



# Safety Data Sheet

## Structural and Decorative Wood Products

### 1. Identification

**Trade Names and Synonyms:** Laminated Decorative Panels, Wrapped Profiled Mouldings, Drawer Sides, RTF, Hardwood Stained and Finished Components, Store Fixture Components, Countertop Panels, Plywood Flooring and, Composite Products. Phenol Formaldehyde and Urea Formaldehyde Bonded Wood Products.

**Product Uses:** Building materials for manufactured housing, recreational vehicle components, commercial and industrial components.

**Chemical Name or Class:** Wood Products

**Manufacturer's Name:** Robert Weed Plywood Corporation

**Address:** PO Box 487

**Emergency Phone:** (574) 848-4408 (24 Hr. - (574) 596-1575)

**Business Phone:** (574) 848-4408

### 2. Hazards Identification

**Signal Word:** DANGER

GHS Product Classification	Hazard Statement(s)	Pictograms
HEALTH Carcinogenicity – Category 1A	Dusts may cause nasopharyngeal cancer and/or cancer of the nasal cavities and paranasal sinuses	

**HMIS Rating:** Health – 2

Fire - 1

Physical Hazard – 0

**NFPA Rating:** Health – 1

Fire - 1

Reactivity – 0

**Other Disclosed Hazards:** Wood products of this nature during processing (e.g. sanding and cutting) may form combustible dust concentrations in air. In instances where the processed products' dust becomes suspended in air, and where an ignition source is present, careful precautions should be taken. Users of this product should examine the potential of dust generation during handling, processing, and related combustibility hazards and controls.

## 2. Hazards Identification (cont'd.)

**Prevention Statements:** Do not handle these products until you read and understand all safety precautions. Wear eye and respiratory protection for excessive wood dust exposure. In case adequate ventilation is not present, wear only approved respiratory protective devices. Avoid creating dusty conditions whenever possible.

**Response Statements:** If you are exposed or concerned, seek medical advice or attention. If particles are in the eye(s), remove contact lenses if present and rinse thoroughly with tepid water. If eye irritation persists, seek medical attention.

### Precautionary Statements:

## 3. Composition Information on Ingredients

Ingredients	CAS #	Weight %
Wood (wood dust, softwood or hardwood)	Not Established	90-99
Resins: Polymeric Phenol-Formaldehyde	9003-35-4	1-9
Resins: Polymeric Urea-Formaldehyde	9011-05-6	1-9
Formaldehyde	50-00-0	<0.1

## 4. First Aid Measures

**Ingestion:** Not applicable under normal use.

**Eye Contact:** Wood and resin dust may cause mechanical irritation. Treat dust in eye as foreign object. Flush with water to remove dust particles. Seek medical help if irritation persists.

**Skin Contact:** Wood dust of certain species can elicit allergic contact dermatitis in sensitized individuals, as well as mechanical irritation resulting in erythema and hives. Seek medical help if rash, irritation or dermatitis persists. Resin dust may also cause skin reactions in susceptible individuals.

**Inhalation:** Wood and resin dust may cause unpleasant obstruction in the nasal passages, resulting in dryness of nose, dry cough, sneezing and headaches. Remove to fresh air. Seek medical help if persistent irritation, severe coughing or breathing difficulty occurs.

**Symptoms or Effects:** Acute Symptoms  
Wood dust can cause eye irritation. Certain species of wood dust can elicit allergic contact dermatitis in sensitized individuals. Wood dust may cause respiratory irritation, nasal dryness, coughing, sneezing and wheezing as a result of inhalation. Formaldehyde may cause temporary irritation of skin, eyes, or respiratory system.

Formaldehyde may cause sensitization in susceptible individuals.

## 4. First Aid Measures (cont'd.)

### **Chronic Symptoms**

Wood dust, depending on the species, may cause allergic contact dermatitis and respiratory sensitization with prolonged, repetitive contact or exposure to elevated dust levels. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer. Additional information related to carcinogenicity for wood dust and formaldehyde is listed below.

