adhesive resin and wax. The Solarbord product has a heat-reflecting foil laminated onto one side of the OSB (Oriented Strand Board) board.

SECTION 2. HAZARD (S) IDENTIFICATION

GHS Classification	This product is not classified as hazardous according to GHS criteria
WHIMS Classification	This product is not classified as hazardous according to WHIMS criteria
Other Hazards	Sawing, sanding or machining processes performed on these products may result in generation of dusts (wood dust and polymerized resin dust).
Emergency Overview	Sawing, sanding or machining wood or wood products can generate combustible dust. Wood dust may ignite or form explosive mixture with air in the presence of an ignition source. Product dust may be irritating to eyes, skin or respiratory system

POTENTIAL HEALTH EFFECTS:

The wood panels in purchase form do not represent health hazard. The health effects mentioned below could happen if the panel is mechanically processed and dusts (wood and polymerized resin) are generated in the environment.

Potential Acute Health Effects

Inhalation	Inhalation of dust may cause irritation to upper respiratory system
Skin	May cause chemical and/or mechanical irritation of the skin
Eyes	May cause chemical and/or mechanical irritation of the skin
Ingestion	Not an expected route of entry
Medical conditions aggravated by overexposure	Respiratory ailments or pre-existing skin conditions may be aggravated by exposure to wood dust.

Potential Chronic Health Effects

Chronic effects	Repeated exposure to dust may cause asthmatic and/or dermatitis symptoms and signs. Chronic exposure to some species of wood and sensitivity of some workers may cause the outbreak of some allergies that can become a potential health hazard to these individuals
Carcinogenicity	Possible carcinogen See section 11 Toxicological Information
Mutagenicity	Possible mutagen See section 11 Toxicological Information
Sensitization	Possible Sensitizer See section 11 Toxicological Information

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt. %
Variety of Hardwood (e.g., Aspen, Poplar, Black Poplar, Birch etc.) and/or Softwood (Southern Yellow Pine, Lodgepole Pine, Tamarack, Spruce...) - But not Western Red Cedar	Not applicable	84-99
Cured Phenol Formaldehyde Adhesive Resin Solid. (less than 0.01% of free formaldehyde) ¹	9003-35-4	1-10
Cured Polymeric Diphenylmethane Diisocyanate (PMDI) Adhesive (Once pressed these wood panels do not contain free or unreacted MDI) ¹	9016-87-9	0-10
Slack Wax	64742-61-6	0 - 5.0
Heat Reflecting Overlay (Foil, MDO) ²	Not available	0-2.5
Free Formaldehyde	50-00-0	<0.01
Zinc Borate ³	138265-88-0	0-3

¹PMDI or phenol-formaldehyde adhesive could not be used in some panel productions

²Foil and MDO (Medium Density Overlay) – Proprietary component information available with signed disclosure agreement.

³Zinc Borate only in treated OSB products; Borogard[®]ZB SDS available on request.

The above ingredients are bonded together under heat and pressure. The process cures the resin, but small amounts of formaldehyde may be released from the finished product. The finished product contains less than 0.01% free formaldehyde by weight.

SECTION 4. FIRST AID MEASURE

Eye Contact	Wood dust may cause mechanical irritation. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, holding lids apart to ensure flushing of each entire eye. Get medical attention immediately.
Skin Contact	Various species of wood dust may cause allergic contact dermatitis in sensitized individuals. In case of contact, flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and footwear. Wash clothing before reuse Get medical attention if rash or persistent irritation or dermatitis occurs.
Inhalation	Depending on species, wood dust may cause respiratory sensitization and/or irritation. If inhaled, remove to fresh air. Get medical advice if persistent irritation, severe coughing or breathing difficulty occurs.
Ingestion	Not likely to occur.
Notes to Physician	Respiratory ailments or pre-existing skin conditions may be aggravated by exposure to wood dust.

SECTION 5. FIRE FIGHTING MEASURES

Flammability of the Product	These wood-based panels are flammable but difficult to ignite.
Auto-ignition Temperature	204 to 260 °C
Flash Point	Not available.

Flammable Limits	Higher: undetermined (varies with composition particle size, moisture level, rate of heating and dust concentration). Lower: 40 grams/m ³ (LEL) wood dust.
Extinguishing Media	Use water spray, dry chemical or carbon dioxide when fighting fires involving this material. Dry sand or earth can be used for small fire.
Hazardous Combustion Products	Burning of wood panel produces irritating and toxic emissions, including carbon dioxide, carbon monoxide, noxious fumes, aldehydes and organic acids.
Special Fire-Fighting Equipment/Procedure	Firefighters must wear fire resistant protective equipment. Wear self-contained breathing apparatus with full face piece operated under positive pressure demand mode.
Fire Hazards in Presence of Various Substances	There is risk of fire/explosion when high concentrations of fine dust particles come in contact with a source of ignition as heat or flame.
Explosion Hazards in Presence of Various Substances	Dust explosion is strongly possible if dust concentrations rise to critical values (above 40 grams/m ³) and if there is a source of ignition present (flame, heat, static discharge, etc.). May explode when in contact with strong acids and oxidants.
Sensitivity/mechanical impact	These products are not sensitive to mechanical impact.
Sensitivity/static discharge	These products are not sensitive to static discharge. However, fine dust clouds may be sensitive to static discharge and lead to a dust explosive hazards.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	See protective measures in section 8.
Environmental Precautions	None
Spill and Leak	Not likely to occur as a wood panel. Wood dust spill, sweep or vacuum and avoid creating airborne dust conditions. Dried wood dust can be a source of combustible and explosion hazard. Remove ignition source and provide good ventilation where dust conditions may occur. Place recovered wood dust in a container for proper disposal.

