



TECHNICAL BULLETIN

STRUCTURAL BOARD ASSOCIATION

Representing the OSB Industry

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GENERIC ORIENTED STRAND BOARD MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

Product Name: Oriented Strand Board

Synonyms: OSB, Waferboard, Rim Board, Web Stock, Proprietary Brand Names

Note: Proprietary products may have slightly different ingredients or characteristics. Please check with manufacturer.

HAZARDOUS INGREDIENTS

Principal Hazardous Component (Common Name or Chemical)	Quantity (Percent)	Unit	ACGIH TLV		OSHA PEL ¹	
			TWA	STEL	TWA	STEL
Wood	85 - 97					
Softwood or Hardwood Total Dust		(mg/m ³)			15 ²	10 ³
Wood Dust - Not Preservative Treated:						
Inhalable - Western Red Cedar		(mg/m ³)	0.5	none		
Inhalable - All Other Species		(mg/m ³)	1	none		
Resin Solids:						
- Phenol Formaldehyde ⁴	0 - 15	ppm	0.3 ⁵	none	0.75	2
- Polymeric Diphenylmethane Diisocyanate ⁶	0 - 15	ppm	none	none	none	none
Paraffin Wax	0 - 2	(mg/m ³)	2	none	2	none

- Notes:
1. Values for State PEL (or Province OEL) may be more restrictive.
 2. Respirable fraction is limited to 5 mg/m³.
 3. Recommended exposure limits based on 1989 OSHA PELs: TWA 5 mg/m³ and STEL 10 mg/m³ for all softwoods and hardwoods, except western red cedar; TWA 2.5 mg/m³ for western red cedar.
 4. Product contains less than 0.05% free formaldehyde (CAS RN 50-00-0). Phenol formaldehyde resin is used in the surface material and/or centre material.
 5. Ceiling value.
 6. This ingredient is the polymerized form of MDI binder (CAS RN 101-68-8). There are no detectable MDI monomers in the product as purchased. MDI binder is generally used in the centre material only.

PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling point (degrees Centigrade)	n/a
Specific gravity (water = 1.0)	0.5 - 0.7
Percent volatile (by volume)	0
Evaporation rate	n/a
Vapour pressure (mm of Hg)	n/a
Vapour density	n/a
Solubility in Water (% by weight)	< 0.1%
Appearance and Odour - brown panel consisting of a ligno-cellulosic matrix of interlocking wood fibres with slight aromatic odour (stronger when wet). The wood component may consist of the following species: alder, aspen, beech, birch, cottonwood, eastern red cedar, fir, gum, hemlock, hickory, maple, oak, pecan, pine, poplar, spruce, yellow cypress, walnut, and/or western red cedar.	

FIRE AND EXPLOSION DATA

Flashpoint	n/a
Flammable Limits	Lower n/a Upper n/a
Fire Extinguishing Media	Water, CO ₂ , sand
Auto Ignition Temperature	Variable, typically 400-500 °F (200-260 °C)
NFPA Rating (scale 0-4)	Health =1; Fire=1; Reactivity=0

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.

Usual Fire or Explosion Hazard: Fine panel dust in an airborne concentration greater than 40 g/m³ of air may explode if the dust cloud contacts a source of ignition.

REACTIVITY DATA

It is a stable product, however excess moisture conditions and open flame should be avoided. It is incompatible with oxidizing agents and drying oil. Good housekeeping procedures and routine disposal of panel dust is suggested. When burned it releases carbon monoxide, polycyclic aromatic hydrocarbons, carbon dioxide, aldehydes and other toxic fumes and gases. Hazardous polymerization will not occur.

HEALTH HAZARDS

Sign and Symptoms of Exposure

1. **Acute Overexposure:** Panel dust may be a mechanical irritant to eyes. Excessive concentration may cause deposit in nasal passages resulting in rhinorrhea, dry cough, wheezing, sinusitis.

2. **Chronic Overexposure:** Wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause respiratory sensitisation and/or irritation. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer. IARC classifies wood dust as a Group 1 - carcinogen to humans. This classification is based on IARC's evaluation of increased risk in the occurrence of adeno-carcinomas of the nasal cavities and paranasal sinuses associated with the exposure to wood dust. IARC 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.

Note: These products are manufactured using a phenol-formaldehyde thermoset resin and/or polyurethane binder. Maximum indoor formaldehyde levels associated with freshly manufactured panels are similar to outdoor background levels in urban areas (less than 0.1 ppm) and levels decrease through time as the panels age.

Medical Conditions Generally Aggravated by Exposure: Individuals with predisposing respiratory disease - asthma, chronic bronchitis - may have difficulty working around airborne particulates including dust.

Product Listed as Carcinogen - Formaldehyde

NTP Yes - Reasonably anticipated to be a human carcinogen

IARC Monographs Yes Group 1 - Carcinogenic to humans

OSHA No - Regulated formaldehyde gas, potential carcinogen for exposures exceeding 0.5 ppm

Formaldehyde has been classified as a known carcinogen or probable carcinogen by NTP, IARC, and OSHA. A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare form of cancer in developed countries.

Product Listed as Carcinogen - Wood Dust

NTP Yes - Known to be a human carcinogen

IARC Monographs Yes Group 1 - Carcinogenic to humans

OSHA No

SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved dust respirator recommended under dusty conditions.

Ventilation: Local exhaust- Panel dust should be collected at source, so that exposure limits are met.

Protective Gloves: Leather, cloth or canvas recommended to minimize slivers or irritation when handling.

Eye Protection: Safety glasses or goggles recommended when machining.

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 blowdown or other practices generating high dust concentrations.

EMERGENCY AND FIRST AID PROCEDURES

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

2. **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.

3. **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 occurs, seek medical advice before working where panel dust is present.

4. **Ingestion:** n/a

SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be taken in Handling and Storage: No special handling precautions are required. Panels are combustible. Keep in cool, dry place away from open flame and other sources of ignition.

Other Precautions: If this product is used in a process which generates dust levels in excess of the allowable exposure limit(s) for wood dust, a NIOSH approved dust respirator and goggles should be worn.

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.

Steps to be taken in Case Material is Released or Spilled: Not applicable for product in purchased form. Panel dust may be vacuumed or shovelled for recovery or disposal. Avoid dusting conditions. Provide good ventilation where dusting is possible. Use NIOSH approved dust respirator and goggles where ventilation is not possible.

Waste Disposal Methods: If disposed or discarded in its purchased form, incineration is preferable. Dry land disposal may be acceptable. It is however the user's responsibility to determine at time of disposal whether the product meets federal, state, provincial or local regulations.

GLOSSARY

ACGIH	American Conference of Governmental Industrial Hygienists
C	degree Centigrade
CAS RN	Chemical Abstracts Service Registry Number (American Chemical Society)
F	degree Fahrenheit
IARC	International Agency for Research on Cancer
mg/m ³	milligrams per cubic meter of air
n/a	not applicable
NFPA	National Fire Protection Association (US)
NIOSH	National Institute of Occupational Safety and Health (US)
NTP	National Toxicology Program (US)
OEL	occupational exposure limit
OSHA	Occupational Safety and Health Administration (US)
PEL	permissible exposure level
ppm	parts per million in air
STEL	short term exposure limit (15 minutes)
TLV	threshold limit value
TWA	8 hour time weighted average

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