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MULTI-CORE® MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Manufacturer	True North Hardwood Plywood Inc. P.O. Boc 1956, 4 Boisvert Crescent Cochrane, ON, Canada P0L 1C0	Emergency Phone Number	705-272-7664, Technical Services Department
		Revision Date	February 20, 2009

Product Name	**Multi-CORE®(1)**
Synonyms	Composite Core Hardwood Plywood
Trade Name	Multi-CORE®
Description	This composite panel product contains a hardwood or softwood veneer face and back reinforced by inner-ply aspen veneer over an OSB(2) core, using a PVA(3) adhesive as a bonding agent.

1) This data sheet is for products that have not been finished (coated, laminated, or overlaid) or treated (for example, with preservative or fire retardant).
2) For additional information about OSB (oriented strand board), please refer to the OSB manufacturer's MSDS.
3) This product is manufactured using a PVA (polyvinyl acetate) adhesive which is a resin formulated with no added formaldehyde (NAF per CARB definition).

2. HAZARDS IDENTIFICATION

Primary Health hazard	The primary health hazard posed by this product is thought to be due to exposure to wood dust.
Medical Conditions Generally Aggravated by Exposure	Individuals with predisposing conditions – asthma, bronchitis, allergies – may have difficulty working around airborne particulates including dust.
Eye Contact	Wood dust can cause mechanical irritation to the eyes. Excessive concentration may cause deposit in nasal passages resulting in rhinorrhea, dry cough, wheezing, sinusitis.
Skin Contact	Various species of wood dust may evoke allergic contact dermatitis in sensitised individuals.
Ingestion	n/a
Skin Absorption	Not known to occur.
Inhalation : Wood Dust	May cause nasal dryness, irritation and obstruction. Coughing, wheezing, and sneezing; sinusitis and prolonged colds have also been reported.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

PRINCIPAL INGREDIENTS	QUANTITY	POTENTIAL AIR-BORNE RELEASES			
	(%)	ACGIH TLV		OSHA PEL[a]	
		TWA	STEL	TWA	STEL
Wood (Aspen and hardwood or softwood veneers)	93-95	n/a	n/a	n/a	n/a
Hardwood dust (total)				15 mg/m^3 [b]	10 mg/m^3 [c]
Hardwood dust (inhalable)		1 mg/m^3	none	none	none
Resin solids (phenol formaldehyde)[d]	2-3	0.3 ppm[e]	none	0.75 ppm	2 ppm
Resin solids (polyvinyl acetate)[f]	3-4	none	none	none	none

(a) Values for State PEL (or Province OEV) may be more restrictive.

(b) Respirable fraction is limited to 5 mg/m^3.

(c) In AFL-CIO v. OSHA 965F. 2d F 2d 962 (11th Cir. 1992), the Court overturned OSHA's 1989 Air Contaminant Rule, including the specific PELs for wood dust that OSHA had established at that time. The 1989 PELs were: TWA – 5.0 mg/m^3; STEL (15 min) – 10.0 mg/m^3 (all soft and hard woods except Western red cedar); Western red cedar: TWA – 2.5 mg/m^3.

Wood dust is now officically regulated as an organic dust under the Particulates Not Otherwise Regulated (PNOR) or Inert or Nuisance Dust categories at PELs noted in this section of the 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-complaince with the 1989 PELs.

(d) Core product is manufactured using a phenol-formaldehyde thermoset resin.

(e) Ceiling Exposure Value, or maximum airborne concentration.

(f) Product does not contain controlled ingredients. For additional details on adhesive, refer to separate MSDS from adhesive manufacturer.

4. FIRST AID MEASURES

Eyes	Panel dust may mechanically irritate the eyes resulting in redness or watering. Flush eyes with large amounts of water. Remove to fresh air. Seek medical attention if irritation persists.
Skin	Dust of some wood species can elicite allergenic contact dermatitis in sensitized individuals after repetitive contact with a rash or persistent irritation or dermatitis occurs. Wash affected areas with soap and water. Seek medical attention if rash or persistent irritation or dermatitis occurs before returning to work where wood dust is present.
Inhalation	Remove to fresh air. If persistent irritation, severe coughing, or breathing difficulties occur, seek medical attention where wood dust or formaldehyde is present (Primary route of exposure is inhalation).
Ingestion	n/a

5. FIRE FIGHTING MEASURES

Flash Point	n/a
Flammable Limits	Lower: n/a; Upper: n/a
Auto-Ignition Temperature	Variable (typically 400 - 500°F (204 - 260°C))
Explosive Limits in Air	See below under "Unusual Fire and Explosion Hazards"
Extinguishing Media	Water, Carbon dioxide, Sand
Normal Fire Fighting Procedures	Determined by surrounding fire. Use a water spray to wet down panels and any wood dust to reduce the likelihood of ignition. Remove burned or wet material to open area after fire is extinguished.
Unusual Fire and Explosion Hazards	Wood dust is a strong to severe explosion hazard. Sawing, sanding or machining can produce wood dust as a by-product which may present an explosion hazard if the dust cloud contacts an ignition source. An airborne concentration of 40 grams of fine dust per cubic meter of air is often used as the LEL for wood dust.
NFPA Rating (scale: 0 to 4)	Health = 1; Fire = 1; Reactivity = 0.

6. ACCIDENTAL RELEASE MEASURES

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 dusty conditions. Provide good ventilation where dusting is possible. If this product is used in a process which generates dust levels in excess of the allowable exposure limits for wood dusts, wear a NIOSH/OSHA approved dust respirator and goggles where ventilation is not possible.

