MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

Product Name and Synonym: Oriented Strand Board (OSB)

Brand Names: Covers OSB products manufactured with MDI and PF resins.

Product Use: Composite wood panel products bonded with resin system and wax used in subfloor, rim board and exterior wall and roof sheathing applications as well as industrial applications.

Manufacturer	Sales Office
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2. HAZARDOUS IDENDTIFICATION

NFPA (USA)	WHMIS Classification (Canada)	Transport Symbol	Personal Protective Equipment
	 Not Regulated	 Not Regulated for Transportation	For board handling  For cutting and sanding operations 

Emergency Overview:

Appearance, Color, and Odor: Solid oriented strand board. A slight aromatic odor becomes stronger when the product is wet.

Canada: This is not a controlled product under WHMIS. This product meets the definition of a "product made of wood" and is not subject to the regulations of the Hazardous Products Act.

While this product is not regulated under WHMIS, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and others users of this product.

USA: This product is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communications Standard requirement.

Potential Health Effects:

ACUTE (short term): see section 8 for exposure controls

Relevant Route(s) of Exposure: Risk of exposure to wood dust occurs only during cutting and sanding. If this occurs, exposure can occur by inhalation, skin contact, and eye contact.

Inhalation: No health effects expected with normal use of the boards.

Inhalation of wood ducts may cause symptoms ranging from sneezing, coughing, or labored breathing. The irritation caused by some wood dusts may cause sinus inflammation and nose bleeds.

Ingestion: Not an applicable route of exposure.

Skin: No health effects expected with normal use of the boards.

All wood dusts are known to cause irritation. Mechanical irritation results from dust particles being trapped in the clothes and producing abrasions. Chemical agents in the wood dust may cause contact dermatitis with redness, scaling, and itching.

Eye: No health effects expected with normal use of the boards.

Direct contact with the eyes to wood dust is expected to cause moderate to severe irritation and inflammation.

2. HAZARDOUS IDENDTIFICATION (continued)

CHRONIC (long term): see Section 11 for additional toxicological data

Repeated or prolonged inhalation exposure may result in asthmas and/or rhinitis. Studies have shown that occupational asthma is the result of irritation of the dust. Cases of pulmonary fibrosis have been reported in individuals with long-term exposure to wood dust. Nasal carcinomas, especially adenocarcinoma, have been documented in workers in the furniture and cabinet-making industries. This excess risk occurs mainly in those exposed to wood dust. A study has suggested that this is because of the prolonged retention of wood dust in the nasal cavity.

Medical Conditions Aggravated by Exposure: Skin contact may aggravate an existing dermatitis.

Interactions With Other Chemicals: Not available

Potential Environmental Effects: Not available

3. HAZARDOUS INGREDIENTS AND COMPOSITION

Component [(1)]	CAS#	Exposure Limits	Cancer Designation
Wood Dust	Not applicable	Hardwood TLV-TWA 1 mg/m^3 [(2)] Softwood TLV-TWA 5 mg/m^3 [(2)]	MAK-1, NIOSH-Ca, TLV-A1, NTP-K
Phenol-Formaldehyde Resin (liquid) Phenol Formaldehyde	 108-95-2 50-00-0	 PEL-TWA 5 ppm PEL-TWA 0.75 ppm TLV-C 0.3 ppm	 MAK-3B EPA-B1, IARC-1, NIOSH-Ca, NTP-R, OSHA-Ca, TLV-A2
Phenol-Formaldehyde Resin (solid)	Not applicable	Partical not Otherwise Specified[(3)]	
Polymeric Diphenylmethane Diisocyanate	9016-87-9	Partical not Otherwise Specified[(3)]	MAK-3B
Melamine-Urea-Formaldehyde Resin Formaldehyde	 50-00-00	 PEL-TWA 0.75 ppm TLV-C 0.3 ppm	 EPA-B1, IARC-1, NIOSH-Ca, NTP-R, OSHA-Ca, TLV-A2
Wax Emulsion	8002-74-2	PEL-TWA 2 mg/m^3 [(4)] TLV-TWA 2 mg/m^3 [(4)]	

1. Small amounts of water-base paint and oil-base black stamp ink may be used to identify the product and the nailing pattern and to impede moisture absorption along the edges.
2. Hardwood dust (aspen, birch, black poplar, beech or oak) and Softwood dust (Southern yellow pine) OSHA PEL-TWA 15 mg/m^3 with a respirable fraction is limited to 5 mg/m^3. TLV-TWA 10 mg/m^3 with respirable particulate limited to 3 mg/m^3.
3. Resin solids limits are for loose dust; however, respirable portion for resin solids and loose dust is limited to 5 mg/m^3
4. Paraffin was fume
5. Values for State PEL (or Province OEL) may be more restrictive.

4. EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove to fresh air. If persistent irritation, severe coughing, breathing difficulties or rash occur, seek medical advice. (Primary route of exposure is inhalation).

Eyes: Panel dust may mechanically irritate the eye, resulting in redness or watering. Flush with water to remove dust particles. If irritation persists, seek medical attention.

Skin: Various species of wood dust can elicit allergic contact dermatitis in sensitized individuals after repetitive contact. If a rash, or persistent irritation or dermatitis occur, seek medical advice before working where panel dust is present.

Ingestion: Not available.

5. FIRE AND EXPLOSION DATA

Flashpoint	Not applicable
Flammable Limits	Lower: Not applicable Upper: Not applicable
Fire Extinguishing Media	water, CO^2, sand
Auto Ignition Temperature	400-500°F (200-260°C)

5. FIRE AND EXPLOSION DATA (continued)

Normal Fire Fighting Procedures Equipment: Determined by surrounding fire. Use a water spray to wet down panels and any dust to prevent ignition. Remove burned material to open area after fire is extinguished. Use an extinguisher rated for a Type A fire.

Usual Fire or Explosion Hazard: Fine panel dust in an airborne concentration greater than 30 g/m^3 of air may explode if the dust cloud contacts a source of ignition.

Unsuitable Extinguishing Media: Not available.

Specific Hazards Arising From the Chemical: Combustion of the product is expected to produce carbon dioxide, carbon monoxide, nitrogen oxides, aldehydes, cyanides, irritating and potentially toxic fumes and smoke.

Protective Equipment and Precautions for Firefighters: As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance.

NFPA Health: 1
Flammability: 0
Instability: 0

6. ACCIDENTAL RELEASE PROCEDURES

Personal Precautions: Wear proper personal protective equipment as indicated in Section 8.

Environmental Precautions: Not applicable.

Methods for Containment: Isolate the spill area.

Methods for Clean-up: Sweep, shovel, or vacuum wood dust for recovery or disposal.

Other Information: Provide good ventilation.

7. HANDLING AND STORAGE

Handling: During cutting and sanding, avoid contact with eyes and skin. Do not breathe in any dust. Wear protective goggles, gloves, and a dust mask. See Section 8 for Personal Protective Clothing.

Storage: Store in a cool dry space away from open flames or other ignition sources. Keep a Type A fire extinguisher available.

Other Precautions: Due to the explosive potential of wood dust when suspended in air, precautions should be taken to prevent sparks or other ignition sources in ventilation systems. Use of totally enclosed motors is recommended (or may be warranted) if process generates excessive levels of wood dust.
Consult NFPA 68 and 70 for additional information.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient	ACGIH TLV (8 hr TWA)	U.S. OSHA PEL (8 hr TWA)	Ontario (Canada) TWAEV
Wood Dust	1 mg/m^3 (certain hard woods); 5 mg/m^3 (soft wood)	15 mg/m^3 Total dust 5 mg/m^3 Respirable	1 mg/m^3 (certain hard woods) 5 mg/m^3 (10 mg/m^3 STEV) (soft wood)

Respiratory Protection: Dust mask when cutting or sanding. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or Canadian Standards Association (CSA) Standard Z94.4-93 must be followed whenever workplace conditions warrant a respirator's use.

Ventilation: Local exhaust: Panel dust should be collected at source.

Protective Gloves: Leather protective gloves when handling, cutting, or sanding boards.

Eye/Face Protection: ANSI approved safety glasses when cutting or sanding.

Other Protective Clothing Or Equipment: Follow good hygiene and housekeeping practices. Clean up areas where dust settles to avoid excessive accumulation of this combustible material. Minimize blow-down or other practices which generate high dust concentrations.

General Hygiene Measures: Launder contaminated clothing before re-wearing or discard. Do not eat, drink, or smoke in the work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping.