SECTION 7. HANDLING AND STORAGE

Safe Handling Procedures	Avoid any source of heat or ignition and avoid creating "clouds" of dust during mechanical processes (sawing, sanding, drilling...) on wood panel. Wood dust can be source of fire and explosion hazards. Use in a well-ventilated area. Wash thoroughly after handling. Wash clothing before reuse. AVOID DUST CONTACT WITH EYES AND SKIN. AVOID BREATHING DUST.
Storage Requirement	Store away from incompatibles. Keep in a cool, dry and well-ventilated area. Keep away from any ignition source.
Incompatibility	Avoid contact with oxidizing agents and drying oils. Avoid open flame.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ingredients	USA ACGIH (2015)	USA OSHA 29CFR1910.1000	QUEBEC OSHA (OEL S-2.1, r.15 - 2010)	ONTARIO OSHA OEL-reg 833 (2005)
Variety of Hardwood (e.g., Aspen, Poplar, Black Poplar, Birch etc.) and/or Softwood (Southern Yellow Pine, Lodgepole Pine, Tamarack, Spruce, ,) - But not Western Red Cedar	TLV-TWA (Inhalable Dust) 1 mg/m ³	PEL-TWA ¹ (Total Dust as PNOR) 15 mg/m ³ PEL-TWA ¹ (Total Dust) 5 mg/m ³ STEL-TWA ¹ (Total Dust) 10 mg/m ³	TWAEV (Total Dust) 5 mg/m ³	TWAEV (Total Dust) 5 mg/m ³
Cured Phenol Formaldehyde Adhesive Resin Solid. (less than 0.01% of free formaldehyde)	None Established	None Established	None Established	None Established

Cured Polymeric Diphenylmethane Diisocyanate (PMDI) Adhesive (Once pressed these wood panels do not contain free or unreacted MDI)	None Established	None Established	None Established	None Established
Formaldehyde	TWA/Ceiling ² 0.3 ppm	PEL 0.75 ppm STEL 2.0 ppm (See 29CFR1910.1048)	TWAEV/Ceiling 2.0 ppm	STEV 1 ppm Ceiling 1.5 ppm
Heat Reflecting Foil (Solarbord Only)	None Established	None Established	None Established	None Established
Slack Wax (as Paraffin Wax Fume)	TWA 2 mg/m ³	Not Regulated	TWAEV 2 mg/m ³	TWAEV 2 mg/m ³
Zinc Borate (as inorganic compounds)	TWA (Inhalable Dust) 2 mg/m ³	PEL-TWA (Total Dust as PNOR) 15 mg/m ³	TWAEV (Total Dust as PNOR) 10 mg/m ³	TWAEV 2 mg/m ³

¹ In *AFI - CIO v. OSHA*, 965 F. 2d 962 (11th Cir. 1992), the court overturned OSHA's 1989 Air Contaminants Rule, including the specific PELs for wood dust that OSHA had established at that time. The 1989 PELs were: TWA - 5.0 mg/m³; STEL(15 MIN.) - 10.0 mg/m³ (all soft and hard woods, except Western Red Cedar); Western Red Cedar; TWA - 2.5 mg/m³.

Wood dust is now officially regulated as an organic dust under the Particulates Not Otherwise Regulated (PNOR) or Inert or Nuisance Dust Categories at PELs noted under Section 8 of this MSDS. However, a number of states have incorporated provisions of the 1989 Standard in their state plans. Additionally, OSHA indicated that it may cite companies under the OSH Act General Duty Clause under appropriate circumstances for non-compliance with the 1989 PELs.

²The OSHA 'Action Level' for Formaldehyde is 0.5 ppm based on an 8-hour TWA under 29 CFR 1910.1048. This level is not achieved under normal occupational exposures to these products. The Occupational Health and Safety Regulation's 8-hour TWA is 0.3 mg/m³ with the As Low As Reasonably Achievable (ALARA) designation.

Engineering Controls

For reducing exposure to below recommended exposure limits, methods include mechanical ventilation using diluting or control of process, and process conditions or personal enclosure. System design should consider nature of contaminants and any explosive characteristics. Eyewash stations are recommended.

Personal Protection

Eyes Not required if no transformation is performed on the product.
AVOID CONTACT WITH EYES.

Use safety glasses with side shields or dust resistant safety goggles if manual or mechanical cutting or abrasion processes is performed on the product.

Body Not required if no transformation is performed on the product.
AVOID CONTACT WITH SKIN.

Coveralls or long-sleeved shirt is recommended if manual or mechanical cutting or abrasion processes is performed on the product.

Remove and wash dust contaminated clothing before reuse.

Respiratory Not required if no transformation is performed on the product.
AVOID BREATHING DUST.

When engineering controls and work practices are not effective in controlling exposure to recommended exposure limits, wear suitable respiratory protection. If respirator required, use an appropriate NIOSH/MSHA approved dust respirator N95 or higher.

Hands **AVOID CONTACT WITH SKIN.**

Wear leather work gloves to protect skin against mechanical irritation and splinters.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before accessing to eating area.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid	Odor	Depend on wood species and time since panel was produced.
Appearance	Wood panel	Threshold Odor	Not available
pH	Not available	Color	Light to dark brown

Melting /Freezing point (°C)	Not available	Vapour pressure (@20 °C)	Not available
Boiling point (°C)	Not available	Vapour density (Air=1)	Not available
Flash point (°C)	Not available	Solubility (in water)	Not soluble
Evaporation rate	Not available	Coefficient of water/oil distribution	Not Available
Auto-ignition temperature	204 to 260 °C	Decomposition temperature	Not available
Flammability (Solid, gas)	These wood panels are flammable in presence of ignition source		
Upper flammability/explosive limit (% by volume)	Higher: undetermined (varies with composition particle size, moisture level, rate of heating and dust concentration)		
Lower flammability/explosive limit (% by volume)	40 grams/m ³ (wood dust) Dust explosion is strongly possible if dust concentrations rise to critical values (above 40 grams/m ³) and if there is a source of ignition present (flame, heat, static discharge, etc.)		
Relative density (@25 °C)	Variable (dependent on wood species and moisture content)		
Viscosity	Not applicable		

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Not available
Stability	Stable under normal conditions
Possible hazardous reactions	Not hazardous reactions will occur
Conditions to avoid	Keep away of ignition sources (excessive heat, open flames, sparks) and incompatible materials
Materials to avoid and incompatibility	Wood dust can ignite if it comes in contact with strong oxidizing agents such as perchloric acid and nitric acids, and with strong acids such as sulfuric acid and if it comes in contact with drying oils such as linseed oil.
Hazardous decomposition products	Thermal and/or thermal oxidative decomposition can produce irritating and toxic fumes and gases, including carbon monoxide, aldehydes, isocyanate, organic acids and polynuclear aromatic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

In purchase form these products do not represent health hazard

Routes of exposures	Inhalation, skin and eyes contact
Toxicological data	No test data exists on the purchased form products. Listed below is the data available on individual chemical ingredients entering in the composition of the wood panels and wood dust. Exposure to wood dust may cause asthmatic symptoms and signs.

