

Material Safety Data Sheet

Oriented Strand Board (OSB)

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1. Product Identification

Product: OSB (Oriented Strand Board)

Manufacturing Location(s): Oakdale, LA

2. Hazardous Ingredients/Identity Information

Name	CAS#	Percent	Agency	Exposure Limits	Comments
Southern Yellow Pine/ Wood Dust (Not Preservative Treated)	None	84-99	OSHA OSHA ACGIH Recommended ¹ Recommended ¹	PEL-TWA 15mg/m ³ PEL-TWA 5mg/m ³ TLV-TWA 1mg/m ³ PEL-TWA 5mg/m ³ PEL-STEEL 10mg/m ³	Total Dust Respirable dust fraction Inhalable, all other species Softwood or hardwood total dust Softwood or hardwood total dust
Edge Seal	None	<1	N/A	None established	
Wax Emulsion	None	0-2	N/A	None Established	
Phenolic Resin (Powder or Liquid)²	None	0-15	OSHA OSHA ACGIH	PEL-TWA .75 PPM PEL-STEEL 2.0 PPM TLV-Ceiling 0.3 PPM	

¹ In AFL-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 has established at that time. The 1989 PELs were: TWA 5 mg/m³; STEL (15 MIN) – 10mg/m³ (all softwoods and hardwoods, except western 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 the Hazardous Ingredients section of this MSDS. However, a number of states have incorporated provisions of the 1989 standard in their state plans. Additionally, 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.

² This product contains less than 0.05% free formaldehyde and contains no urea-formaldehyde resins. Phenol formaldehyde resin is used in face/surface material and/or center core material.

3. Hazard Identification

Physical Appearance and Odor: Particulate solid, light to dark in color. Color and odor depend on the wood species and age of particles. Particles can be generated by any manual or mechanical cutting or abrasion process performed on wood.

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

Likely Exposure Modes:

Ingestion:

x **Skin:**

x **Inhalation:**

x **Eye:**

Medical Conditions Aggravated: Wood dust may aggravate pre-existing respiratory conditions or allergies.

Signs and Symptoms of Exposure:

Acute: Wood dust may cause eye irritation. Certain species of wood dust can cause allergic contact dermatitis in sensitized individuals. If inhaled, wood dust may cause respiratory irritation, nasal dryness, coughing, sneezing, or wheezing.

Chronic: Wood dust, depending on the 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 observers to be associated with nasal cancer.

Carcinogenicity:

x **NTP: Wood dust, Known Human Carcinogen**

x **IARC Monographs: Wood Dust, Group 1**

OSHA Regulated: Not Listed

NTP: Per NTP's *Tenth Report of Carcinogens*: "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 paranasal sinuses were observed both in studies of people whose occupations are associated with wood dust exposure and in studies that directly estimated wood dust exposure."

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

Emergency Overview

WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR (DURING PROCESSING).

4. First-Aid Measures

Ingestion: NOT APPLICABLE

Eye Contact: Wood dust may cause mechanical irritation. Treat dust in eye as foreign object. Flush with water to remove dust particles. Seek medical help if irritation persists.

Skin Contact: Wash with water to remove dust particles. Seek medical advice if a rash, persistent irritation or dermatitis occurs.

Skin Absorption: NOT APPLICABLE

Inhalation: Wood dust may cause unpleasant obstruction in the nasal passages, resulting in dryness of nose, dry cough, sneezing and headaches. Remove to fresh air. If persistent irritation, severe coughing or breathing difficulties occur, seek medical advise.

5. Fire and Explosion Measures

Flash Point (Method Used): NOT APPLICABLE

Flammable Limits: LFL = Wood dust: 40 grams per cubic meter of air

UFL = NOT APPLICABLE

Extinguishing Media: Water, Carbon Dioxide, Sand

Autoignition Temperature: Variable between typical values between 400°and 500°F

Special Firefighting Procedures: Use water to wet down wood dust to reduce the likelihood of ignition or dispersion of dust into air. Remove burned or wet dust to open area after fire is extinguished.

Unusual Fire and Explosion Hazards: Avoid generating dust; If contacted with an ignition source, fine dust dispersed in air in sufficient concentrations, may present a strong to severe explosion hazard.

Explosive Limits in Air: 40 grams/m³ (LEL)

NFPA Rating (Scale 0-4):

Health = 1

Fire = 1

Reactivity = 0

6. Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Sweep or vacuum spills for recovery or disposal.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air)

Place recovered wood dust in a container for proper disposal.

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.

7. Handling and Storage

Precautions to be Taken in Handling and Storage: avoid ignition sources, eye contact, prolonged or repeated contact with skin, prolonged or repeated breathing of wood dust, and contact with oxidizing agents and drying oils.

Minimize dust generation and accumulation.

Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

8. Exposure Control Measures/Personal Protection

Personal Protective Equipment: Protective equipment may be needed such as gloves, goggles, or safety glasses and approved dust respirators depending upon dust conditions.

Ventilation: Provide adequate general and local exhaust ventilation to maintain healthful working conditions. Due to explosive potential of wood dust when suspended in air, ventilation systems should be kept clean and precautions should be taken to prevent sparks or other ignition sources.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

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 (i.e., there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

9. Physical and Chemical Properties

Physical Description: Light to dark colored, granular solid. Color and odor are dependent on the wood species and time since dust was generated.

