Safety Data Sheet (SDS)



Plywood

1. Identification

TRADE NAME: Plywood

SYNONYMS and/or GRADES: None

PRODUCT USES: Building Materials

CHEMICAL NAME/CLASS: Wood Products

MANUFACTURER'S NAME: Weyerhaeuser

ADDRESS: 33663 Weyerhaeuser Way S., Federal Way WA 98001-9620

EMERGENCY PHONE: (844) 523-4081 (3E Company)

BUSINESS PHONE: (253) 924-3865 INTERNET ACCESS: See Section 16 REVISED DATE: April 13, 2015

2. Hazard(s) Identification

Signal Word: DANGER

NOTE: This product is not hazardous in the form in which it is shipped by the manufacturer but may become hazardous as the result of downstream activities (e.g. cutting, sanding) which creates small particles resulting in the potential hazards as described below.

Classification	Hazard Statement(s)	Pictogram(s)
HEALTH Carcinogen- Category 1A (H350)*	Wood dust may cause nasopharyngeal cancer and/or cancer of the nasal cavities and paranasal sinuses by inhalation	

2. Hazard(s) Identification (cont'd.)

Skin Irritation Category 2 (H315)	May cause skin irritation	•
Specific Target Organ Toxicity- Single Exposure (STOT) Category-3 (H335)	May cause respiratory irritation	<u>(1)</u>
Eye Irritation Category 2B (H320)	Causes eye irritation	None
Combustible Dust (OSHA Defined Hazard)	If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air	None

^{*}Hazard codes (GHS)

HMIS Rating (Scale 0-4): Health = 2^* Fire = 1 Physical Hazard = 0 NFPA Rating (Scale 0-4): Health = 1 Fire = 1 Reactivity = 0

Precautionary Statement(s)/Codes (GHS):

Prevention Statements:

P210: Keep away from sparks, flame or other heat sources.

P243: Take precautionary measures against static discharge.

P260 and P261: Avoid breathing dust.

P280: Wear appropriate protective equipment for skin exposure. In case of inadequate ventilation wear an approved respirator suitable for conditions of use.

P362 and P363: Take off contaminated clothing and wash before reuse.

Response Statements:

P304 and P340: If inhaled and breathing becomes difficult, remove person to fresh air and keep comfortable for breathing.

P308 and P313: If experiencing respiratory symptoms, following removal to fresh air, call a doctor or other qualified medical professional.

P313: If skin irritation or rash occurs get medical advice/attention.

P362: Wash contaminated clothing before reuse.

P352 and P264: If on skin wash with plenty of soap and water.

P338 and P351: If in eyes, rinse cautiously for several minutes. Remove contact lenses if present and easy to do so.

Disposal:

P501: Dispose of in accordance with Federal, state and local regulations.

Ingredients of Unknown Acute Toxicity (>1%): NAP

3. Composition/Information on Ingredients

Ingredients	CAS#	Wt %
Wood (wood dust, softwood or hardwood)	None	85-99
Resin Solids: Polymeric Phenol-Formaldehyde ¹ (C ₇ H ₆ O ₂)	9003-35-4	1-15

Common names: 1 Phenol-formaldehyde resin

4. First Aid Measures

Inhalation: Remove to fresh air if respiratory symptoms are experienced. Seek medical help if persistent irritation, severe coughing, breathing difficulty or other serious symptoms occur.

Eye Contact: Treat dust in eye as a foreign object. Flush with water to remove dust particles. Remove contact lenses if present and easy to do so. Avoid touching or rubbing eyes to avoid further irritation or injury. Seek medical help if irritation persists.

Skin Contact: Wood dust may elicit contact dermatitis. Seek medical help if rash, irritation or dermatitis persists.

Skin Absorption: Not known to be absorbed through the skin.

Ingestion: Not applicable under normal use.

Symptoms or Effects:

Acute Symptoms/Effects – Wood dust may cause mechanical irritation of the respiratory system. Wood dust can cause physical obstructions in the nasal passages, resulting in dryness of nose, dry cough, and sneezing. Wood dust may cause mechanical irritation of the eyes.