Chemical ingredients	LD ₅₀		LC ₅₀ (4-hours)		GHS
	Oral	Dermal	Inhalation	Irritation	
Polymeric Diphenylmethane Diisocyanate (PMDI) Adhesive	>5,000 mg/kg (rat)	>5,000 mg/kg (rat)	0,49 mg/l (rat)	100 mg (Mild) (rabbit)	Acute toxicity, Inhalation of dusts, category 2
Phenol Formaldehyde Adhesive Resin Solid.	>2,500 mg/kg (rat)	>5,000 mg/kg (rat)	0,49 mg/l (rat)	No Data	Acute toxicity, Inhalation of dusts, category 2
Free Formaldehyde	100 - 830 mg/kg (rat)	270 mg/kg (rabbit)	0,20 - 0.59 mg/l (rat) 0.45 mg/l (mouse)	No Data	Acute toxicity, Inhalation of dusts, category 1
Slack Wax	No Data	No Data	No Data	No Data	No Data
Heat Reflecting foil	No Data	No Data	No Data	No Data	No Data
Zinc Borate	10,000 mg/kg (rat)	10,000 mg/kg (rabbit)	5 mg/l (rat)	No Data	Acute toxicity, Inhalation of dusts, category 4

Variety of Hardwood (e.g., Aspen, Poplar, Black Poplar, Birch, etc.) and/or Softwood (Southern Yellow Pine, Lodgepole Pine, Tamarack, Spruce, etc.) - But not Western Red Cedar	No Data	No Data	No Data	No Data	No Data
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Skin Irritation	No test data available on the wood panel itself. Data available on identified ingredients are listed below. Dermatitis has been reported in humans; nature of the wood and origin of the dust has to be taken into consideration during cutting or sanding operations of this product.
Eye Irritation	Conjunctivitis has been reported in humans, nature of the wood and origin of the dust has to be taken into consideration.
Skin Sensitization	No test data available on the wood panel itself. Data available on identified ingredients are listed below. Repeated exposure to some species of wood and sensitivity of some workers may cause the outbreak of some allergies that can become a potential health hazard to these individuals. However, considering the small quantity of the resins contained in these products and the polymerization of these resins during the press cycle, the risk of exposure to formaldehyde and/or MDI during cutting and sanding operations must be considered of very low.
Respiratory Sensitization	No test data available on the product itself. Data available on identified ingredients are listed below. Inhalation of wood dust may sensitize the respiratory system and cause asthmatic symptoms and signs. People with existing respiratory tract ailments, (e.g. bronchitis) should avoid exposures to wood dust as they may suffer severe irritation and difficulty in breathing. Some reports suggest that formaldehyde and MDI may cause respiratory sensitization, such as asthma, and pre-existing respiratory sensitization may be aggravated by exposure. However, considering the small quantity of the resins contained in these products and the polymerization of these resins during the press cycle, the risk of exposure to formaldehyde and/or MDI during cutting and sanding operations must be considered of very low.
Mutagenicity	No test data available on the product itself. Data available on identified ingredients are listed below. Data on wood dust suggests that exposure to wood dust may cause cellular changes in the nasal epithelium.
Carcinogenicity	No test data available on the product itself. Data available on identified ingredients are listed below.
Formaldehyde	IARC (Group 1) Human carcinogen ACGIH (Group A2) Suspected human carcinogen NTP Known to be a human carcinogen
Wood Dust	IARC (Group 1) Human carcinogen ACGIH (Group A1) Oak and beech – Confirmed human carcinogen ACGIH (Group A2) Birch, mahogany, teak, walnut - Suspected human carcinogen ACGIH (Group A4) All other wood dusts - Not classifiable as a human carcinogen NTP Known to be a human carcinogen
Teratogenicity	Not available.
Synergetic Effects	Not available.
Potential Health Effects	
Inhalation	Wood dust May cause irritation to the upper respiratory system.
Skin	Wood dust may cause irritation to the skin.
Eyes	Wood dust may cause chemical and/or mechanical irritation to the eye.
Ingestion	Not likely to occur.

SECTION 12.ECOLOGICAL INFORMATION

Ecotoxicity	Not available. The product has not been tested.
Persistence and degradability	The product has not been tested. Depending on the kind of wood Possibly hazardous short term degradation products are unlikely. Long term degradation products may arise due to formaldehyde.

Bioaccumulation potential	Not available. The product has not been tested.
Mobility in soil	Not available. The product has not been tested.
Results of PBT and vPvB assessment	Not available. The product has not been tested.
Other adverse effects	
PMDI	PMDI represent low to very low environmental hazard. A pond study showed gross contamination caused no significant toxic effects on a wide variety of flora and in all trophic levels (including fish), no detectable diaminodiphenylmethane (MDA) and no evidence of bioaccumulation of MDI or MDA. (see Heimbach F. et al. 1996)

Category	Species	Test	Result	Reference
Algae	Scenedesmus subspicatus	72 h NOEC 1640 following OECD Guideline 201	No effects were noted	Blom et Oldersma (1994)
Invertebrates	Daphnia magna	Static test following OECD Guideline 202/1	24 h EC50 = \geq 500 - 1000mg/l	Rhône – Poulenc (1977) Caspers et al. (1986)
	Limnea stagnalis		24 h EC50 = \geq 1000 mg/l	Caspers et al. (1986)
			EC50 = \geq 500 mg/l	Rhône – Poulenc (1977)
Fish (Fresh water)	Branchydanio rerio (Zebrafish)	Static test following OECD Guideline 203	96h LC0 = \geq 1000 mg/l	Caspers et al. (1986)
		Static test similar to OECD Guideline 203	24h LC0 = \geq 500 mg/l	Rhône – Poulenc (1977)
	Oryzias latipes (medaka)	Static test similar to Semi-static test. Japanese standard test	96h LC0 = \geq 3000 mg/l	Nakata (1983)

Formaldehyde **Formaldehyde is acutely toxic for aquatic organisms**

Category	Species	Test	Result	GHS Acute Hazard Category
Algae (Fresh water)	Scenedesmus quadricauda	Not specified	24 h EC50 = 14.7 mg/l	3
Invertebrates (Fresh water)	Daphnia magna	DIN 38412 Part 11	24 h EC50 = 42 mg/l	3
		OECD Guideline 203	48 h EC50 = 29 mg/l	3
Fish (Fresh water)	Morone Saxatilis	Not Specified	96 h LC50 = 6.7 mg/l	2
	Fathead minnow	Flow-through	96 h L50 = 24.1 mg/l	3
	Micropterus Dolomieu	Not Specified	96 h LC50 = 54.4 mg/l	3

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Information

Canadian Environmental Protection Act: Not a hazardous waste as sold. Comply with all provincial and local regulations. Incineration or dry-land disposal is acceptable in most jurisdictions.

