



Material Safety Data Sheet

Patriot Timber Products, Inc.

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hardwood & Softwood Plywood (Low Formaldehyde Emissions)
Trade Name: *RevolutionPly*® U.S Patent No. 8,414,996 Plywood
Distributor: Patriot Timber Products, Inc.
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Description: This panel product contains a hardwood veneer face bonded to wood components such as other wood veneer lumber or veneer strips using low emitting - formaldehyde resin.

SECTION 2: COMPOSITION, INFORMATION OR INGREDIENTS

Component Formaldehyde (LFE) CAS #50-00-0 - <0.1% by weight

Exposure Limit OSHA PEL TWA – .75 ppm
OSHA PEL STEL – 2 ppm
OSHA PEL ACTION LEVEL – 0.5 ppm
ACGIH TLV – CEILING – 0.3 ppm
ASTM E1333-96 – Equal to or less than 0.2 ppm (Large Chamber Test)

Component Wood Dust – All species except Western Red Cedar

Exposure Limit OSHA PEL TWA – 15mg/m³ (Total Dust) 5.0mg/m³ (Respirable Fraction)
OSHA PEL STEL – 10mg/m³

ACGIH TLV (r) – TWA – 5.0mg/m³; STEL (15 min) – 10.0 mg/m³(Softwood); 1.0mg/m³ (Inhalable) (Certain hardwoods such as beech and oak)

SECTION 3: HAZARDS IDENTIFICATION

Eye Contact Gaseous formaldehyde may cause temporary irritation, mechanical irritation, or a burning sensation.

Skin Contact Both formaldehyde and various species of wood dust may evoke allergic contact dermatitis in sensitized individuals.

Ingestion Not likely to occur for product in purchased form.

Inhalation May cause nasal dryness, irritation and obstruction. Coughing, wheezing and sneezing, sinusitis and prolonged colds have also been reported.

Chronic Effects:

Formaldehyde

May cause nasal dryness, irritation and obstruction in nasal cavity and throat. Reports have shown formaldehyde may cause respiratory sensitization and may aggravate preexisting respiratory disorders. The United States EPA lists formaldehyde as a "B1 (Probable Human Carcinogen)". Formaldehyde is regulated by OSHA as a potential cancer agent. National Toxicology Program (NTP) included formaldehyde in their Annual Report on Carcinogens

Wood Dust

Depending on the specie, may cause dermatitis on prolonged repetitive contact; may cause respiratory sensitization and/or irritation. Wood dust is listed in the National Toxicology Program (NTP) under the United States Department on Health and Human Services in the Report on Carcinogens (ROC) as known to be a human carcinogen since the 10th RoC (2002).

SECTION 4: FIRST-AID MEASURES

Eyes

Remove contact lenses (if applicable). Flush eyes, including under eyelids, with large amounts of water and exit to fresh air. If irritation persists, get medical attention.

Skin

Wash affected area with soap and water. Get medical advice if a rash, persistent irritation or dermatitis occurs.

Inhalation

Exit to fresh air. Get medical advice if persistent irritation, severe coughing or breathing difficulty occurs.

Ingestion

Not applicable

SECTION 5: FIRE FIGHTING MEASURES

Flash Point

Not applicable

Autoignition Temperature

Dependent upon duration of exposure to heat source and other variables. 400 deg. – 500 deg. F (204 deg. – 260 deg. C).

Flammable Limits in Air

An airborne concentration of 40 grams of dust per cubic meter of air is often used as the lowest explosion limit (LEL) for wood dust.

Formaldehyde **Lower Explosion Limit (LEL) - 7%**
Upper Explosion Limit (UEL) - 73%

Unusual Fire & Explosion Hazards

Sawing, sanding or machining can produce wood dust as a by-product or "cloud" which may present a strong to severe explosion hazard if a dust particle contacts an ignition source.

Special Fire Fighting Properties

Burns like other wood products, but it is dangerous and may burn hotter. Partially burned dust is especially hazardous if dispensed into the air. Remove burned or wet dust to an open area after fire is extinguished. Wet down wood dust to reduce the likelihood of ignition or dispersion of dust into the air.

Extinguishing Media

Water, Carbon Dioxide, Sand

SECTION 6: ACCIDENTAL RELEASE MEASURES

Not applicable in purchased form. Sweep, shovel or vacuum dust from machined product for disposal. Wood dust cleanup and disposal activities should be accomplished in a manner to minimize creation of airborne dust.