**Note to Physician:** None

## 5. Firefighting Measures

<b>Extinguishing Media and Restrictions:</b>	Water, carbon dioxide, and sand may be used to extinguish fires for wood products. Class A, B, and C, extinguishers may also be used bearing in mind that fire extinguishers with a <b>Class A</b> rating are effective against fires involving paper, wood, textiles, and plastics. Fire extinguishers with a <b>Class B</b> rating are effective against flammable liquid fires. These can be fires where cooking liquids, oil, gasoline, kerosene, or paint have become ignited. Fire extinguishers with a <b>Class C</b> rating are suitable for fires in "live" electrical equipment.
<b>Specific Hazards, Anticipated Combustion Products:</b>	Thermal decomposition (i.e. smoldering, burning) can release carbon monoxide, oxides of nitrogen, carbon dioxide, aliphatic aldehydes including formaldehyde, resin acids, terpenes and polycyclic aromatic hydrocarbons. Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas. Spontaneous and rapid hazardous decomposition will not occur.
<b>Autoignition Temperature:</b>	Variable [typically 400°-500°F (204°-260°C)]
<b>Special Firefighting Equipment/Procedures:</b>	None
<b>Unusual Fire and Explosion Hazards:</b>	Depending on moisture content, and more importantly, particle diameter, wood dust may explode in the presence of an ignition source. For wood dust, an airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL. Reference NFPA Standards 654 and 664 for guidance.

## 6. Accidental Release Measures

<b>Steps to be Taken In Case Material Is Released or Spilled:</b>	Sweep or vacuum up for recovery and disposal. Avoid creating dusty conditions whenever feasible. Avoid the use of air supplied "blowers" whenever working with wood dust. Maintain good housekeeping to avoid accumulation of dried wood and resin dust on exposed surfaces. Use only an approved filtering facepiece respirator and goggles where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort. Place recovered wood dust in a container and only dispose of in accordance with all Local, State, and Federal
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## Regulations.

### 7. Handling and Storage

#### Precautions to be Taken In Handling and Storage:

Dried wood and resin dust may pose a combustible dust hazard. Keep away from ignition sources. Avoid eye contact. Avoid prolonged or repeated contact with skin. Avoid prolonged or repeated breathing of wood dust. These products may release some formaldehyde in gaseous form. Specific handling and storage conditions should be assessed to determine potential formaldehyde concentrations. Store in a well-ventilated, cool, dry place away from open flame.

### 8. Exposure Control Measures and Personal Protection

Ingredients <sup>1</sup>	Agency	Exposure Limits	Comments
Wood (wood dust, softwood and hardwood)	OSHA	PEL-TWA 15 mg/m <sup>3</sup> (see footnote below) <sup>2</sup>	Total dust
	OSHA	PEL-TWA 5 mg/m <sup>3</sup>	Respirable Dust Fraction
	ACGIH	TLV-TWA 1 mg/m <sup>3</sup>	Inhalable fraction
Phenolformaldehyde resin solids	OSHA	PEL-TWA 0.75 ppm	Free gaseous
	OSHA	PEL-STEEL 2 ppm	Formaldehyde
	ACGIH	TLV-Ceiling 0.3 ppm	
Formaldehyde	OSHA	PEL-TWA 0.75 ppm	As formaldehyde
	OSHA	PEL-STEEL 2 ppm	
	OSHA	PEL Action Level 0.5 ppm	
	ACGIH	Ceiling 0.3 ppm	

**Supplemental Information:** The Recreation Vehicle Industry Association (RVIA) has voluntarily adopted the formaldehyde emission requirements for wood products (per CARB Phase II Levels; HWPW .05 ppm, PB .09 ppm, MDF .11 ppm, Thin MDF .13 ppm). There is, however, no federally mandated requirement for RVs, so the RVIA used the CARB Phase II formaldehyde emission requirements. On June 12, 2008, the RVIA board of directors set an effective date for member manufacturers to begin using wood products that meet the CARB new formaldehyde emissions level, as a mandatory condition of membership.

<sup>1</sup> Robert Weed Plywood Products have been tested and evaluated where applicable for ASTM E84 Flame Spread and FMVSS 302 Flame Spread. Formaldehyde Emission per HUD 24 CFR Part 3280.308 for Plywood and Particleboard have also been evaluated.

<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 PEL's for wood dust that OSHA had established at that time. The 1989 vacated PEL's were: 5 mg/m<sup>3</sup> PEL-TWA and 10 mg/m<sup>3</sup> STEL (15 min), all softwood and hardwood except Western Red Cedar. Wood dust is now regulated by OSHA as "Particulates Not Otherwise Regulated", which is also referred to as "nuisance dust". However, some states have incorporated the 1989 OSHA PEL's in their state plans. Additionally, OSHA indicated that it may cite employers under the OSH Act general duty clause in appropriate circumstances for noncompliance with the 1989 PEL's.