Resource Conservation and Recovery Act (RCRA): Not a United States Environmental Protection Agency (EPA) hazardous waste as sold. Comply with all state and local regulations. It is the user's responsibility to determine at the time of disposal if their waste product meets RCRA, Title 40 CFR 261 criteria for hazardous wastes. Incineration or dry-land disposal is acceptable in most jurisdictions.

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	Proper Shipping Name	Classes	Packing Group	Label	Other Information
Canada - TDG Classification	Not regulated	Not regulated	Not Regulated	Not regulated	Not regulated	None
US - DOT Classification	Not regulated	Not regulated	Not Regulated	Not regulated	Not regulated	None
ICAO/IATA	Not regulated	Not regulated	Not Regulated	Not regulated	Not regulated	None
Marine pollutant	No component of this product is listed as a marine pollutant by the DOT (49 CFR 172.101, Appendix B.)					

SECTION 15.REGULATORY INFORMATION

U.S. Federal Regulations The product in purchase form is not controlled under the US Hazard Communication Rule (29 CFR 1900.1200).

TSCA All listed ingredients appear on the TSCA inventory and/or are exempted.

CERCLA Formaldehyde (100 lbs reportable quantity) is on the CERCLA chemical substance inventory.
Chemical substances generated by mechanical activities performed on this product are regulated under this standard. Workplace exposure to formaldehyde is specifically regulated.

OSHA Wood products are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200 (Hazcom 2012).). However, wood dust and other chemical substances generated by mechanical activities performed on this product are regulated under this standard. Workplace exposure to formaldehyde is specifically regulated under 29 CFR 1910.1048.

SARA Title III Section 311/312 Hazard Category:

Hazard classification under 40 CFR 370 Hazard Classes:

An immediate acute health hazard	Yes	A delayed chronic health hazard	Yes	A fire Hazard	Yes
A corrosive hazard	No	A reactive hazard	No	A sudden release Hazard	No

SARA Section 313 Reporting: This product does not contain any chemical substance(s) listed under 40 CFR 372.65 and in concentrations that should required reporting under SARA 313.

State Right-to-Know While freshly pressed and/or depending of the environmental conditions (temperature and relative humidity) a very small level of formaldehyde may be released from the panels.
Chamber tests performed on OSB panels and conducted by the APA Engineered Association have demonstrated that the formaldehyde level from the off-gas of these type of panels were negligible (below 0.1 ppm).
However, the user should ensure that its specific mechanical process, handling, storage, and ventilation conditions will not contribute to formaldehyde emission exceeding the safe threshold level.

California Proposition 65

Warning

Warning:

Drilling, sawing, sanding or machining wood products generates 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 to avoid inhaling wood dust (California Health and Safety Code Section 25249.6).

The paint applied on the edges of this product may contain titanium dioxide which is a substance "as airborne, unbound particles of respirable size" qualified accordingly to the California Sate to cause cancer.

In purchase form the titanium dioxide contained in the paint will remain fixed in the paint applied on the edges of the panel. If the panel is machined (cut, sanded, drilled...) a small quantity of titanium dioxide dust may be released. However, considering the very small quantity of paint (<0.2 %) applied on the edges of this product and the small quantity of titanium dioxide contained in the paint, it is not believe that the titanium dioxide exposure will present a health risk.

California's listing was based on the IARC TIO2 classification as Group 2B Possibly carcinogenic to humans based on studies that showed evidence of carcinogenicity in rats exposed to very high concentrations. (IARC Monographs, Volume 93 Summary). An elevated lung cancer risk associated to titanium dioxide exposure couldn't have been demonstrated in two major epidemiology studies(European and US) among titanium dioxide workers.

Boffetta P, Soutar A, Cherrie JW et al. (2004) Mortality among workers employed in the titanium dioxide production industry in Europe. Cancer Causes Control; 15: 697–706.
Fryzek JP, Chadda B, Marano D et al. (2003) A cohort mortality study among titanium dioxide manufacturing workers in the United States. J Occup Environ Med; 45: 400–9.

New Jersey Machined processes performed on these wood panels may generate wood dust and titanium dioxide dust. Very small quantity of formaldehyde and wax fume may be released from hot panel. All these substances are on the New Jersey's Hazardous Substance Lists.

Pennsylvania Machined processes performed on these wood panels may generate wood dust and titanium dioxide. Very small quantity of formaldehyde and wax fume may be released from hot panel. All these substances are on the Pennsylvania's Appendix A, Hazardous Substance Lists.

Minnesota This product is not regulated by the Minnesota 2012 sections 144.495 and 325F.181 in regard to the HUD Formaldehyde Emission Standard, 24 CFR Sections 3280.308 and 3280.406. This product does not contain urea-formaldehyde resin and does not correspond to a plywood, MDF or particleboard product.

Canadian Regulations

The product is not controlled under WHMIS.

It has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

DSL Excepted wood, all listed ingredients appear on the DSL (Domestic Substance List) list

International Regulations

Europe Inventory	(CLP)	All components are listed or exempted and the product is exempted
Australian inventory	(AICS)	All components are listed or exempted and the product is exempted
China inventory	(IECSC)	All components are listed or exempted and the product is exempted
Japan inventory	(ENCS)	All components are listed or exempted and the product is exempted
Japan inventory	(ISHL)	All components are listed or exempted and the product is exempted
Korea inventory	(KECI)	Not determined.
New Zealand Inventory	(NZIoC)	All components are listed or exempted and the product is exempted
Philippines inventory	(PICCS)	All components are listed or exempted and the product is exempted

SECTION 16. OTHER INFORMATION

HMIS Rating

1	Health
1	Flammability
0	Reactivity
E	Protective Equipment

NFPA Rating



Glossary Terms

ACGIH	American Conference of Governmental Industrial Hygienists
CSA	Chemical Abstracts System Number
CFR	Code of Federal Regulation
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Concentration L50 (the concentration in air of a chemical which kills 50% of a experimental animal population)
LD50	Lethal Dose 50 (the administered dose of a chemical which kills 50% of a experimental animals population)
LEL	Lower Explosion Limit
MDI	4'4'-Diphenylmethane Diisocyanate
mg/kg	Milligram per kilogram
mg/m³	Milligram per cubic meter
MSHA	Mining Safety and Health Administration
NIOSH	National Institute of Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OECD	Organization for Economic Co-operation and Development
OEL	Occupational Exposure Limit

OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPM	Parts per million
RCRA	Resource Conservation and Recovery Act
STEL	Short –Term Exposure Limit (United States)
STEV	Short-Term Exposure Value (Ontario)
TWA	Time Weighted Average (United States)
TWAEV	Time Weighted Average Value (Ontario)
VEMP	Valeur d'exposition moyenne pondérée (Québec) = TWAEV = TWA
VECD	Valeur d'exposition de courte durée (Québec) = STEV = STEL
WHISM	Workplace Hazardous Materials Information System
Other Special Considerations	This 16 heading format SDS complies or exceeds the Canadian WHMIS criteria and the OSHA hazard communication standard 29 CFR 1910.1200. (Hazcom 2012).
Preparation Date: 03/31/2015	
Revision Date: 04/01/2015	
Version:1.1	
Notice to Reader	
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SAFETY DATA SHEET

1. Identification

Product identifier

Product list

WOOD AND WOOD PRODUCTS

Engineered Lumber (I-joists, Laminated Veneer Lumber (LVL), Rim board):- Wood I Beam™ joists, GP Lam® LVL, FiberStrong® rim board

Lumber Products:- Solid sawn wood, Dimension Lumber, Lumber, Studs

Plywood:- Plytanium® plywood, DryPly® plywood, Plytanium® siding, Ply-Bead® panels, PlyFrame® panels, PlyForm panels

Oriented Strand Board (OSB):- Blue Ribbon® OSB (Mill #451,500), Thermostat® radiant barrier sheathing (Mill #500), FiberStrong® HD panels (Mill #451, 500), Camouflage panels featuring Mossy Oak® brand (Mill #500), Realtree® camouflage panels (Mill #500)

Engineered Boards:- Hardboard panels (Standard, Tempered, Perforated, Paneling), Decorative wall coverings, UltraStrate® industrial panels, HeartWood® pen mats, HushBoard® sound deadening panels, FiberBase HD Excel™, FiberBase HD™, FiberBase RD™, QuietBrace® structural sheathing, Regular fiberboard sheathing, FiberPine™ industrial panels

Other means of identification

SDS number

GP-31A

Recommended use

Building Materials - Structural, Industrial or Decorative

Recommended restrictions

None known.

Manufacturer/Importer/Supplier/Distributor information

Company name

Georgia-Pacific Wood Products LLC

Address

133 Peachtree Street, NE
Atlanta, GA 30303

Telephone

Technical Information 800.284.5347
MSDS Request 404.652.5119

E-mail

Not available.

Emergency phone number

Chemtrec - Emergency 800.424.9300

2. Hazard(s) identification

Emergency overview

This product is not hazardous in the form in which it is shipped by the manufacturer but may become hazardous by downstream activities (e.g., grinding, sanding, cutting, pulverizing) that reduce its particle size. Those hazards are described below.

Physical hazards

Not classified.

Health hazards

Eye irritation Category 2B
Sensitization, respiratory Category 1
Sensitization, skin Category 1
Carcinogenicity Category 1A
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

Environmental hazards

Not classified.

OSHA defined hazards

Combustible dust

Label elements



Signal word

Danger

Hazard statement	Causes eye irritation. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause cancer. If small particles of wood dust are generated during further processing, handling or by other means, may form combustible dust concentrations in air.
Precautionary statement	
Prevention	Do not handle until all safety precautions have been read and understood. Wear protective gloves. In case of inadequate ventilation wear respiratory protection. Avoid breathing dust. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Prevent dust accumulation and airborne dispersion of dust to minimize flash fire and explosion hazard.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a doctor or other qualified medical professional. In case of fire: Use appropriate media to extinguish.
Storage	Store away from strong acids, alkalies, oxidizing agents and drying oils.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
WOOD/WOOD DUST		Not Assigned	60 - 100
Other components below reportable levels			15 - 40

The specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Some lumber products may be sprayed with sap stain control coatings. The lumber is air or kiln dried. No chemical residue is left on the surface of the board. Wood products are bonded with phenol, phenol resorcinol, melamine formaldehyde-based, or polyvinyl acetate resin. Some wood products may be coated with finishes, sealants and or overlays.

4. First-aid measures

Inhalation	Remove from area of exposure. If the affected person is not breathing, apply artificial respiration. If persistent irritation, severe coughing or breathing difficulty occurs, seek medical attention.
Skin contact	If irritation develops, wash with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	If wood or wood dust is swallowed, get immediate medical attention or advice -- Do not induce vomiting.
Most important symptoms/effects, acute and delayed	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause an allergic skin reaction. Dermatitis. Rash. May cause respiratory irritation. Difficulty in breathing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). Apply extinguishing media carefully to avoid creating airborne dust.
Unsuitable extinguishing media	Heavy water (or jet) stream may cause dust to become airborne and create a flash fire hazard or an explosive atmosphere.
Specific hazards arising from the chemical	Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

To avoid dust clouds, responders should use the extinguisher from as far away as possible and apply the extinguishing agent as gently as possible. The main considerations with hose stream operation are to avoid creating combustible dust clouds or introducing more air. In particular, the use of solid streams and direct dust pile hits can disperse dust into the air creating a potential flash fire hazard. The best way to apply water is in a medium to wide-pattern, as gently as possible. Responders should use a low nozzle pressure and loft the stream onto the burning material from as far away as the stream will reach. The use of wide-pattern (or "fog") streams at pressures typically used.

General fire hazards

May form combustible dust concentrations in air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Vacuum dust with dust ignition proof vacuum or wet sweep small wood pieces and dust; place in appropriate container for disposal. Gather larger pieces by an appropriate method. Reduce airborne dust by use of wet methods (e.g. water mist) and prevent scattering by moistening with water. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Dust can form an explosive mixture in air. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. If flash fire or explosion hazard is present, wear flame resistant clothing and face/head protection. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Use personal protective equipment as required. Ensure dust collection systems used for conveying combustible wood dusts are protected with and equipped with fire and explosion prevention and protection equipment. See NFPA 664 and NFPA 69 for further requirements, information and guidance.

