

## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>PRODUCT NAME:</b>	Hardwood Plywood Urea formaldehyde-bonded, Melamine urea formaldehyde-bonded, Phenol formaldehyde-bonded
<b>PRODUCT CODE:</b>	None established
<b>PRODUCT DESCRIPTION:</b>	Panel product contains a hardwood veneer face (or decorative softwood face) bonded to wood components such as other wood veneer, particleboard, or medium density fiberboard (MDF). Bonded typically with urea-formaldehyde resin. May by special request be bonded with melamine urea formaldehyde or phenol formaldehyde resins.
<b>FORMULA:</b>	N/a
<b>SYNONYMS:</b>	ApplePly®, ArmorCore®, Lightline, Stateline, Beaded, Coastline, Ambassador, Nova®, Project Hardwoods
<b>MSDS DATE:</b>	June 2005

MANUFACTURER/SUPPLIER		
States Industries P.O. Box 7037 29545 Enid Road East Eugene, OR 97401  States Industries 130 Enterprise Way, Building 3 Mocksville, NC 27028	<b>Telephone Numbers</b> Monday-Friday 8 - 5 PST	
	Emergency Number:	800-626-1981 (Safety Manager)
	Non-Emergency Number:	800-626-1981 (Quality Manager)

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENT NAME	CAS #	EXPOSURE LIMITS		CONC %
		OSHA <sup>1</sup> PEL	ACGIH <sup>1</sup> TLV	
Formaldehyde	50-00-0	Action Level - 0.5 ppm TWA – 0.75 ppm STEL – 2 ppm	Ceiling – 0.3 ppm	<1
Hardwood Dust, various species	n/a	15 mg/m <sup>3(T)</sup> 5 mg/m <sup>3(R)</sup> <sup>2</sup> See Footnote	1 mg/m <sup>3(I)</sup>	5-25

<sup>1</sup> Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) for Particulates Not Otherwise Regulated and Formaldehyde are current as of this revision (2005). American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) for Wood dust and Formaldehyde were published in 2005. Exposure limits expressed as 8-hour time weighted average limits in milligrams per cubic meter of air. (T)= Total Particulate; (R)= Respirable Particulate; (I)= Inhalable Particulate.

<sup>2</sup> 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 had established at that time. The 1989 PELs were: TWA – 5.0 mg/m<sup>3</sup>; STEL – 10.0 mg/m<sup>3</sup> (all soft and hard woods except Western Red Cedar); TWA – 2.5 mg/m<sup>3</sup> (Western Red Cedar). Wood dust is now regulated as an organic dust under the Particulates Not Otherwise Regulated (PNOR) or Inert or Nuisance Dust categories at PELs listed above. 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.

### 3. HAZARDS IDENTIFICATION

#### \*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

Bonded wood panels can burn in a fire. Manual or mechanical cutting or abrasion processes performed on the product can result in generation of combustible wood dust. Trace formaldehyde vapors may be released in small quantities over time, reducing as the panel ages. Formaldehyde and wood dust are listed as carcinogens.

**ROUTES OF ENTRY:** Inhalation, eye contact, skin contact

#### **INHALATION:**

Wood Dust - May cause nasal dryness, irritation and obstruction. Coughing, wheezing, and sneezing; sinusitis and prolonged colds have also been reported. Depending on wood species, may cause respiratory sensitization and/or irritation. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer.

Gaseous Formaldehyde – Low levels of formaldehyde can cause irritation of the eyes, nose, throat, and skin. It is possible that people with asthma may be more sensitive to the effects of inhaled formaldehyde.

**SKIN CONTACT:** Contact with wood may cause mechanical irritation or abrasion. Both formaldehyde and various species of wood dust may evoke allergic contact dermatitis in sensitized individuals.

**EYE CONTACT:** Wood dust can cause mechanical irritation. Gaseous formaldehyde may cause temporary irritation or a burning sensation. Smoke from burning material may cause irritation.

**INGESTION:** Not a likely route of entry

#### **CARCINOGENICITY:**

**NTP:** In the 2005 11<sup>th</sup> Report on Carcinogens, formaldehyde is reasonably anticipated to be a human carcinogen and wood dust is known to be a human carcinogen.

**IARC:** Formaldehyde- Group 1 (carcinogenic to humans based on sufficient evidence in humans and sufficient evidence in experimental animals). Wood dust- Group 1 (carcinogenic to humans based on sufficient evidence in humans). Furniture and cabinet-making- Group 1 (carcinogenic to humans). Carpentry and joinery- Group 2B (possibly carcinogenic to humans).