7. HANDLING AND STORAGE

Wood Dust	Avoid eye contact. Avoid repeated or prolonged contact with skin. Careful bathing and clean clothes are indicated after exposure. Avoid prolonged or repeated breathing of wood dust in the air. Avoid contact with oxidizing agents and drying oils. Avoid open flame. Avoid dusty conditions and provide good ventilation. 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 which generate high dust concentrations. Due to the explosive potential of wood dust when suspended in the 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.
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.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Respiratory Protection	NIOSH/OSHA approved dust respirator under dusty conditions.
Ventilation	Local exhaust: panel dust should be collected at source. Provide adequate general and local exhaust ventilation to maintain healthful working conditions.
Personal Protective Equipment	Wear goggles or safety glasses when manufacturing or machining the product. Wear other protective equipment such as gloves, outer garments and approved respirators when the allowable exposure limits may be exceeded.
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 concentration.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (at 760 mm Hg)	n/a
Specific Gravity ($H_20 = 1$)	0.6 – 0.7, dependent on wood species and moisture content
Vapor Density (air = 1 at 760 mm Hg)	n/a
Melting Point	n/a
Freezing Point	n/a
Vapor Pressure (mm Hg)	n/a
Solubility in H_2O (% by weight)	< 0.2 percent
Evaporation Rate (Butyl Acetate = 1)	n/a
pH	n/a
Appearance and Odor	Light to brownish color panel consisting of a ligno-cellulosic core of interlocking wood fibers and veneer crossbands and faces, with slight aromatic odor.
Odor Threshold	not available
% Volatile by Volume (at 70°F /21 °C)	0

10. STABILITY AND REACTIVITY

Conditions Contributing to Instability	Stable product under normal conditions. However, excessive moisture conditions and open flame should be avoided.
Incompatibility	Avoid contact with oxidizing agents and drying oils. Product might ignite at temperatures in excess of 400°F (204°C). Good housekeeping procedures and routine disposal of panel dust is suggested.
Hazardous Decomposition or By-products	When burned panel can produce carbon monoxide, carbon dioxide, polycyclic aromatic hydrocarbons, aldehydes and other toxic fumes and gases.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic effects of Wood Dust	Wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause respiratory sensitization and/or irritation. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer.
Carcinogenicity – Wood Dust	NTP: yes – known to be a human carcinogen. IARC: monograph – yes, Group 1 – hardwood dust carcinogenic to humans. This classification is based on IARCs evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to hardwood dust. IARC did not find sufficient evidence to associate cancers of the oropharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust. OSHA: no.
Carcinogenicity – Formaldehyde	NTP: yes – reasonably anticipated to be a human carcinogen. IARC: monograph – 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. Epidemiology studies of workers exposed to formaldehyde have failed to consistently identify an association between formaldehyde exposure and cancer. 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.

12. ECOLOGICAL INFORMATION

Environmental Fate	No information is available at this time.
Environmental Toxicity	No information is available at this time.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	If disposed or discarded in its purchased form, incineration is preferable. Place recovered wood dust in container for proper disposal. Dry land disposal may be acceptable. It is the user's responsibility to determine at the time of disposal whether your product meets federal, state or local regulations. Sweep or vacuum spills for recovery or disposal; avoid creating dust conditions. Provide good ventilation where dust conditions may occur.

14. TRANSPORT INFORMATION

Mode (Air, Land, Water)	Product is not regulated as a hazardous material by the U.S.D.O.T (Department of Transportation). Product is not listed as a hazardous material in Canadian TDG Regulations (Transportation of Dangerous Goods).

15. REGULATORY INFORMATION

U.S. Federal Regulations	This product is not controlled under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, wood dust generated by sawing, sanding or machining may be hazardous. Additionally, workplace exposure to formaldehyde is regulated under OSHA Standard 29 CFR 1910.1048.
Canadian Regulations	This product is not controlled by WHMIS.
California Proposition 65	Formaldehyde and wood dust are on the State of California list of substances known to the State to cause cancer.
Other Regulations	Formaldehyde appears on the US Toxic Substance Control Act Inventory, the Canadian Domestic Substance List and several States Hazardous Substance Lists.

16. OTHER INFORMATION

Term	Definition
ACGIH	American Conference of Governmental Industrial Hygienists
C	Degree Centigrade
CARB	California Air Resources Board
CAS RN	Chemical Abstracts Service Registry Number (American Chemical Society)
F	Degree Fahrenheit
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
mg/m^3	milligrams per cubic meter of air
n/a	not applicable
NIOSH	National Institute for Occupational Safety and Health (US)
NTP	National Toxicology Program (US)
OEV	Occupational Exposure Value
OSHA	Occupational Safety and Health Administration (US)
PEL	Permissible Exposure Limit
ppm	parts per million, in air
STEL	Short Term Exposure Limit (15-minute)
TLV	Threshold Limit Value
TWA	Time Weighted Average (8-hour)
WHMIS	Workplace Hazardous Materials Information System

USER's RESPONSIBILITY*: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered solely for your consideration, investigation and verification. True North Hardwood Plywood Inc. makes no warranty or representation of any kind, express or implied, concerning the accuracy or completeness of the information and data herein. True North Hardwood Plywood Inc. will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading. It is incumbent upon the user to obtain the most up-to-date information, and to determine this data and information to be in accordance with federal, provincial/state, or municipal laws and regulations.*

This MSDS complies with ANSI Z240.1 format for the preparation of MSDS for Hazardous Industrial Chemicals.