

Section 1. Chemical Product and Company Identification				
Common Name	NORBORD OSB BOARD		Chemical Name	Not Applicable
Supplier/ Manufacturer	Norbord Inc. 1 Toronto Street, Suite 600 Toronto, Ontario M5C 2W4		Chemical Formula	Not Applicable
Synonym	Not available		CAS #	Mixture
Trade Name	Norbord OSB, Norbord TallWall , Norbord Windstorm, Norbord Stabledge, Norbord Solarbord, Norbord TruFlor, Norbord Pinnacle, Norbord Trubord and Norbord Rimboard Plus.		Validation Date	05/22/2013
Product Description	These panel products contain hardwood and/or softwood strands bonded with phenol formaldehyde copolymer adhesive resin and wax. Polymeric Diphenylmethane Diisocyanate (PMDI) adhesive can also be used. Solarbord is a heat-reflecting aluminum foil laminated onto one side of OSB (Oriented Strand Board) board.		Print Date	05/24/2013
Material Uses	For industrial and commercial uses.		Responsible Name	Norbord Inc.
			In Case of Emergency	(416) 365-0705

Section 2. Composition and Information on Ingredients					
Name	CAS #	% by Weight	LD50	LC50	Exposure Limits
Hardwood (e.g., aspen, sweet gum, etc.) and/or Softwood (Southern Yellow Pine)	Not Applicable	84-98	Not available	Not available	ACGIH (2013) 1 mg/m ³ TWA A4 Inhalable Dust OSHA PEL 15 mg/m ³ TWA Total Dust 5 mg/m ³ Respirable Dust Québec (OEL S-2.1, r.15 - 2010) (Excepted Red Cedar) 5 mg/m ³ TWA Total Dust Ontario OEL-reg 833 (2005) (Certain Hardwoods) 1 mg/m ³ TWAEV Total Dust (Softwood) 5 mg/m ³ TWAEV Total Dust 10 mg/m ³ STEV Total Dust
Phenol Formaldehyde Adhesive Resin Solid. (less than 0.01% of free formaldehyde)	Not Available	1-8	Not available	Not available	No Exposure Limit Value
Free Formaldehyde	50-00-0	<0.01	100 mg/kg (Oral, Rat)	203 mg/m ³ (Inhalation, Rat)	ACGIH (2013) 0.3 ppm TWA/Ceiling OSHA PEL 0.75 ppm TWA 2 ppm STEL

Section 2. Composition and Information on Ingredients

¹ Polymeric Diphenylmethane Diisocyanate (PMDI) Adhesive (Once pressed these wood panels do not contain free or unreacted PMDI) Paraffin Wax Emulsion Aluminum Foil (Solarbord Only)	9016-87-9	0-5	>15800 mg/kg (Oral Rat) >7900 mg/kg (Dermal Rabbit)	490 mg/m ³ (Inhalation, Rat 4-h)	Ontario OEL-reg 833 (2005) 1 ppm STEV 1.5 ppm Ceiling Québec (OEL S-2.1, r.15 - 2010) 2 ppm Ceiling No Exposure Limit Value
	8002-74-2	0.1 - 3.0	Not available	Not available	ACGIH (2013) 2 mg/m ³ TWA Ontario OEL-reg 833 (2005) 2 mg/m ³ TWAEV Total Québec (OEL S-2.1, r.15 - 2010) 2 mg/m ³ TWA
	7429-90-5	<1	>5,000 mg/kg (Oral, Rat)		ACGIH (2013) 1 mg/m ³ TWA Respirable OSHA PEL 15 mg/m ³ TWA Total 5 mg/m ³ Respirable Ontario OEL-reg 833 (2005) 10 mg/m ³ TWAEV Total Québec (OEL S-2.1, r.15 - 2010) 10 mg/m ³ TWA Total

¹ PMDI adhesive is not used in all Norbord's wood panel productions.

Section 3. Hazards Identification

Primary Hazard	Manual or mechanical cutting or abrasion processes performed on these products may result in generation of wood dust (all products) and aluminum dust (Solarbord only).
Routes of Entry	Inhalation and contact with skin and eyes.
Potential Acute Health Effects	No test data exists on actual mixture. Listed below is the data available on the identified ingredients. May cause irritation to upper respiratory system, eyes and skin.
Potential Chronic Health Effects	No test data exists on actual mixture. Listed below is the data available on the identified ingredients. Wood Dust Carcinogenicity IARC (Group 1)- Carcinogenic to Humans ACGIH (A1)- Certain hard woods, Confirmed Human Carcinogen BC (K1)- A Confirmed Human Carcinogen For further information concerning toxic and hazardous information consult the MSDSs for wood dust.
See Toxicological Information (section 11)	

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Section 4. First Aid Measures

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. Get medical attention if rash or persistent irritation or dermatitis occurs. Wash clothing before reuse.
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	Flammable
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.
Products of Combustion	Burning of wood products produces irritating and toxic emissions, including carbon dioxide, carbon monoxide, aldehydes and organic acids.
Fire Hazards in Presence of Various Substances	There is risk of fire when 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	Not available
Sensitivity/static discharge	Not available.
Fire Fighting Media and Instructions	Use water spray or carbon dioxide when fighting fires involving this material. Use dry sand or earth to smother fire.