**NIOSH:** Formaldehyde and wood dust are listed as potential carcinogen in humans.

**4. FIRST AID MEASURES**

**INHALATION:** If irritation occurs, remove to fresh air. If not breathing, give artificial respiration. Seek medical attention if symptoms or irritation persists, or if severe coughing or breathing difficulty occurs.

**SKIN:** Wash thoroughly with soap and water consistent with good hygiene practice. Remove wood splinters. Get medical advice if rash or persistent irritation or dermatitis occurs or if splinter is not easily removed.

**EYE:** Immediately flush with copious amounts of water for at least 15 minutes, carefully lifting eyelid to expose the eye to contact with the water. Remove contact lens, if present, and repeat flush. For contact with molten material, treat as for skin burns. If any symptoms or irritation persist, contact a physician.

**INGESTION:** Not expected to be toxic by ingestion.

**5. FIRE FIGHTING MEASURES**

<b>FLASH POINT:</b>	N/A
<b>AUTO IGNITION TEMPERATURE:</b>	Not available (Will depend upon duration of exposure to heat source and other variables.)
<b>FLAMMABLE LIMITS:</b>	N/A
<b>EXPLOSIVE LIMITS:</b>	Wood Dust LEL in Air: 40 g/m <sup>3</sup> . See below under "Unusual Fire and Explosion Hazard"
<b>HAZARDOUS COMBUSTION PRODUCTS:</b> Burning may release carbon monoxide, hydrogen cyanide, aldehydes, organic acid, and polynuclear aromatic compounds (PAHs).	
<b>FIRE AND EXPLOSION HAZARD:</b> Sawing, sanding or machining can produce wood dust which may present an explosion hazard if a dust cloud contacts an ignition source. An airborne concentration of 40 grams of dust per cubic meter of air is often used as the lower explosive limit (LEL) for wood dust.	
<b>EXTINGUISHING MEDIA:</b>	Carbon dioxide, sand, or water spray.
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b> Keep personnel removed from and upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear. Use self-contained breathing apparatus to avoid exposure to the products of combustion. Cool planks with water spray. ASTM E-84 Flame spread: Class C (76-200).	

**6. ACCIDENTAL RELEASE MEASURES:**

**SPILL OR LEAK PROCEDURES:** Avoid generating excessive airborne wood dust concentrations during cleanup.

**7. HANDLING AND STORAGE:**

**HANDLING AND STORAGE PRECAUTIONS:** Store away from extreme heat, strong oxidizing agents, and ignition sources. Minimize dust generation and accumulation. Provide adequate general or local exhaust ventilation to reduce the possible buildup of formaldehyde vapor, particularly when high temperatures occur.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION:**

**EYE PROTECTION:** Wear safety glasses with side shields during manual or mechanical cutting or abrasion.

**SKIN PROTECTION:** Wear leather gloves when handling plywood panels.

**RESPIRATORY PROTECTION:** Not normally needed. A NIOSH/MSHA-approved air-purifying respirator with a particulate filter should be used when airborne wood dust concentrations are expected to exceed exposure limits. Use a positive pressure air-supplied respirator if exposure levels are unknown or during other circumstances where air-purifying respirators may not provide adequate protection.

**ENGINEERING CONTROLS:** Not needed in open spaces. Use general or local exhaust ventilation during manual or mechanical cutting or abrasion to minimize airborne dust. Use general ventilation during storage to reduce the possible buildup of formaldehyde vapors.

**9. PHYSICAL AND CHEMICAL PROPERTIES:**

<b>PHYSICAL STATE:</b>	Solid
<b>APPEARANCE:</b>	Light to dark wood color, dependent on wood species
<b>ODOR:</b>	Wood odor, dependent upon wood species. Formaldehyde odor threshold at 1 ppm.
<b>BOILING POINT:</b>	N/A
<b>MELTING POINT:</b>	N/A
<b>pH:</b>	N/A
<b>SOLUBILITY IN WATER:</b>	Insoluble
<b>SPECIFIC GRAVITY:</b>	<1 (water=1)
<b>% VOLATILE BY WEIGHT:</b>	N/A
<b>VAPOR PRESSURE:</b>	N/A
<b>VAPOR DENSITY:</b>	N/A

**10. REACTIVITY/STABILITY:**

<b>STABILITY:</b> Stable at normal temperatures and storage conditions
<b>CONDITIONS OF REACTIVITY:</b> None known
<b>HAZARDOUS POLYMERIZATION:</b> Will not occur
<b>INCOMPATIBILITIES:</b> Avoid oxidizing agents and open flame. Product may ignite in excess of 400° F.
<b>DECOMPOSITION PRODUCTS:</b> Thermal and/or thermal oxidative decomposition can produce irritating and toxic fumes and gases, including carbon monoxide, hydrogen cyanide, aldehydes, organic acid, and polynuclear aromatic compounds.

