Norbord

Section 1. Chemical Product and Company Identification				
Common Name	(NORBORD MDF)	Chemical name	Not applicable	
	(Standard, Moisture Resistant, High Density,			
	Low Density and UltraLight Density)	Chemical formula	Not applicable	
Supplier Manutae	Norbord Inc.   1 Toronto Street, Suite 600   Toronto, Ontario   M5C 2W4	€'AS#	Mixture	
Synonym	Not available	Validation Date	03/28/2007	
Irady name	Norbord MDF	Print Date	03/28/2007	
Product description	An engineered wood panel product manufactured from refined wood fibers bonded together with synthetic resins under heat and pressure.	Responsible Name	Norbord Inc.	
Material Uses	For industrial and commercial uses.	19 Савські Клаські	(450) 447-6659	

Section 2. Composition and Information on Ingredients					
:		-	1 A.L.		·
Hardwood dust (e.g., aspen, sweet gum etc.)	Not available	ōŪ			ACG/H (2006) 1 mg/m3 TWA A4 Inhalable Dust OSHA PEL 15 mg/m3 TWA Total 5 mg/m3 Respirable Ontario OEL-reg 833 (2005) 5 mg/m3 TWAEV Total dust BC reg 296-97 (1997) Non-allergenic 1 mg/m3 K1, A RQMT (Quebec) (2001) 5 mg/m3 TWA Total
Softwood dust (Southern Yellow Pine)	Not available	90			ACGIH (2006) 1 mg/m3 TWA A4 Inhalable Dust OSHA PEL 15 mg/m3 TWA Total 5 mg/m3 Respirable Ontario OEL-reg 833 (2005) 3 mg/m3 TWAEV Total dust BC reg 296-97 (1997) Non-allergenic 2.5 mg/m3 K1 RQMT (Quebec) (2001) 5 mg/m3 TWA Total

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Section 2. Composition and Information on Ingredients					
Melamine Urea Formaldehyde	Not Available	7-10			No Exposure Limit Value
Resin (free formaldehyde gas is less than 1% of resin mixture)					
(For Moisture Resistant panel)					
or	1				
Urea Formaldehyde Liquid Resin (free formaldehyde gas is less than 1% of resin mixture) (For Standard, High Density, Low Density and UltraLight panels)	Not Available	0.1 - 5.0			No Exposure Limit Value
Paraffin Wax Emulsion (fume) (CnH₂n+2)	8002-74-2	0.1 - 1.0			ACGIH (2006) 2 mg/m <sub>3</sub> TWA OSHA PEL Not available Ontario OEL reg 833 (2005) 2 mg/m <sub>3</sub> TWAEV BC reg 296-97 (1997) 2 mg/m <sub>3</sub> 8 hour EL 6 mg/m <sub>3</sub> 15 minutes EL RQMT (Quebec) (2001) 2 mg/m <sub>3</sub> TWA
Free Formaldehyde	50-00-0	<1%			ACGIH (2006) 0.3 ppm C SEN, A2 OSHA PEL 0.75 ppm TWA Ontario OEL reg 833 (2005) 1 ppm TWAEV 2 ppm STEV BC reg 296-97 (1997) 0.3 ppm TWA 1.0 ppm C K2, Z, A RQMT (Quebec) (2001) 2 ppm C C2
Green Dye (Specific MR Product Only)	Not Available	0.1			No Exposure Limit Value
Black Dye (Specific LD Product Only)	Not Available	0.1			No Exposure Limit Value

Hazard	The product may release small quantities of formaldehyde in gaseous form. Emissions decrease through time as the papel's age
	Manual or mechanical cutting or abrasion processes performed on the product may result in generation of wood dust
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.
	If inhaled may cause difficulty in breathing, headache, rapid heart beat, nausea and loss of sense of smell.
Potential Chronic Health Effec	ts
	No test data exists on actual mixture. Listed below is the data available on the identified ingredients. Formaldehyde
	Carcinogenicity IARC (Group 1A)- Carcinogenic to Human
	BC (K2)- A suspected human carcinogen Wood Dust
	Carcinogenicity IARC ( Group 1)- Carcinogenic to Human
	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 formaldehyde and wood dust.

Section 4. First	Aid Measures
te in € tessting t	Gaseous formaldehyde may cause temporary irritation or a burning sensation. 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.
Skio Contact	Both Formaldehyde and 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.
Inhabition	Gaseous formaldehyde may cause temporary irritation to eyes, nose and throat. 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.
* stry to Physician	Respiratory ailments or pre-existing skin conditions may be aggravated by exposure to wood dust.