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

Physical State:	Solid	**Flash Point & Method:**	Not available
Appearance, Colour and Odor:	lingo cellulosic matrix of interlocking wood flakes brown in color with slightly aromatic odor (aspen), stronger when wet	**Autoignition Temperature:**	Typically 400-500 °F (204 – 260 °C)
Odor Threshold:	Not available	**Flammability Limits in Air:**	See "Unusual Fire Hazards"
pH:	Not applicable	**Vapor Pressure:**	Not available
Specific Gravity: (water = 1)	0.5 – 0.7	**Vapor Density: (Air = 1)**	Not available
Partition coefficient: (n-octanol/water)	Not available	**Evaporation Rate: (n-Butyl Acetate = 1)**	Not available
Solubility:	<0.1% (in water)	**Boiling Point/Range:**	Not available
Viscosity:	Not available	**Melting Point:**	Not available
Decomposition Temperature:	Not available	**% Volatile by Volume: @ 70°F**	0

Unusual fire hazards: Lower Explosion Limits (LEL), dependant on moisture limits and more importantly particle diameter, may cause wood dust to explode in the presence of an ignition source. Airborne concentrations of 30 grams (30,000 mg) of dust per cubic meter of air is often used as the LEL for wood dusts.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable

Conditions to Avoid: Avoid high temperatures or any source of ignition.

Incomplete Materials: Strong oxidizers.

Hazardous Decomposition Products: Not available

Possibility of Hazardous Reactions: None known

11. TOXICOLOGICAL INFORMATION

Acute Toxicity Data

	LD_{50} Oral (mg/kg)	**LD_{50} Dermal (mg/kg)**	**LC_{50} Inhalation (4 hrs.)**
Wood Dust	Not established	Not established	Not established

Chronic Toxicity Data

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

	ACGIH	**IARC**	**NTP**	**OSHA**
Wood Dust	A1 (certain hard woods only)	Group 1	Not available	Not available

ACGIH: (American Conference of Government Industrial Hygienists)
A1: Confirmed human carcinogen
IARC: (International Agency for Research on Cancer)
Group 1: The agent is carcinogenic to humans
NTP: (National Toxicity Program)
OSHA: (US Occupational Safety and Health Administration)

Irritation: Wood dust is an eye, skin, and mucous membrane irritant.

Corrosivity: Not applicable

Sensitization: Not available

Neurological Effects: Not applicable

Genetic Effects: Not applicable

Reproductive Effects: Not applicable

11. TOXICOLOGICAL INFORMATION (continued)

Developmental Effects:	Not applicable
Other Adverse Effects:	Not applicable
Target Organ Effects:	Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Not available
Persistence/Degradability:	Not available
Bioaccumulation/Accumulation:	Not applicable
Mobility:	Not available
Other adverse effects:	Not available

13. DISPOSAL INFORMATION

Waste Disposal Method:	Standard wood disposal by disposal by landfill or incineration. Store material for disposal as indicated in Section 7 Handling and Storage.
US EPA Number:	Dispose of in accordance with local, state, and federal laws and regulations RCRA Waste Codes: Not applicable.
Canada:	Dispose of in accordance with local, provincial, and federal laws and regulations.

14. TRANSPORTATION INFORMATION

U.S. Hazardous Materials Regulation (DOT 49CFR):	Not regulated for transportation
Canadian Transportation of Dangerous Goods (TDG):	Not regulated for transportation
ADR/RID:	Not regulated for transportation
IMDG:	Not regulated for transportation
Marine Pollutants:	Not applicable
ICAO/IATA:	Not regulated for transportation

15. REGULATORY INFORMATION

USA

SARA Title III

Sec. 302/304:	None
Sec. 311/312:	None
Sec. 313:	None
CERCLA RQ:	None

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

Canada

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

WHMIS Classification: (for workplace exposures)	Not Controlled
NSRS Status: (New Substance Notification Regulations)	All ingredients in the product are listed on Canada's Domestic Substances List (DSL).
NPRI Substances: (National Pollutant Release Inventory)	There are no NPRI reportable substances in this product.

16. OTHER INFORMATION

The information and data here are believed to be accurate and have been compiled from sources believed to be reliable. Grant Forest Products makes no warranty express or implied concerning the accuracy or completeness of the information and data herein and will not be liable for claims relating to any party's use of a reliance on the information and data contained herein. It is expected that the user of this information will confirm its accuracy and completeness.

END OF MSDS