



## Material Safety Data Sheet (MSDS)<sup>1</sup> – Oriented Strand Board (OSB)

### Product Identification

**Product:** Langboard OSB

### Hazardous Ingredients

Ingredient	CAS#	Percent	Agency	Exposure Limits	Comments
Wood	None	95-99	OSHA OSHA ACGIH ACGIH <sup>2</sup> OSHA <sup>2</sup> OSHA <sup>2</sup> OSHA	PEL-TWA 15mg/m3 PEL-TWA 5mg/m3 TLV-TWA .5mg/m3 TLV-TWA 1mg/m3 PEL-TWA 5mg/m3 PEL-STEL 10mg/m3 PEL-TWA 2.5mg/m3	Total dust Respirable dust fraction Inhalable western red cedar Inhalable, All other species Softwood or hardwood total dust Softwood or hardwood total dust Western red cedar total dust
<sup>3</sup> Phenol formaldehyde resin solids	None	1-15	OSHA OSHA ACGIH	PEL-TWA 0.75 ppm PEL-STEL 2 ppm TLV-Ceiling 0.3 ppm	Free gaseous formaldehyde Free gaseous formaldehyde Free gaseous formaldehyde
<sup>3</sup> Polymeric Diphenylmethane Diisocyanate	9016-87-9	1-15	OSHA ACGIH ACGIH	None None TLV-Ceiling 0.3 ppm	None
Free Formaldehyde	None	0.01	OSHA	PEL-TWA 0.3 ppm PEL-STEL 2.0 ppm	Free gaseous formaldehyde
Paraffin Wax	N/A	0-2	OSHA ACGIH	PEL-TWA 2mg/m3 TLV-TWA 2mg/m3	Paraffin wax fume Paraffin wax fume

### Hazard Identification

**Appearance and Odor:** OSB is produced with interlocking wood fibers having a slightly aromatic resinous odor and natural wood color. The wood component of these products may consist of alder, aspen, beech, birch, hickory, maple, oak, pecan, pine, poplar, Western red cedar and/or other mixed hardwood species.

**Primary Health Hazards:** The primary health hazard posed by this product is thought to be due to exposure to wood dust.

**Primary Route(s) of Exposure:**

( ) Ingestion: N/A

<sup>1</sup> This MSDS is intended to be used solely for safety education and not for use as specification or warranties. The information in this MSDS comes from sources<sup>4</sup> believed to be accurate or otherwise technically correct but is provided without any representations or warranties regarding the accuracy or correctness. It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as deemed necessary.

<sup>2</sup> Exposure Limits based on 1989 OSHA PELs. A number of states have incorporated the OSHA PELs from the 1989 standard. Accordingly, OSHA has announced that it may cite companies under the OSH Act general duty clause under appropriate circumstances for non-compliance with the 1989 PELs.

<sup>3</sup> These products contain less than 0.05 ppm free formaldehyde.

<sup>4</sup> Weyerhaeuser MSDS WC 301-06, LP data sheet-021, and SBA TB-115.

- (X) Skin: Dust
- (X) Inhalation: Dust
- (X) Eyes: Dust

**Medical Conditions Generally Aggravated by Exposure:** Wood dust may irritate eyes and aggravate preexisting respiratory conditions or allergies.

**Chronic Health Hazards:** Dust of some species may cause allergic contact dermatitis and respiratory sensitization with prolonged, repetitive contact or exposure to elevated dust levels. Prolonged exposure to wood dust has been reported by some to be associated with nasal cancer.

**Carcinogenicity Listing:**

- (X) NTP: Known Human Carcinogen
- (X) IARC Monographs: Wood dust, Group 1
- ( ) OSHA Regulated: Not listed

**NTP:** According to its Tenth Report on Carcinogens, 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 nose 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 Para nasal 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.”

**IARC – Group 1:** Carcinogenic to humans; sufficient evidence of carcinogenicity. Classification is based on studies showing an association between occupational exposure to wood dust and adenocarcinoma of the nasal cavities and paranasal sinuses. There is insufficient 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.

**Emergency and First-Aid Procedures**

**Ingestion:** N/A under normal use.

**Eye Contact:** Wood dust may cause mechanical irritation. Flush with water for at least 15 minutes to remove dust particles. Seek medical help if irritation persists.

**Skin Contact:** Dust of certain species can elicit allergic contact dermatitis in sensitized individuals, as well as mechanical irritation resulting in erythema and hives. Wash with soap and water. Seek medical attention if signs of rash, irritation or dermatitis persists.

**Skin Absorption:** Not known to occur under normal use.

**Inhalation:** Dust may cause obstruction in the nasal passages, resulting in dryness of nose, dry cough, sneezing and headaches. Clear passages and remove to fresh air. Seek medical help if persistent irritation, severe coughing or breathing difficulty occurs.

**Fire and Explosion Data**

**Flash Point:** N/A

**Flammable Limits:**

LEL: See (1) below

UEL: N/A

**Extinguishing Media:** Water, carbon dioxide, sand.

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

**Special Firefighting Procedures:** None

**(1) Unusual Fire and Explosion Hazards:** Depending on moisture content and particle diameter, wood dust may explode in the presence of an ignition source. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL for wood dusts.