Section 5. Fire F	ighting Measures
Hammability of the Product	Flammable
Auto-mairi sa Temperanare	204.44 to 260 C
haa roint	Not available.
Flammable Limits	Higher: undetermined (varies with composition particle size, moisture level, rate of heating and dust concentration). Lower: 40 grams/m <sub>3</sub> (LEL) wood dust
Products of Combastion	Burning of wood products produces irritating and toxic emissions, including carbon dioxide, carbon dioxide, aldehydes and organic acids.

Section 5. Fire Fighting Measu	Ires	
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 <sub>3</sub> ) 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.	

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.	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.	

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 closing before reuse. AVOID 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 AVOID CONTACT WITH EYES\*** Eves Use safety glasses with side shields or dust resistant safety goggles. Suitable eye protection should always be worn whenever cutting or shaping products with power tools. \*For more details refer to CSA Standard Z94.3-M88 "Industrial Eye and Face Protection". AVOID CONTACT WITH SKIN. Body Wear Coveralls. Remove and wash dust contaminated clothing before reuse. AVOID BREATHING DUST. Respiratory 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 device, and institute comprehensive program as per CSA Z94.4-M1984 **AVOID CONTACT WITH SKIN.** Hands Wear leather work gloves to protect skin from contact with wood dust, mechanical irritation and splinters. Not applicable Feet As determined by normal job requirements.

Consult Section 2 for acceptable exposure limits.

**Continued on Next Page** 

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Section 9. Fire Fighting Meas	ure	s
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Section 3. The righting me	232163	
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	
<b>Boiling/Condensation Point</b>	Not available	
Melting/Freezing Point	Not applicable	
Critical Temperature	Not available	
Specific Gravity	Variable (dependent on wood species and moist	ure 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 Re	eactivity
Stability and Reactivity	The product is 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, 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 and formaldehyde: Exposure to wood dust may cause asthmatic symptoms and signs. Chronic exposure to some species of wood and sensitivity of some worker's may cause the outbreak of some allergies that can become a potential health hazard to these individuals. Frequent or prolonged exposure to formaldehyde can cause hypersensitivity leading to contact dermatitis, possibly of an eczematous nature.		
Acute Effects on Humans	No test data exists on the actual mixture.		
Skin Contact	CAUSES 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 a exposure to formaldehyde.		
Skin Absorption	No test data exists on the actual mixture.		
Eye Contact	CAUSES EYE IRRITATION. Conjunctivitis has been reported in humans, nature of the wood and origin of the dust has to be taken into consideration. Exposure to formaldehyde may cause conjunctivitis and lacrymation.		
Ingestion	Not applicable Not likely to occur.		

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Section 11. Toxicological Information		
Inhalation	CAUSES IRRITATION AND SENSITIZATION. No test data available on 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, respiratory tract obstruction and more. 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 may cause respiratory sensitization, such as asthma, and pre-existing respiratory sensitization may be aggravated by exposure.	
Carcinogenic Effects	No test data available on actual mixture. Data available on: Formaldehyde IARC (Group 1A)- Carcinogenic to Human ACGIH (A2)- Suspected Human Carcinogen BC (K2)- A Suspected Human Carcinogen Wood Dust IARC (Group 1) Carcinogenic to Human ACGIH (A1) Certain hard woods-Confirmed Human Carcinogen BC (K1)- A 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.	
Irritancy of product	No test data available on the actual mixture.	
Sensitization	No test data available on the actual mixture. Data available on identified ingredients demonstrate sensitization to upper respiratory system, eyes and skin.	
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	
BOD <sub>5</sub> 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. Ecological Information		
Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.	
Section 14. Transport Information		
Classification	Not applicable	
PIN	Not applicable	
Special Provisions for Transport	None	

Section 15. Regulatory Information			
U.S. Federal Regulations	The pro	oduct is not controlled under the US Hazard Communication Rule (29 CFR 1900.1200).	
Canadian Regulations	The pro	oduct is not controlled under WHMIS.	
	It has b and the	peen classified according to the hazard criteria of the Controlled Products Regulations (CPR) MSDS contains all the information required by the CPR.	
Other Regulations	Not ap	plicable	

#### Section 16. Other Information

Other Special	The 16	3 heading format MSDS complies with WHMIS criteria and follows the structure set forth by
Considerations	ANSI 2	Z400.1-1998.
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Validated by Norbord Inc. on 03/28/2007

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