Delayed Symptoms/Effects – Unique delayed effects are not anticipated after exposure. See Section 11 for additional information on chronic effects.

5. Fire-fighting Measures

Extinguishing Media and Restrictions: Water, carbon dioxide and sand.

Specific Hazards, Anticipated Combustion Products: Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas. Thermal decomposition (i.e. smoldering, burning) products include carbon monoxide, carbon dioxide, aliphatic aldehydes, including formaldehyde, resin acids, terpenes, and polycyclic aromatic hydrocarbons.

Autoignition Temperature: Variable [typically 400°-500°F (204°-260°C)]

Special Firefighting Equipment/Procedures: No special equipment anticipated. Beware of potential combustible dust explosion hazard.

Unusual Fire and Explosion Hazards: Depending on moisture content and more importantly, particle diameter and airborne concentration, plywood dust may explode in the presence of an ignition source. Wood dust may similarly deflagrate (combustion without detonation like an explosion) if ignited in an open or loosely contained area. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL for wood dusts. Reference NFPA Standards 654 and 664 and the NFPA Fire Protection Handbook for guidance. Ventilation systems should be kept clean and precautions should be taken to prevent sparks or other ignition sources.

6. Accidental Release Measures

Steps to be taken in case Material Is Released or Spilled: Sweep or vacuum up for recovery and disposal. Avoid creating dusty conditions whenever feasible. Maintain good housekeeping to avoid accumulation of wood and resin dust on exposed surfaces. Use approved filtering facepiece respirator ("dust mask") or higher levels of respiratory protection as indicated and goggles where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort.

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 well-ventilated, cool, dry place away from open flame.

8. Exposure Control Measures/Personal Protection

Exposure Limits/Guidelines:

Ingredient(s)	Agency	Exposure Limit(s)	Comments
Wood (wood dust, softwood or hardwood)	OSHA	PEL-TWA 15 mg/m ³ (see footnote ^A below)	Total Dust (PNOR)
	OSHA	PEL-TWA 5 mg/m³ (see footnote A below)	Respirable dust fraction (PNOR)
	ACGIH	TLV-TWA 1 mg/m ³	Inhalable fraction
Phenol-formaldehyde resin solids ^B	OSHA OSHA	PEL-TWA 0.75 ppm PEL-STEL 2 ppm	Free gaseous formaldehyde
	ACGIH	TLV- (C) 0.3 ppm	Ceiling limit

A 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/m³ PEL-TWA and 10 mg/m³ STEL (15 min), all softwood and hardwood except Western Red Cedar. Wood dust is now regulated by OSHA as "Particulates Not Otherwise Regulated" (PNOR), which is also referred to as "nuisance dust". However, some states have regulated wood dust PEL's in their state plans. Additionally, OSHA indicated that it may cite employers under the OSH Act general duty clause in appropriate circumstances.

Ventilation:

- LOCAL EXHAUST Provide local exhaust as needed so that exposure limits are met. 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. See "SPECIAL" section below. Use of tool mounted exhaust systems should also be considered, especially when working in enclosed areas.
- MECHANICAL (GENERAL) Provide general ventilation in processing and storage areas so that exposure limits are met.
- SPECIAL Ensure that exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or suppression systems designed and operated in accordance with applicable standards if the operating conditions justify their use.

^B These products may contain free formaldehyde (<0.1%, wt %), which may be released depending on concentration and environmental conditions. These panels contain no added urea-formaldehyde resins. Large scale chamber studies on similar materials conducted by the APA Engineered Wood Association have shown that the finished products off-gas levels below 0.1 ppm.

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

OTHER ENGINEERING CONTROLS – Cutting and machining of product should preferably be done outdoors or with adequate ventilation and containment.

Personal Protective Equipment:

- RESPIRATORY PROTECTION Use filtering face piece respirator ("dust mask") tested and approved under appropriate government standards such as NIOSH (US),CSA (Canada), CEN (EU), or JIS (Japan) where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort or symptom relief. Use respiratory protection in accordance with jurisdictional regulatory requirements similar to the OSHA respiratory protection standard 29CFR 1910.134 following a determination of risk from potential exposures.
- 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 OR EQUIPMENT Outer garments which cover the arms may be desirable in extremely dusty areas.
- WORK/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. Minimize compressed air blowdown or other practices that generate high airborne-dust concentrations.