**11. TOXICOLOGICAL INFORMATION:**

**Formaldehyde:** The ATSDR cites that the most common symptoms of formaldehyde exposure include irritation of the eyes, nose, and throat, along with increased tearing, which occurs at air concentrations of about 0.4–3 ppm. The National Cancer Institute (NCI) conducted an epidemiological study of industrial workers exposed to formaldehyde (published June 1986). The NCI concluded that the data provides little evidence that mortality from cancer is associated with formaldehyde exposure at the levels experienced by workers in the study.

**Wood Dust:** Associated with a variety of adverse health effects, including dermatitis, allergic respiratory effects, mucosal and nonallergic respiratory effects, and cancer. The toxicity data in animals are limited, particularly with regard to exposure to wood dust alone; there are, however, a large number of studies in humans (refer to NIOSH Toxicological Review).

<b>LD<sub>50</sub>:</b>	None listed
<b>LC<sub>50</sub>:</b>	None listed
<b>REPRODUCTIVE TOXICITY:</b>	None listed
<b>TERATOGENICITY:</b>	None listed
<b>MUTAGENICITY:</b>	None listed
<b>CARCINOGENICITY:</b>	See Section 3

**SENSITIZATION TO PRODUCT:**

Some people are more sensitive to the effects of formaldehyde than others. One large study of people with asthma found that they may be more sensitive to the effects of inhaled formaldehyde than other people; however, many studies show that they are not more sensitive.

**12. ECOLOGICAL INFORMATION:**

No bioaccumulation of formaldehyde is expected. Most formaldehyde in the air also breaks down during the day. Formaldehyde does not seem to build up in plants and animals.

**13. DISPOSAL CONSIDERATIONS:**

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. Dispose of according to local, state/provincial, and federal regulations.

**EPA Waste Codes:** N/A for product

**14. TRANSPORT INFORMATION:**

<b>D.O.T. SHIPPING NAME:</b>	N/A
<b>TECHNICAL SHIPPING NAME:</b>	Urea Formaldehyde Bonded Hardwood Plywood
<b>D.O.T. HAZARD CLASS:</b>	N/A
<b>U.N./N.A. NUMBER:</b>	N/A
<b>SPECIAL SHIPPING INFO:</b>	N/A

**14. REGULATORY INFORMATION:**

**Users should comply with applicable OSHA and other state and federal regulations, including (but not limited to) 29 CFR 1910.1000 (air contaminants), 29 CFR 1910.1200 (hazard communication), and 40 CFR 262 (hazardous waste).**

**OSHA Hazard Communication Rule, 29 CFR 1910.1200:** Not considered hazardous in product form. See components listed in Section 2 with accompanying notes. The standard does not apply to "wood or wood products, including lumber which will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility (wood or wood products which have been treated with a hazardous chemical covered by this standard, and wood which may be subsequently sawed or cut, generating dust, are not exempted)."

<p><b>Housing and Urban Development (HUD) formaldehyde emission levels</b> per HUD directive 3280.308 - All plywood and particleboard materials bonded with a resin system or coated with a surface finish containing formaldehyde shall not exceed emission levels as measured by the air chamber test method when installed in manufactured homes:  Plywood materials – 0.2 ppm  Particleboard materials – 0.3 ppm</p>
<p><b>TSCA Inventory Status:</b> Product excluded from the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.</p>
<p><b>SARA Title III Sect. 302 (EHS) / CERCLA Hazardous Substances</b> - This material contains no Reportable Quantity (RQ) Substances.</p>
<p><b>SARA Title III Sect. 311/312 Hazard Classes:</b>  Product excluded from SARA regulations.</p>
<p><b>SARA Title III Sect. 313 Toxic Chemicals:</b> Not Applicable</p>
<p><b>California Prop 65:</b> Formaldehyde is Known to the State of California to Cause Cancer (C).</p>
<p><b>NJ Right to Know Law:</b> Formaldehyde is on the New Jersey Workplace Hazardous Substance List.</p>
<p><b>MA Right to Know Law:</b> All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at the de minimus concentration have been identified in Section 2 of the MSDS.</p>
<p><b>PA Right to Know Law:</b> All components have been checked for inclusion on the Pennsylvania Hazardous Substance List. Those components present at the de minimus concentration have been identified in Section 2 of the MSDS.</p>

#### 15. OTHER INFORMATION:

<b>MSDS STATUS:</b>	Replaces MSDS dated 11/5/2003
<b>REVISION NUMBER:</b>	5.0 (8/92, 8/94, 8/95, 11/03)
<b>PREPARED BY:</b>	Paul Carlson Associates, Inc. Milwaukie, Oregon (503) 652-6040

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