Conditions for safe storage, including any incompatibilities

Store flat, supported and protected from direct contact with the ground. Store away from incompatible materials (see Section 10 of the SDS). Store in a cool dry place.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
WOOD/WOOD DUST	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

ACGIH

Components	Type	Value	Form
WOOD/WOOD DUST	TWA	1 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
WOOD/WOOD DUST	TWA	1 mg/m3	Dust.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines	Georgia-Pacific Wood Products LLC voluntarily elects to adhere to exposure limits contained in OSHA's 1989 Air Contaminants Standard although certain limits were vacated in 1992. The present OSHA exposure limits governing wood dust is 15 mg/m ³ (Total Dust) and 5 mg/m ³ (Respirable Fraction).
Appropriate engineering controls	Due to the fire and explosive potential of dust when suspended in air, precautions should be taken when material is used in any operation which may generate dust. Local exhaust, general dilution ventilation in enclosed areas, and explosion proof equipment is recommended. Use wet methods, if appropriate, to reduce airborne dust concentrations.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Safety glasses or goggles are recommended when using this product. Ensure compliance with OSHA's PPE standard (29 CFR 1910.132 and .133) for eye and face protection.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Impervious protective clothing and gloves recommended to prevent drying or irritation of skin. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain is recommended in the workplace area (29 CFR 1910.151 (c)).
Respiratory protection	A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).
Thermal hazards	Wear appropriate thermal protective clothing (i.e. flame resistant clothing and head/face protection), when potential flash fire or explosion hazards are present.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Rigid boards or panels
Physical state	Solid.
Form	Solid wood
Color	Various
Odor	Not available.
Odor threshold	Not available.
pH	Not applicable
Melting point/freezing point	Not applicable
Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	> 40 g/m ³ for wood dust. Note: The LEL is equivalent to the Minimum Explosive Concentration (MEC) for the combustible dust. The MEC will vary with particle size of the wood dust. Recommend MEC testing for specific wood dust particle sizes generated or handled.
Flammability limit - upper (%)	Not available
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	Variable
Solubility(ies)	
Solubility (water)	Insoluble

Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	399.92 - 500 °F (204.4 - 260 °C) for wood
Decomposition temperature	Not available
Viscosity	Not available.
Other information	
Bulk density	Not applicable
Flash point class	Combustible

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Dust accumulation, dispersion of dust in air, high temperatures, open flame, sparks, or other sources of ignition.
Incompatible materials	Strong acids, alkalis, oxidizing agents and drying oils.
Hazardous decomposition products	Thermal decomposition may emit irritating fumes or gases of carbon monoxide, carbon dioxide, aldehydes, or organic acids.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of dusts may cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if dust inhaled. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Not applicable under normal conditions of use. May result in obstruction or temporary irritation of the digestive tract.

Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause an allergic skin reaction. Dermatitis. Rash. May cause respiratory irritation. Difficulty in breathing.
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Information on toxicological effects

Acute toxicity	May cause an allergic skin reaction. May cause respiratory irritation.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	May cause an allergic skin reaction.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	Wood dust generated from sawing, sanding or machining this product may cause nasal dryness, irritation, coughing and sinusitis. The International Agency for Research on Cancer (IARC), and National Toxicology Program (NTP) classifies wood dust as a carcinogen. This classification is based on the increased occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation noted insufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon, or rectum with exposure to wood dust.
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IARC Monographs. Overall Evaluation of Carcinogenicity

WOOD/WOOD DUST (CAS Not Assigned) 1 Carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

WOOD/WOOD DUST (CAS Not Assigned) Known To Be Human Carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
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Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty packaging/container can be disposed in accordance with all applicable regulations.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
SARA 304 Emergency release notification	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. Massachusetts RTK - Substance List
Not regulated.

US. New Jersey Worker and Community Right-to-Know Act
WOOD/WOOD DUST (CAS Not Assigned)

US. Pennsylvania Worker and Community Right-to-Know Law
WOOD/WOOD DUST (CAS Not Assigned)

US. Rhode Island RTK
Not regulated.

US. California Proposition 65

California Proposition 65. WARNING: This product contains chemicals known to the state of California to cause cancer. Drilling, sawing, sanding or machining wood products generates wood dust and titanium dioxide particles, both chemicals are known to the state of California to cause cancer. Avoid inhaling such dust and particles; use a dust mask or other safeguards for personal protection.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

WOOD/WOOD DUST (CAS Not Assigned) Listed: December 18, 2009

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date May-21-2015
Revision date March-31-2016
Version # 04
Further information ® is a Registered Trademark of Georgia-Pacific Wood Products LLC

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Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

HMIS® ratings
Health: 2*
Flammability: 1
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 1
Instability: 0

Disclaimer

This SDS is intended to quickly provide useful information to the user(s) of this material or product. It is not intended to serve as a comprehensive discussion of all possible risks or hazards, and it assumes a reasonable use of the product. The information contained in this SDS is believed to be accurate as of the date of preparation of this SDS and has been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. The user or handler (or their employer) should consider the specific conditions in which this material will be used, handled, or stored and determine what specific safety or other precautions are required. Employers should ensure that their employees, agents, contractors, and customers who will use the product receive adequate warnings and safe handling procedures, including a current SDS. Product users or handlers (or their employer) who are unsure of what specific precautions are required should consult their employer, product supplier, or safety or health professionals before handling or working with this product. Please notify us immediately if you believe this SDS or other safety and health information about this product is inaccurate or incomplete.

Revision information

Product and Company Identification: Product Codes

WOOD AND WOOD PRODUCTS

Hazard statement

Causes eye irritation. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause cancer. If small particles of wood dust are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Precautionary statement

Prevention

Do not handle until all safety precautions have been read and understood. Wear protective gloves. In case of inadequate ventilation wear respiratory protection. Avoid breathing dust. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Prevent dust accumulation and airborne dispersion of dust to minimize flash fire and explosion hazard.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a doctor or other qualified medical professional. In case of fire: Use appropriate media to extinguish.

Storage

Store away from strong acids, alkalies, oxidizing agents and drying oils.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.



Danger

Product list:

Engineered Lumber (I-joists, Laminated Veneer Lumber (LVL), Rim board):- Wood I Beam™ joists, GP Lam® LVL, FiberStrong® rim board

Lumber Products:- Solid sawn wood, Dimension Lumber, Lumber, Studs

Plywood:- Plytanium® plywood, DryPly® plywood, Plytanium® siding, Ply-Bead® panels, PlyFrame® panels, PlyForm panels

Oriented Strand Board (OSB):- Blue Ribbon® OSB (Mill #451,500), Thermostat® radiant barrier sheathing (Mill #500), FiberStrong® HD panels (Mill #451, 500), Camouflage panels featuring Mossy Oak® brand (Mill #500), Realtree® camouflage panels (Mill #500)

Engineered Boards:- Hardboard panels (Standard, Tempered, Perforated, Paneling), Decorative wall coverings, UltraStrate® industrial panels, HeartWood® pen mats, HushBoard® sound deadening panels, FiberBase HD Excel™, FiberBase HD™, FiberBase RD™, QuietBrace® structural sheathing, Regular fiberboard sheathing, FiberPine™ industrial panels