## **Accidental Release Measures**

**Steps to be Taken in Case of Release or Spills:** N/A for product in purchased form. Wood dust generated from machining of this product may be vacuumed or shoveled for recovery or disposal. Avoid dusty conditions and provide good ventilation. Use NIOSH/MSHA-approved dust respirator and goggles where ventilation is not possible and the allowable exposure limits may be exceeded.

## **Handling and Storage**

### **Precautions:**

(1) No special handling precautions required for product in purchase form.

(2) Provide ventilation or other measures so that wood dust levels are below the exposure limits.

(3) These products may release very small quantities of formaldehyde in gaseous form. Under foreseeable conditions of use, these products release less than 0.050 ppm in standard large chamber test conditions.

(4) Store in well-ventilated, cool, dry place away from open flame.

**Note:** Products with 100% polymeric (MDI) adhesives have no formaldehyde emissions.

## **Exposure Control Measures**

### **Personal Protective Equipment:**

**RESPIRATORY PROTECTION** - N/A for product in purchase form. A NIOSH/MSHA-approved dust respirator is recommended when allowable exposure limits may be exceeded.

**PROTECTIVE GLOVES** – Not required. Cloth, canvas, or leather gloves are recommended to minimize potential mechanical irritation and or slivers from handling product.

**EYE PROTECTION** – N/A for product in purchased form. Goggles or safety glasses are recommended when machining this product do to wood dust.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT** – N/A for product in purchased form.

**WORK/HYGIENE PRACTICES** – Clean up areas where wood dust settles to avoid excessive accumulation. Minimize practices that generate high airborne-dust concentrations.

### **Ventilation:**

**LOCAL EXHAUST** – Provide local exhaust as needed so that exposure limits are met.

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

SPECIAL – N/A

### **Physical/Chemical Properties**

Boiling Point (@ 760 mm Hg):	N/A
Vapor Pressure (mm Hg):	N/A
Vapor Density (air = 1; 1 atm):	N/A
Specific Gravity (H <sub>2</sub> O) = 1):	Variable; depends on wood species and moisture
Melting Point:	N/A
Evaporation Rate (Butyl acetate = 1):	N/A
Solubility in Water (% by weight):	N/A to 0.2%
% Volatile by Volume [@ 70°F (21°C):	0
pH:	N/A
Oil-water distribution coefficient:	N/A
Odor threshold:	Slight to None

### **Stability and Reactivity**

**Stability:** ( ) Unstable (X) Stable

**Conditions to Avoid:** Avoid open flame. Product may ignite at temperatures in excess of 400°F (204°C).

**Incompatibility (Materials to Avoid):** Avoid contact with oxidizers such as concentrated nitric acid, oxygen, hydrogen, peroxide, and chlorine.

**Hazardous Decomposition or By-Products:** By-products of thermal decomposition include carbon monoxide, carbon dioxide, aliphatic aldehydes, rosin acids, terpenes and polycyclic aromatic hydrocarbons.

**Hazardous Polymerization:** ( ) May occur (X) Will not occur

**Sensitivity to Mechanical Impact:** N/A

**Sensitivity to Static Discharge:** N/A

### **Toxicological Information**

None available for product in purchased form.

**Wood Dust:** Wood dust is known to be a human carcinogen. An increased incidence of adenocarcinoma of the nasal cavities and Para nasal sinuses was observed in studies of people whose occupations are associated with wood dust exposure. (10<sup>th</sup> Edition of the National Toxicology Program's Report on Carcinogens) Wood dust from some tree species may induce sensitization. Wood dust (softwood or hardwood) OSHA Hazard Rating = 3.3; moderately toxic with probable oral lethal dose to humans being 0.5-5 g/kg (about 1 pound for a 70 kg or 150 pound person).

**MDI Resins and Formaldehyde:** N/A

**Chronic (Cancer) Information:** For typical products tested, MDI off gassing is below the detection limit of 20ppt. See section Hazardous Ingredients.

**Birth defect information:** N/A

**Reproduction Information:** Reproductive effects in animals have been reported in RTECS for formaldehyde.

**Sensitizer:** Exposure to low doses of formaldehyde may cause sensitization.

### **Ecological Information**

OSB Products are not expected to pass any ecological hazard as a result of intended uses.

### **Disposal Considerations**

**Waste Disposal Method:** Incinerator is preferred if disposed or discarded in its purchased form. Dry land disposal is acceptable in most states. Follow applicable federal, state, and local regulations.

### **Transport Information**

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) regulation.

### **Regulatory Information**

OSHA Hazard Communication	CFR 1910.1200 (b)(6)(iv)
EPCRA (Emergency Planning and Community Right-to-Know act) EHS RQ section 302	N/A
EPCRA Section 313	N/A
Comprehensive Environmental Response Compensation and Liability Act	N/A
Environmental Protection Agency & Clean Air Act section 112(r)	N/A
Uniform Fire Code	N/A

### **Additional Information**

Definition of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS#	Chemical Abstracts System Number
CFR	Code of Federal Regulations
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limits
MSHA	Mining Safety and Health Administration
N/A	Not Applicable
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPM	Parts per Million

STEL	Short-Term Exposure Limit (15 minutes)
TLV	Threshold Limit Value
TWA	Time-Weighted Average (8 hours)
UEL	Upper Explosive Limits