## 8. Exposure Control Measures and Personal Protection (cont'd.)

### Precautionary Statements:

**Local Exhaust:** Provide local exhaust as needed so that exposure limits are not exceeded. Ventilation to control dust should be considered where potential explosive concentrations and ignition sources are present. The design and operation of any exhaust system should consider the possibility of explosive concentrations of wood dust within the system. Use of tool mounted exhaust systems should also be considered.

**General Exhaust:** Provide general ventilation in processing and storage areas so that exposure limits are not exceeded.

**Other Controls:** Ensure that exhaust ventilation and material transport systems involved in handling products contain explosion relief vents or suppression systems designed and operated in accordance with applicable standards if the operating conditions justify their use. When cutting and machining RWP products, we advise the use of properly designed ventilation and containment equipment.

### Personal Protective Equipment:

**Respiratory Protection:** Use NIOSH approved respiratory protection most commonly referred to as dust masks or higher levels of respiratory protection as indicated if there is a potential to exceed the exposure limits or for symptom relief or worker comfort. Use respiratory protection in accordance with regulatory requirements such as the OSHA respiratory protection standard 29 CFR 1910.134.

**Eye Protection:** Approved goggles or tight fitting safety glasses are recommended when excessive exposures to dust may occur (e.g. during clean up) and when eye irritation may occur.

**Protective Gloves:** Cloth, canvas, or leather gloves are recommended to minimize potential slivers or mechanical irritation from handling product.

**Other Protective Clothing:** Outer garments which cover the arms may be desirable in extremely dusty areas.

**Work and Hygiene Practices:** Follow good hygienic and housekeeping practices. Clean up areas where wood and resin dust settles to avoid excessive accumulation of this combustible material. Avoid compressed air blowdown whenever possible. Avoid other practices that generate high airborne-dust concentrations.

## 9. Physical and Chemical Properties

**Physical Description:** RWP products produce a slightly aromatic hydrocarbon odor.

<b>Odor Threshold:</b>	Information Not Available
<b>Boiling Point (@ 760 mm Hg):</b>	Not Applicable

## 9. Physical and Chemical Properties (cont'd.)

<b>Melting/Freezing Point:</b>	Not Applicable
<b>Boiling Point (@ 760 mm Hg):</b>	Not Applicable
<b>Flash Point:</b>	Information Not Available
<b>Evaporation Rate:</b>	0
<b>Flammability:</b>	Not Applicable
<b>Lower/Upper Explosive Limits:</b>	For wood dust, an airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL.
<b>Vapor Pressure (mm Hg):</b>	Not Applicable
<b>Vapor Density (air = 1):</b>	Not Applicable
<b>Relative Density:</b>	Not Applicable
<b>Solubility:</b>	< 0.1%
<b>Partition Coefficient (n-octanol/water):</b>	Not Applicable
<b>Autoignition Temperature:</b>	Variable [typically 400°-500°F (204°-260°C)]
<b>Decomposition Temperature:</b>	Information Not Available
<b>Viscosity:</b>	Not Applicable

## 10. Stability and Reactivity

**Reactivity:** Information Not Available

**Hazardous Polymerization:**  May occur  Will not occur

**Stability:**  Unstable  Stable

**Conditions to Avoid:** Avoid open flame. Product may ignite at temperatures in excess of 400°F (204°C).

**Incompatibility (Materials or Conditions to Avoid):** Avoid contact with oxidizing agents.

## 10. Stability and Reactivity (cont'd.)

**Hazardous Decompositions or By-Products:** Thermal decomposition (i.e. smoldering or burning) can release carbon monoxide, oxides of nitrogen, carbon dioxide, aliphatic aldehydes including formaldehyde, resin acids, terpenes and polycyclic aromatic hydrocarbons. Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas. Spontaneous and rapid hazardous decomposition should not occur.

**Sensitivity to Static Discharge:** Information Not Available

## 11. Toxicological Information:

**Likely Route(s) of Exposure:**

- Ingestion
- Skin - Dust
- Inhalation - Dust
- Eye – Dust

### Signs and Symptoms of Exposure:

**Wood Dust – NTP:** According to its Report on Carcinogens, Twelfth Edition, NTP states, “Wood dust is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans”. An association between wood dust exposure and cancer of the nasal cavity has been observed in many case reports, cohort studies, and case-control studies that specifically addressed nasal cancer. Strong and consistent associations with cancer of the nasal cavities and paranasal sinuses were observed both in studies of people whose occupations are associated with wood dust exposure and in studies that directly estimated wood dust exposure. This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation 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. There is inadequate evidence for the carcinogenicity of wood dust from studies in experimental animals according to NTP.