*Notify appropriate regulatory agencies if accident does occur.

SECTION 7: HANDLING AND STORAGE

Store in a well-ventilated, cool, dry place allowing formaldehyde gas adequate ventilation to prevent possible build up, particularly when high temperatures occur.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

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| Ventilation | Provide adequate general and local exhaust ventilation to keep airborne concentration levels below OSHA PEL's. |
| Other Types Controls | Due to the explosive potential of wood dust when suspended in air, precautions should be taken to prevent sparks or other ignition sources in ventilation system. |
| Personal Protective Equipment | Wear goggles or safety glasses when manufacturing or machining the product. Wear NIOSH/MSHA approved respirator when the allowable OSHA exposure limits may be exceeded. Other protective equipment such as gloves and outer garments may be needed to reduce skin contact depending on dust conditions. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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| Boiling Point | Not applicable |
| Specific Gravity (H₂O = 1) | <1.0 |
| Vapor Density | Not applicable |
| % Volatiles by Vol. | 0 |
| Melting/Freeze Point | Not applicable |
| Vapor Pressure | Not applicable |
| Solubility in H₂O (% by wt.) | <0.1% |
| Evaporation Rate (Butyl Acetate = 1) | Not applicable |
| pH | Not applicable |
| Physical Form | Solid |
| Appearance, Color and Odor | Light to dark tan colored granular solid. Color and odor are dependent upon wood species. |

SECTION 10: STABILITY AND REACTIVITY

Conditions Contributing to Instability Stable under normal conditions. Wood dust generated from sawing, sanding or machining is extremely combustible. Keep in cool dry place away from ignition sources.

Incompatibility Avoid contact with oxidizing agents and drying oils. Avoid open flame. Product may ignite in temperatures in excess of 400 degrees Fahrenheit.

Hazardous Decomposition Products Thermal oxidative decomposition can produce irritation and toxic fumes and gases, including carbon monoxide, hydrogen cyanide, aldehydes, organic acids and polynuclear aromatic compounds.

Hazardous Polymerization Not applicable

SECTION 11: TOXICOLOGICAL INFORMATION

Hardwood plywood may release small quantities of formaldehyde (CAS No. 50-00-0) in gaseous form. Emissions decrease through time as the panel ages. Exposure to formaldehyde may cause temporary irritation of eyes, nose and throat. Exposure can aggravate respiratory sensitization such as asthma and preexisting respiratory disorders.

Manual or mechanical cutting or abrasion processes performed on the product can result in generation of wood dust. Wood dust may cause nasal dryness, irritation and obstruction. Coughing, wheezing and sneezing, sinusitis and prolonged colds have also been reported.

Depending on species, wood dust may cause respiratory sensitization and/or irritation. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer, however; wood dust is not considered a potential cancer hazard by OSHA.

SECTION 12: ECOLOGICAL INFORMATION

Not applicable to product in purchased form.

SECTION 13: DISPOSAL CONSIDERATIONS

This product is not considered hazardous waste under federal hazardous waste Regulations 40 CFR 261. Your state and local government requirements may be different from the federal regulations. Incinerate or landfill waste in accordance with the local, state and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT (Department of Transportation)
Hazard Class: Combustible

Proper Shipping Name: Hardwood Plywood (ULEF)
Identification Number: Not applicable

SECTION 15: REGULATORY INFORMATION

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| Toxic Substance Control Act | Not applicable |
| OSHA Permissible Exposure Limit (PEL) | Shown above. |
| NIOSH Recommended Exposure Limit (REL) | Shown above. |
| ACGIH Threshold Limit Value (TLV) | Shown above. |
| Sara Title III | Not applicable |
| ASTM E1333-96 (Large Chamber Test) | In accordance with ASTM E1333-96 Large Chamber Test, independent third party testing verifies emissions are equal to or less than 0.2 ppm. |

SECTION 16: OTHER INFORMATION

This fact sheet is for products that have not been finished (coated, laminated or overlaid) or treated, for example with a preservative or fire retardant.

There are several ways to check the workplace for formaldehyde gas and airborne wood dust. In order to be certain of the levels in the air, monitor and compare the results with the relevant occupational exposure levels. Organizations that have set standards or give recommendations for exposure are Occupational Safety and Health Administration (OHSa), National Institute for Occupational Safety (NIOSH), and the American Conference of Governmental Industrial Hygienists (ACGIH).

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