POLYPROPYLENE (PP)
SAFETY DATA SHEET (SDS)

Section 1. Product and Company Identification

Product Name:	Polypropylene		
Trade Name:	PP		
Recommended Use:	Compounded Resin for Injection Moulding, Extrusion or other Conversion Processes to create Plastic Items		
Restrictions on Use:	Any/All FDA applications		
Manufacturer:	Canuck Compounders Inc. 180 Sheldon Drive Cambridge, ON N1R 6V1 Website: www.canuckcompounders.com	Emergency No:	Chemtrec
		(Canada and USA)	1-800-424-9300
		Emergency No:	Chemtrec
		(Mexico)	01-800-681-9531
		SDS	00001

Section 2. Hazard Identification

GHS Product Classification:	Not classified
GHS Label Elements:	Not applicable
Other Hazards:	Not applicable

Section 3. Composition/Information on Ingredients

Chemical Name	CAS - No.	Weight %
Proprietary Blend of Polyolefinic Polymers*	Mixture	60.0 -80.0
Carbon Black (Encapsulated)	1333-86-4	< 3.00
Stabilizers (Trade Secret)*	n/a	< 2.00
UV Stabilizers (Trade Secret)*	n/a	< 1.00
Fillers (Trade Secret)*	n/a	< 20.0

* Components marked with an asterisk are proprietary, non-hazardous, and/or present at amounts below reportable limits.

Section 4. First Aid Measures

General Advice:	Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
Inhalation:	Dust and process vapors may be irritating to the nose, throat and respiratory tract. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get Medical attention.
Skin Contact:	If molten material contacts the skin, immediately flush with large amounts of water to cool the affected tissue and polymer. Do not attempt to peel polymer from skin as this will remove the skin. Obtain immediate emergency medical attention if burn is deep or extensive.
Eyes:	Dust, fines and process vapors may irritate the eyes. Immediately flush eyes with water for at least 15 minutes. Get medical attention. In case of eye contact with molten polymer: Continuously flush eye(s) with cool running water for at least 15 minutes. Beyond flushing, DO NOT attempt to remove the material adherent to the eye(s). Immediately seek medical attention.
Ingestion:	No adverse health effects expected from ingestion.

Section 5. Fire Fighting Measures

Suitable Extinguishing Methods:	Dry Chemical, Water Spray, Foam, Carbon Dioxide. Avoid using direct streams of water on molten burning material
Unsuitable Extinguishing Methods:	None known
Hazards During Fire-fighting:	Carbon monoxide, carbon dioxide, original monomer other hydrocarbon oxidation products, unburned hydrocarbons (smoke).

POLYPROPYLENE (PP)
SAFETY DATA SHEET (SDS)

Protective Equipment:	Wear self-contained breathing apparatus and protective suit.
Further Information:	Combustible particulate solid, will decompose under fire conditions. Fight fire from safe distance with hose lines or monitor nozzles. Heat from fire may melt, decompose polymer, and generate flammable vapors. Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container. Always stay away from tanks engulfed in fire. Do not attempt to get on top of storage containers involved in fire. Cool storage containers with large volumes of water even after fire is out.

Section 6.	Accidental Release Measures
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Personal Precautions:	Equip responders with proper protection. Creates dangerous slipping hazard on any hard smooth surface. Equip emergency responders with proper personal protective equipment (PPE) Avoid generating dust. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Potential combustible dust hazard. Polymer particles create slipping hazard on hard smooth surfaces.
Environmental Precautions:	Do not flush into surface water or sanitary sewer system. Discharge into the environment must be avoided.
Methods for Containment and Clean Up:	On land, sweep/shovel into suitable disposal containers or vacuum using equipment which avoids ignition risk. On water, material is insoluble; collect and contain as any solid. All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.

Section 7.	Handling and Storage
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- Material is in a pellet Form.**
1. Keep away from sparks, heat and flame.
 2. Store in a dry location.
 3. This product may react with strong oxidizing agents and should not be stored near such materials.
 4. Store boxes and bags of material in areas protected with automatic sprinklers. Use proper grounding procedures.
 5. Inspect handling system regularly for possible accumulation of fines. Fines can present an explosive hazard when exposed to heat, sparks and open flames.

Section 8.	Exposure Controls/Personal Protection
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Exposure Limits		
1. Effects of Acute Exposures:	None determined	
2. Effects of Chronic Over Exposure:	None determined	
3. OSHA Permissible Exposure Limits:	5 mg/m3 respirable dust	15 mg/m3 total dust
4. Carcinogen Potential:	<ul style="list-style-type: none">• National Toxicology Program: Not listed• I.A.R.C. Monograph: Not listed• OSHA: Not listed	

Engineering Controls	
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For Molten Materials:	Provide mechanical ventilation; in general such ventilation should be provided at compounding/converting areas and at fabricating/ filling work stations where the
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POLYPROPYLENE (PP)

SAFETY DATA SHEET (SDS)

material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material.

For Solid Materials: Engineering controls, i.e. enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used.
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area.

Personal Protective Equipment (PPE)

Skin: Wear gloves when handling the material.

Ventilation: Adequate ventilation is recommended to minimize accumulation of fines or vapors during processing and handling.

Respiratory: Where exposure to nuisance dust may exceed acceptable levels, use NIOSH/MSHA approved respiratory protection equipment.

Eyes and Face: Wear safety glasses, face shield or chemical goggles to avoid getting material in the eyes during bulk handling. Eyewash fountains and safety showers should be easily accessible.

Protective Clothing: When handling or processing resins at elevated temperatures or in a molten state, wear protective clothing over skin to prevent contact.

Other Measures: Follow normal personal hygiene and good housekeeping practices.

Section 9. Physical and Chemical Properties

Appearance: Pellets

Colour: Black and Grey

Odor: Slight to none

pH: Not applicable

Melting Point: 70 to 150 °C

Boiling Point: Not applicable

Vapor pressure: Not applicable

Density: > 1 g/cm³

Water Solubility: Insoluble

Flash Point: >343 °C

Auto-Ignition Temperature: >343 °C (approximate)

Upper Explosive Limit: Not applicable

Lower Explosive Limit: Polymer dust varies according to particle size distribution.

Evaporation Rate: Not applicable

Decomposition temperature: >315 °C

Viscosity: Not applicable

Flammability (solid,gas): Polymer will burn but will not easily ignite.

Oxidizing properties: Not considered an oxidizing agent.