**Wood Dust: IARC – Group 1:** Carcinogenic to humans; sufficient evidence of carcinogenicity. This classification is primarily based on studies showing an association between occupational exposure to wood dust and adenocarcinoma to the nasal cavities and paranasal sinuses. IARC did not find sufficient evidence of an association between occupational exposure to wood dust and cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum.

**Formaldehyde – NTP:** According to its Report on Carcinogens, Twelfth Edition, NTP states, Formaldehyde (gas) is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans and supporting data on mechanisms of carcinogenesis.

## 11. Toxicological Information (cont'd.):

**Formaldehyde: IARC – Group 1:** Carcinogenic to humans, sufficient evidence of carcinogenicity. A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries and “strong but not sufficient evidence” for leukemia. However, numerous epidemiological studies have failed to demonstrate a relationship between formaldehyde exposure and nasal cancer or pulmonary diseases such as emphysema or lung cancer.

### **Carcinogenicity Listing:**

- NTP: Wood Dust - Known Human Carcinogen. Formaldehyde, known Human Carcinogen.
- IARC Monographs: Wood Dust, Group 1 - Carcinogenic to Humans. Formaldehyde, Group 1- Carcinogenic to Humans.
- OSHA Formaldehyde Gas

**Toxicity Data:** No specific information is available for Robert Weed Plywood products in their purchased form. Individual component information is listed below.

### **Components:**

**Wood Dust (Softwood and Hardwood):** Dusts generated from sawing, sanding or machining the product may cause nasal dryness, irritation, coughing and sinusitis. NTP and IARC classify wood dust as a human carcinogen (IARC Group 1).

**Formaldehyde:** Human inhalation  $TC_{Lo}$  of 17 mg/m<sup>3</sup> for 30 minutes produced eye and pulmonary results.  
Human inhalation  $TC_{Lo}$  of 300 ug/m<sup>3</sup> produced nose and central nervous system results.  
 $LC_{50}$  (rat, inhalation) = 1,000 mg/m<sup>3</sup>, 30 minutes.  
 $LC_{50}$  (mice, inhalation) = 400 mg/m<sup>3</sup>, 2 hours.  
IARC classifies formaldehyde as a human carcinogen (IARC Group 1).

**Target Organs:** Eyes, Skin, and Respiratory System.

## 12. Ecological Information

**Ecotoxicity:** Information is not available for Robert Weed Plywood products in their purchased form.

<b>Formaldehyde:</b>	96 hr. $LC_{50}$ Fathead Minnow	24 mg/L
	96 hr. $LC_{50}$ Bluegill	0.10 mg/L
	5 min. $EC_{50}$ Photobacterium phosphoreum	9 mg/L
	96 hr. $EC_{50}$ Water Flea	20 mg/L



## 12. Ecological Information (cont'd.)

### **Biopersistence and Degradability:**

**Formaldehyde:** Trace amounts of free formaldehyde may be released to the atmosphere and would be expected to be removed in the atmosphere by direct photolysis and oxidation by photochemically produced hydroxyl radicals (half-life of a few hours). In the aqueous phase formaldehyde biodegradation is expected to take place in a few days.

**Wood and Resins:** The wood and resin portions of Robert Weed Plywood products would be expected to be biodegradable.

**Bioaccumulation:** Information Not Available.

**Other Adverse Effects:** None known.

## 13. Disposal Considerations

**Waste Disposal Methods:** If disposed of or discarded in its purchased form, incineration is preferable where regulations do not prohibit this action. Dry land disposal is acceptable in most states. It is, however, the user's responsibility to determine at the time of disposal whether the product and any modifications made meet the RCRA criteria for hazardous waste. Follow all applicable federal, state, and local regulations.

## 14. Transport Information

**Mode:  
(Air, Land, water)** Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG).

**UN Proper Shipping Name:** Not Applicable

**UN/NA ID Number:** Not Applicable

**Hazard Class:** Not Applicable

**Packing Group:** Not Applicable

**Environmental Hazards (Marine Pollutant):** Not Applicable

**Special Precautions:** Not Applicable

## 15. Regulatory Information

- TSCA:** Phenol-Formaldehyde resin is on the TSCA chemical substance inventory.  
Urea-Formaldehyde resin is on the TSCA chemical substance inventory.
- CERCLA:** Formaldehyde (100lbs RQ) is on the CERCLA chemical substance inventory.
- DSL:** Formaldehyde is on the DSL.
- OSHA:** Wood products are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, wood and resin dust generated by sawing, sanding or machining this product may be hazardous. Workplace exposure to formaldehyde is specifically regulated under 29 CFR 1910.1048.