Boiling point (@ 760 mm Hg):	NOT APPLICABLE
Evaporation rate (Butyl Aceate = 1):	NOT APPLICABLE
Freezing Point:	NOT APPLICABLE
Melting Point:	NOT APPLICABLE
Molecular Formula:	NOT APPLICABLE
Molecular Weight:	NOT APPLICABLE
Oil-water Distribution Coefficient:	NOT APPLICABLE
Odor Threshold:	NOT APPLICABLE
pH:	NOT APPLICABLE
Solubility in Water (% by weight):	Insoluble
Specific Gravity (H₂O = 1):	Variable, depends on species and moisture content
Vapor Density (air =1; 1 atm):	NOT APPLICABLE
Vapor Pressure (mm Hg):	NOT APPLICABLE
Viscosity:	NOT APPLICABLE
% Volatile by Volume (@ 70°F (21°C)):	NOT APPLICABLE

10. Stability and Reactivity

Stability: Unstable **x** **Stable under normal conditions**

Conditions to Avoid: Avoid open flame and sparks.

Incompatibility (Materials to Avoid): Avoid contact with oxidizing agents and drying oils. Avoid open flame. Product may ignite at temperature in excess of 400°F.

Hazardous Decomposition of By-Products: Thermal oxidative degradation of wood produces irritating and toxic fumes and gases, including carbon monoxide, aldehydes and organic acids.

Hazardous Polymerization: NOT APPLICABLE

Sensitivity to Mechanical Impact: NOT APPLICABLE

Sensitivity to Static Discharge: NOT APPLICABLE

11. Toxicological Information

Wood Dust:

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). Source: *OSHA Regulated Hazardous Substances*, Government Institutes, Inc., February 1990.

Wood dust (generated from sawing, sanding or machining the product) may cause nasal dryness, irritation, coughing and sinusitis. National Toxicology Program (NTP) and The International Agency for Research on Cancer (IARC) classify wood dust as a human carcinogen (IARC Group 1). This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust.

Additional Toxicity Data: See acute and chronic health effects provided in *Section 3: Hazard Identification*.

Target Organs: See acute and chronic health effects provided in *Section 3: Hazard Identification*.

12. Ecological Information

Environmental Fate: NOT APPLICABLE

Environmental Toxicity: None

13. Disposal Considerations

Waste Disposal Method: Incineration in accordance with local, state, and federal regulations is preferred because fugitive emissions can be effectively controlled. Landfill disposal in accordance with local, state, and federal regulations is acceptable if actions are taken to contain the material until it can be covered by other wastes or landfill cover materials.

14. Transport Information

U.S. Department of Transportation: not regulated as a hazardous material.

Canadian Transportation of Dangerous Goods (TDG): not listed as a hazardous material.

15. Regulatory Information

TSCA: This product complies with TSCA inventory requirements.

CERCLA: NOT APPLICABLE

DSL: NOT APPLICABLE

OSHA: Wood dust may be hazardous under the criteria of the federal OSHA Hazard Communication standard 29 CFR 191 0.1200.

STATE RIGHT-TO-KNOW:

Wood dust is listed on Pennsylvania's Appendix A — *Hazardous Substance Lists*

SARA 313 Information: None

SARA 311/312 Hazard Category: NOT APPLICABLE

FDA: NOT APPLICABLE

WHMIS Classification: Wood dust is not considered a controlled product.

16. Other Information

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.

ROM MSDS available on: <http://www.royomartin.com>

User's Responsibility: Information given here is believed to be accurate and technically correct but without guarantee. Conditions of use and suitability of the product are beyond our control and all risks of use are assumed by the user, who is also responsible for using the most up-to-date issue of this sheet.

ACGIH	=	American Conference of Governmental Industrial Hygienists
C	=	Ceiling Limit
CAS#	=	Chemical Abstracts System Number
DOT	=	U. S. Department of Transportation
DSL	=	Domestic Substance List
EC50	=	Effective concentration that inhibits the endpoint to 50% of control population
EPA	=	U.S. Environmental Protection Agency
IARC	=	International Agency for Research on Cancer
IATA	=	International Air Transport Association
IMDG	=	International Maritime Dangerous Goods
LC50	=	Concentration in air resulting in death to 50% of experimental animals
LCLo	=	Lowest concentration in air resulting in death
L050	=	Administered dose resulting in death to 50% of experimental animals
LDLo	=	Lowest dose resulting in death
LEL	=	Lower Explosive Limit
LFL	=	Lower Flammable Limit
MSHA	=	Mining Safety and Health Administration
NAV	=	Not Available
NIOSH	=	National Institute for Occupational Safety and Health
NPRI	=	Canadian National Pollution Release Inventory

NTP = National Toxicology Program
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit
RCRA = Resource Conservation and Recovery Act
STEL = Short-Term Exposure Limit (15 minutes)
STP = Standard Temperature and Pressure
TCLo = Lowest concentration in air resulting in a toxic effect
TDG = Canadian Transportation of Dangerous Goods
TDLo = Lowest dose resulting in a toxic effect
TLV = Threshold Limit Value
TSCA = Toxic Substance Control Act
TWA= Time-Weighted Average (8 hours)
UFL = Upper Flammable Limit
WHMIS = Workplace Hazardous Materials Information System