9. Physical/Chemical Properties

Appearance: Appearance: Plywood is a 3 to 9 ply-veneer product with a slightly aromatic resinous odor and natural wood color.

Odor/ Odor Threshold(s):	NAV
pH:	NAP
Melting/Freezing Point:	NAP
Boiling Point (@ 760 mm Hg) and Range:	NAP
Flash Point:	NAP
Evaporation Rate:	NAP
Flammability:	NAV
Lower / Upper Explosive Limits:	40,000 mg of dust per cubic meter of air is often used as
	the LEL for wood dusts.
Vapor Pressure (mm Hg):	NAP
Vapor Density (air = 1; 1 atm):	NAP
Relative Density:	NAP
Solubility:	<0.1
Partition Coefficient (n-octonal/water):	NAP
Autoignition Temperature:	Variable [typically 400°-500°F (204°-260°C)]
Decomposition Temperature:	NAV
Viscosity:	NAP
Other Properties:	NAP

10. Stability and Reactivity

Reactivity: N	NAP			
Hazardous P	olymerization:	May occur	×	Will not occur
Stability:	Unstable	Stable		
Conditions to	o Avoid: Avoid all s	sources of ignition.		
Incompatibil	itv (Materials to Av	oid): Avoid contact wit	h oxidizi	ng agents and drving oils

10. Stability and Reactivity (cont'd.)

Hazardous Decomposition or By-Products: 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.

Sensitivity to Static Discharge: Airborne wood dust may be ignited by a static discharge depending on airborne concentrations, particle size and moisture content.

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, Thirteenth 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. 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, Thirteenth 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.

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(s):

NTP: Wood dust, Known Human Carcinogen. Formaldehyde, Known to be a

Human Carcinogen.

IARC Monographs: Wood dust, Group 1 - carcinogenic to humans. Formaldehyde, Group 1-

carcinogenic to humans.

■ OSHA Regulated: Formaldehyde Gas

11. Toxicology Information (cont'd.)

Toxicity Data: No specific information available for product in purchased form. Individual component information is listed below.

Components:

Wood dust (softwood or hardwood)

Dusts generated from sawing, sanding or machining the product may cause respiratory irritation, nasal dryness and irritation, coughing and sinusitis. NTP and IARC (Group 1) classify wood dust as a human carcinogen. See Section 2 above.

Formaldehyde

Human inhalation TC_{Lo} of 17 mg/m³ for 30 minutes produced eye and pulmonary results; human inhalation TC_{Lo} of 300 ug/m³ produced nose and central nervous system results; LC_{50} (rat, inhalation) = 1,000 mg/m³, 30 minutes; LC_{50} (mice, inhalation) = 400 mg/m³, 2 hours. NTP and IARC (Group 1) classify formaldehyde as a human carcinogen. See Section 2 above.

Target Organs: Eyes, skin and respiratory system.

Note: Weyerhaeuser evaluated the studies referenced in the ACGIH® TLV® Documentation for Wood Dust and others which included potential allergenic references for wood species which may cause skin or respiratory sensitization. There are a limited number of studies of highly variable consistency which reference sensitization from some species of wood. When the total weight of evidence is considered this product is considered to be an eye, skin and repository irritant and not a respiratory or skin sensitizer according to health hazard classification criteria.

12. Ecological Information

Ecotoxicity: NAV for finished product.

Component: Formaldehyde

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

Biopersistance and Degradability: The wood and resin portions of this product would be expected to be biodegradable.

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.

Bioaccumulation: Not expected to bioaccumulate.

Soil Mobility: NAV

Other Adverse Effects: NAP

13. Disposal Considerations

Waste Disposal Method: Dry land disposal or incineration is acceptable in most areas. It is, however, the user's responsibility to determine at the time of disposal whether your waste meets any jurisdictional criteria. Note that wood dust may pose a combustible dust hazard.

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) regulations. Not regulated as a hazardous material by IMDG or IATA regulations concerning the transport of hazardous materials.