### State Right-To-Know

**California Proposition 65:** This product contains formaldehyde, which depending on temperature and humidity, may be emitted from the product. Robert Weed Plywood has evaluated formaldehyde emission rates from its products and have found these rates to be below the associated and approved significant risk level. The user should determine whether formaldehyde emissions resulting from its site specific use, handling, ventilation design, capacity and final construction design for this product could exceed the safe harbor level. **Warning** - Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer.

**Pennsylvania** – This product contains formaldehyde which, depending on temperature and humidity, may be emitted from the product. When cut or otherwise machined, the product may emit wood dust. Formaldehyde and wood dust appear on Pennsylvania’s Appendix A, Hazardous Substance Lists.

**New Jersey** – This product contains formaldehyde, a substance which appears on New Jersey’s Environmental Hazardous Substance List.

**Minnesota** – Minnesota Statutes, 1984, Sections 144.495 and 325F.181 do not apply to this product; these statutes apply to plywood, particleboard and MDF and other products manufactured with urea-formaldehyde and phenol-formaldehyde.

**SARA 313 Information:** To the best of Robert Weed Plywood’s knowledge, this product contains formaldehyde at de minimis concentrations (0.1%) and is not subject to the SARA Title III, Section 313 supplier notification requirements.

**SARA 311/312 Hazard Category:** This product has been reviewed according the EPA “Hazard Categories” promulgated under SARA Title III, Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard	Yes
A delayed (chronic) health hazard	Yes
A corrosive hazard	No
A fire hazard	No
A reactivity hazard	No
A sudden release hazard	No

## 16. Other Information

**Disclaimer:** Robert Weed Plywood Corporation believes the information contained in this SDS to be accurate at the time of preparation and has been compiled using sources believed to be reliable. However, Robert Weed Plywood Corporation makes no warranty, either expressed or implied, concerning the accuracy or completeness of the information presented. It is the responsibility of the user to comply with local, state and federal regulations concerning use of this product.

**User Responsibility:** The information contained in this Safety Data Sheet (SDS) is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to make sure that this SDS is the most up-to-date issue.

**Prepared By:** Robert Weed Plywood Corporation - Engineering, Environmental, Health, and Safety Department, and Industrial Safety and Environmental Services, Inc. – Science Department.

**Preparation Date and Version:** April 27, 2015 – Complete Authoring and Migration from MSDS to SDS. Ver. 1.00

### Common Terms and Definitions

ACGIH	= American Conference of Governmental Industrial Hygienists
AICS	= Australian Inventory of Chemical Substances
C	= Ceiling Limit
CAS#	= Chemical Abstracts System Number
DOT	= U. S. Department of Transportation
DSL	= Domestic Substance List
EC50	= Effective concentration that inhibits the endpoint to 50% of control population
EINECS	= European Inventory of Existing Commercial Chemical Substances or European List of Notified Chemical Substances
ENCS	= Japanese Existing and New Chemical Substances List
EPA	= U.S. Environmental Protection Agency
HMIS	= Hazardous Materials Identification System
IARC	= International Agency for Research on Cancer
IATA	= International Air Transport Association
IMDG	= International Maritime Dangerous Goods
KECL	= South Korean Existing Chemicals List
LC50	= Concentration in air resulting in death to 50% of experimental animals
LCLo	= Lowest concentration in air resulting in death
LD50	= Administered dose resulting in death to 50% of experimental animals
LDLo	= Lowest dose resulting in death
LEL	= Lower Explosive Limit
LFL	= Lower Flammable Limit
MSHA	= Mine Safety and Health Administration
NFPA	= National Fire Protection Association
NIOSH	= National Institute for Occupational Safety and Health
NPRI	= Canadian National Pollution Release Inventory
NTP	= National Toxicology Program
OSHA	= Occupational Safety and Health Administration
PEL	= Permissible Exposure Limit

## 16. Other Information (cont'd.)

RCRA	= Resource Conservation and Recovery Act
STEL	= Short-Term Exposure Limit (15 minutes)
STP	= Standard Temperature and Pressure
TCLo	= Lowest concentration in air resulting in a toxic effect
TDG	= Canadian Transportation of Dangerous Goods
TDLo	= Lowest dose resulting in a toxic effect
TLV	= Threshold Limit Value
TSCA	= Toxic Substance Control Act
TWA	= Time-Weighted Average (8 hours)
UFL	= Upper Flammable Limit
WHMIS	= Workplace Hazardous Materials Information System