Section 10. Stability and Reactivity

Reactivity: Strong oxidizing agents

Chemical Stability: Stable under normal conditions

Possibility of Hazardous Reactions: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. May react with free halogens.

POLYPROPYLENE (PP)

SAFETY DATA SHEET (SDS)

Page 4 of 5

Conditions to Avoid:	Avoid heating above recommended processing temperature. DO NOT heat without adequate ventilation. Avoid storage or contact with strong oxidizing agents.
Incompatible Materials:	This material is Stable.
Hazardous Decomposition Products:	Not expected to decompose under normal conditions
Thermal Decomposition:	Carbon monoxide, olefinic & paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and alcohols may be formed.

Section 11. Toxicological Information

Irritating Effects

Eye Irritation :	Solid particles may cause transient irritation from mechanical abrasion.
Skin Irritation:	Not expected to cause skin irritation. Molten material may cause thermal burns.
Inhalation:	Not a likely route of exposure. Process fumes may cause irritation.
Ingestion:	May cause a choking hazard if swallowed.

Carcinogenic Effect

Carbon Black:	Contains component listed by IARC as possibly carcinogenic to humans. This material is encapsulated in a thermoplastic resin with limited release under normal conditions of use, transportation, and storage.
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Section 12. Ecological Information

Eco-toxicity:	Toxicity to fish - No relevant studies identified.
Persistence and Degradability:	This material is not expected to be readily biodegradable.
Bio-accumulate Potential:	Product is not likely to accumulate in biological organisms.
Mobility in Soil:	This product has not been found to migrate through soils.
Other Adverse Effects:	This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Section 13. Disposal Considerations

Product:	All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible. Recycle if possible. Disposal must be done in accordance with Local, Provincial/State or Federal Regulations.
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Section 14. Transportation Information

UN Number:	Not relevant
UN Proper Shipping Name:	Not relevant
Transportation Hazard Class(es)	
DOT:	Not regulated/classified
ADR / RID:	Not regulated/classified
IMDG:	Not regulated/classified
ICAO/IATA:	Not regulated/classified
HS-code (Customs Tariff code):	3902.90.10.00 Thermoplastic Olefin (TPO)
Packing Group:	Not applicable
Environmental Hazards:	Not relevant
Transportation in Bulk (Annex II of MARPOL 73/78 and IBC Code):	Not relevant
Special Precautions for User:	No special precautions

POLYPROPYLENE (PP)
SAFETY DATA SHEET (SDS)

Section 15. Regulatory Information

This Material is not Hazardous by OSHA Hazardous Communication Standard 29 CFR 1910.1200

This Material is RoHS Compliant (Directive 2002/95/EC)

This product does not fall within WHMIS classification criteria.

Canadian Environmental Protection Act (CEPA) All substances in this product are listed on the Canadian Domestic Substances List (DSL)

Section 16. Other Information

No additional information.

Disclaimer of Liability

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use.

Revision Date: 7.26.2018

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : H.B. Fuller® HL-8128-XDR
Product code : 10000002452

Medical Emergency Phone Number (24 Hours): 1-888-853-1758

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Hot melt adhesive

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Solid form
Color	Light Amber
Odor	Neutral

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Potential Health Effects

Inhalation : Vapors/fumes may be irritating at application temperatures.

Skin : Contact with hot product will cause thermal burns.

Aggravated Medical Condition : None known.

Carcinogenicity:

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or

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NTP

equal to 0.1% is on OSHA's list of regulated carcinogens. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice : Show this material safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and water.
Cool melted product on skin with plenty of water. Do not remove solidified product.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this SDS.

Notes to physician : Use mineral oil to soften and loosen product for removal.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : Do NOT use water jet.

Specific hazards during fire fighting : Burning produces irritant fumes.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, : Refer to protective measures listed in sections 7 and 8.

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protective equipment and
emergency procedures
Methods and materials for
containment and cleaning up : Allow to solidify.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid breathing vapors/fumes of heated product. Prevent contact with molten product.

Conditions for safe storage : Keep in a dry, cool place.

Materials to avoid : No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : At the application temperature, use of local exhaust over the premelting reservoir is encouraged.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Filter type : Particulates type

Hand protection

Material : Protective gloves

Remarks : When handling hot material, use heat resistant gloves.

Eye protection : Safety glasses

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid form
Color : Light Amber
Odor : Neutral
Odor Threshold : No data available

Boiling point/boiling range : not determined

Evaporation rate : not determined

Flammability (solid, gas) : Not classified as a flammability hazard

Upper explosion limit : Upper flammability limit
not determined

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Lower explosion limit	: Lower flammability limit not determined
Relative vapor density	: not determined
Density	: 0.960 g/cm ³
Solubility(ies)	
Water solubility	: insoluble
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: not determined
Thermal decomposition	: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Viscosity	
Viscosity, kinematic	: Not applicable
Solid Content, % by weight:	: 100
VOC, % by weight	: 0

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: The product is chemically stable.
Possibility of hazardous reactions	: Hazardous polymerization does not occur.
Hazardous decomposition products	: Stable under normal conditions. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

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Reproductive toxicity

No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration toxicity

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

: To the best of our knowledge, this product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Solidify and dispose of in an approved landfill. Consult state, local or provincial authorities for more restrictive requirements.
The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

SECTION 14. TRANSPORT INFORMATION

Special precautions for user

Not applicable

Domestic regulation

49 CFR

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Not regulated as a dangerous good

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

US State Regulations

California Prop 65 This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

TSCA	On TSCA Inventory
DSL	All components of this product are on the Canadian DSL
REACH	Not in compliance with the inventory
AICS	On the inventory, or in compliance with the inventory
NZIoC	Not in compliance with the inventory
ENCS	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	On the inventory, or in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory
TWINV	Not in compliance with the inventory

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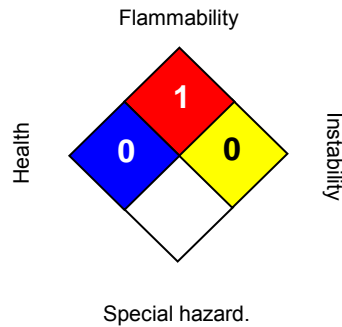
Inventories Legend TSCA (USA), DSL (Canada), REACH(Europe), AICS (Australia), NZIoC (New Zealand), ENCS (Japan), KECl (Korea), PICCS (Philippines), IECSC (China), TWINV (Taiwan)

SECTION 16. OTHER INFORMATION

Prepared by: Global Regulatory Department - phone: 1-651-236-5842 - email: msds.request@hbfuller.com

Further information

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

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