UN Proper Shipping Name:
UN/NA ID Number:
NAP
Hazard Class:
NAP
Packing Group:
NAP
Environmental Hazards (Marine

Pollutant):

Special Precautions NAP

15. Regulatory Information

TSCA: Phenol-formaldehyde resin is on the TSCA chemical substance inventory.

CERCLA: Formaldehyde (100 lbs RQ) is on the CERCLA chemical substance inventory.

DSL: Formaldehyde is on the Canadian Domestic Substance List.

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:

<u>California Proposition 65</u> – This product contains formaldehyde, which depending on temperature and humidity, may be emitted from the product. Weyerhaeuser has evaluated formaldehyde emission rates from its products and have found these rates to be below the 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.

<u>Warning</u>: Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer.

<u>Pennsylvania</u> – 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.

<u>New Jersey</u> – This product contains formaldehyde, a substance which appears on New Jersey's Environmental Hazardous Substance List.

<u>Minnesota</u> – Minnesota Statutes, 1984, Sections 144.495 and 325F.181 do not apply to this product; these statues apply to plywood, particleboard and MDF and other products manufactured with ureaformaldehyde resins.

SARA 313 Information: To the best of our knowledge, this product contains formaldehyde at de minimis concentrations (<0.1%) and is not subjected to the SARA Title III Section 313 supplier notification requirements.

SARA 311/312 Hazard Category: This product has been reviewed according to 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

15. Regulatory Information (cont'd.)

FDA: Not intended for use as a food additive or indirect food contact item.

WHMIS Classification: Wood and products made from wood are exempt from WHMIS per the Hazardous Products Act. However, wood dust is considered to be a controlled product: D2A (wood dust and formaldehyde: IARC Group 1).

16. Other Information

Date Prepared: 11/08/2010 **Date Revised:** 04/13/2015

Prepared By: Weyerhaeuser Company Environment, Health, and Safety.

Weyerhaeuser SDS available on:

http://www.wy.com/sustainability/environment/product-stewardship/safety-data-sheets/

User's Responsibility: The information contained in this Safety Data Sheet 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 ensure that the most current SDS is used.

Definition of Terms

ACGIH® = American Conference of Governmental Industrial Hygienists

C = Ceiling Limit

CAS# = Chemical Abstracts System Number DOT = U. S. Department of Transportation

DSL = Domestic Substance List

EC# = Identifying Number Assigned to Chemicals Contained in the European Inventory of

Existing Chemical Substances (EINECS)

EC₅₀ = Effective Concentration That Inhibits the Endpoint to 50% of Control Population

EPA = U.S. Environmental Protection Agency

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HMIS = (Canada) Hazardous Materials Identification System

IARC = International Agency for Research on Cancer
IATA = International Air Transport Association

IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods

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

NAP = Not Applicable NAV = Not Available

NIOSH = National Institute for Occupational Safety and Health

NFPA = National Fire Protection Association

NPRI = Canada-National Pollution Release Inventory

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit

PNOR = Particulate Not Otherwise Regulated
PNOS = Particulate Not Otherwise Specified
RCRA = Resource Conservation and Recovery Act

16. Other Information (cont'd.)

STEL = Short-Term Exposure Limit (15 minutes)
STP = Standard Temperature and Pressure

TCLo = Lowest Concentration in Air Resulting in a Toxic Effect

TDG = (Canada) 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 = (Canada) Workplace Hazardous Materials Information System

Plywood



Danger

Wood dust may cause nasopharyngeal cancer and/or cancer of the nasal cavities and paranasal sinuses by inhalation. May cause respiratory, skin and eye irritation.

May form combustible dust concentrations in air if small particles are formed during processing or handling.

Precautions: Avoid breathing dust and wear appropriate protective equipment for respiratory, skin or eye exposures. Prevent dust release and accumulations to minimize hazards. Take off contaminated clothing and wash before reuse. Keep dust away from ignition sources such as heat, sparks, and flame.

First Aid: If on skin wash with plenty of mild soap and water. If in eyes, rinse cautiously for several minutes. Remove contact lenses if present and easy to do so. If experiencing respiratory symptoms, remove to fresh air. Contact a qualified medical professional for serious or persistent skin, eye or respiratory symptoms.

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