Section 6. Accidental Release Measures

Spill and Leak	Sweep or vacuum and avoid creating airborne dust conditions. Remove ignition source and provide good ventilation where dust conditions may occur. Place recovered wood dust in a container for proper disposal.
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Section 7. Handling and Storage

Precautions	Avoid any source of heat and avoid creating "clouds" of dust which can be source of fire and explosion. Wash thoroughly after handling. Wash clothing before reuse. AVOID DUST CONTACT WITH EYES AND SKIN. AVOID BREATHING DUST.
Storage	Store away from incompatibles. Keep in a cool and dry area. Keep away from any ignition source.
Incompatibility	Avoid contact with oxidizing agents and drying oils. Avoid open flame.

Section 8. Exposure Controls/Personal Protection

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. Coverall 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.
	Feet Not applicable As determined by normal job requirements.

Consult Section 2 for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid	Odor	Dependent on wood species and time since panel was produced.
Molecular Weight	Not applicable	Taste	Not available
Molecular Formula	Not applicable	Color	Light to dark brown
pH (1% Soln/Water)	Basic		
Boiling/Condensation Point	Not available		
Melting/Freezing Point	Not applicable		
Critical Temperature	Not available		
Specific Gravity	Variable (dependent on wood species and moisture content)		
Vapor Pressure	Not applicable		
Vapor Density	Not available		
Volatility	Not available		
Odor Threshold	Not available		
Evaporation Rate	Not available		
Water/oil dist. coefficient.	Not applicable		
Viscosity	Not applicable		
Ionicity (in Water)	Not available		
Dispersion Properties	Not available		
Solubility	Insoluble in cold water, hot water.		

Section 10. Stability and Reactivity

Stability and Reactivity	These products are stable.
Conditions of Instability	Not available
Incompatibility with Various Substances	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.
Corrosivity	Not applicable

Section 11. Toxicological Information

Routes of Entry	Inhalation and contact with skin and eyes.
Chronic Effects on Humans	No test data exists on the actual mixture. Listed below is the data available on wood dust : Exposure to wood dust may cause asthmatic 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.
Acute Effects on Humans	No test data exists on the actual mixture.
Skin Contact	MAY CAUSE IRRITATION AND SENSITIZATION. Dermatitis has been reported in humans; nature of the wood and origin of the dust has to be taken into consideration as well as the exposure to formaldehyde and/or MDI during cutting or sanding operations of this product. 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.
Skin Absorption	No test data exists on the actual mixture.
Eye Contact	MAY CAUSE EYE IRRITATION. Conjunctivitis has been reported in humans, nature of the wood and origin of the dust has to be taken into consideration.
Inhalation	MAY CAUSE IRRITATION AND SENSITIZATION. No test data available on the actual mixture. Data available on identified ingredients are listed below. Inhalation of wood dust may irritate the respiratory tract by causing: drying of the mucus, sneezing, irritating cough and expectoration. May cause some difficulty in breathing such as: bronchitis, nasal discharge and respiratory tract obstruction. 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.
Ingestion	Not applicable Not likely to occur.
Irritancy of product	No test data available on the actual mixture.
Sensitization	No test data available on the actual mixture.
Carcinogenic Effects	No test data available on the actual mixture. Data available on: Formaldehyde IARC (Group 1) Carcinogenic to Humans ACGIH (A2) Suspected Human Carcinogen BC (K2) Suspected Human Carcinogen Wood Dust IARC (Group 1) Carcinogenic to Humans ACGIH (A1) Certain hard woods - Confirmed Human Carcinogen BC (K1)- Confirmed Human Carcinogen Nasal carcinoma has been reported in furniture industries and an increase of Hodgkin's Disease has been reported in other wood working industries especially in sawmill.

Section 11. Toxicological Information

Teratogenicity	Not available
Mutagenicity	No test data available on actual mixture. Data available on: Wood dust Exposure to wood dust may cause cellular changes in the nasal epithelium.
Reproductive Effects	No test data exists on the actual mixture.

Section 12. Ecological Information

Ecotoxicity	Not available
BOD₅ and COD	Depending on the kind of wood
Products of Biodegradation	Depending on the kind of wood Possibly hazardous short term degradation products are unlikely. Long term degradation products may arise due to formaldehyde.
Toxicity of the Products of Biodegradation	Not available
Special Remarks on the Environment	Biodegradation of the wood may lower oxygen levels in water which may be hazardous to aquatic life.

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

Classification	Not applicable
PIN	Not applicable
Special Provisions for Transport	None

Section 15. Regulatory Information

U.S. Federal Regulations	The product is not controlled under the US Hazard Communication Rule (29 CFR 1900.1200).
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 MSDS contains all the information required by the CPR.
Other Regulations	Not applicable

Section 16. Other Information

Glossary of Terms	
ACGIH	American Conference of Governmental Industrial Hygienists
BC	British Columbia
CSA #	Chemical Abstracts System Number
CFR	Code of Federal Regulation
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
OEL	Occupational Exposure Limit

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Section 16. Other Information**Glossary of Terms**

OSHA	Occupational Safety and Health Administration Chemical Abstracts System Number
PEL	Permissible Exposure Limit
ppm	Parts per million
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 MSDS complies or exceeds the Canadian WHMIS criteria and the OSHA hazard communication standard 29 CFR 1910.1200.

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