



Parallam Plus PSL (CA-B)

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1. Product Identification

Product	Manufacturing Location(s)
Parallam® Plus PSL (CA-B)	USA: Buchannon, WV, Colbert, GA Canada: Vancouver, BC

Synonyms: Copper-Azole Treated Parallel Strand Lumber, Copper-Azole Treated Wood, Copper-Azole treated Structural Composite Lumber, Wolmanized Parallam PSL (CA-B)

2. Hazardous Ingredients/Identity Information

Name	CAS#	Percent	Agency	Exposure Limits	Comments
Wood (softwood)	None	90-92	OSHA	PEL-TWA 15 mg/m ³ (see footnote ^A below)	Total dust
			OSHA	PEL-TWA 5 mg/m ³ (see footnote ^A below)	Respirable dust fraction
			ACGIH	TLV-TWA 1 mg/m ³	Inhalable fraction, All other species
Phenol formaldehyde resin/wax solids ^{B, C}	9003-35-4	7-8	OSHA	PEL-TWA 0.75 ppm	Free gaseous formaldehyde
			OSHA	PEL-STEL 2 ppm	
			ACGIH	TLV-Ceiling 0.3 ppm	Free gaseous formaldehyde
Copper compounds (mixture)	7440-50-8	<1	OSHA	PEL-TWA 1 mg/m ³ (as Copper)	Dusts and mist
			ACGIH	TLV-TWA 1 mg/m ³ (as Copper)	Dusts and mist
Tebuconazole	107534-96-3	<1	None	None	None

Component Synonyms:

Phenol formaldehyde resin solids; Novolac, phenol formaldehyde polymer.

2. Hazardous Ingredients/Identity Information (cont'd.)

Tebuconazole; Alpha-[2-(4-chlorophenyl) ethyl]-alpha-(1, 1-dimethylethyl) - 1H-1, 2, 4-triazole-1-ethanol.

^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: 8 hr TWA- 5 mg/m³; STEL (15 min)-10mg/m³ (all softwood and hardwood except Western Red Cedar); Western Red Cedar- TWA 2.5 mg/m³.

Wood dust is now regulated by OSHA as "Particulates Not Otherwise Regulated" (PNOR), or Nuisance Dust. However, some states have incorporated the 1989 OSHA PELs 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 PELs.

^B The VOC content of adhesives and sealants used are equal or less than the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168, and all sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

^C These products may contain trace (<0.1%, wt %) amounts of free formaldehyde, which may be released depending on concentration and environmental conditions. These panels contain no urea-formaldehyde resins. Large scale chamber studies conducted by the APA Engineered Wood Association have shown that the finished products off gas levels below 0.1 ppm as well. These products also contain trace amounts of ethanolamine which is used in the treating process; however the majority of the ethanolamine is driven off during the kiln drying process.

3. Hazard Identification

Appearance and Odor: Parallam® Plus PSL (CA-B) is green in color consisting of southern yellow pine or Douglas fir softwood with a woody odor.

Primary Health Hazards: The primary health hazard posed by these products is thought to be due to inhalation of wood dust.

Primary Route(s) of Exposure:

- Ingestion:
- Skin:
- Inhalation:
- Eye:

Medical Conditions Generally Aggravated by Exposure: Wood dust may aggravate pre-existing respiratory conditions or allergies.

Signs and Symptoms of Exposure:

Acute Health Hazards: 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.

Chronic Health Hazards: 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.

Carcinogenicity Listing:

- NTP: Wood dust, Known Human Carcinogen. Formaldehyde, Reasonably Anticipated to be a Human Carcinogen.
- IARC Monographs: Wood dust, Group 1 - carcinogenic to humans. Formaldehyde, Group 1 - carcinogenic to humans.
- OSHA Regulated: Formaldehyde Gas

Wood Dust - NTP: According to its Tenth Report on Carcinogens, 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 nose 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."

3. Hazard Identification (cont'd.)

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 of 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: 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. 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. Rats exposed to 14 ppm of formaldehyde for 24 months in the laboratory developed nasal cancer. Exposure of 6 ppm did not result in statistically significant levels of nasal cancer.

4. Emergency and First-Aid Procedures

Ingestion: Not applicable under normal use.

Eye Contact: Wood dust may cause mechanical irritation. Treat dust in eye as foreign object. Flush with water to remove dust particle. 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.

Skin Absorption: Not known to occur under normal use.

Inhalation: Wood 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.

5. Fire and Explosion Data

Flash Point (Method Used): NAP

Flammable Limits:

LFL = See below under "Unusual Fire and Explosion Hazards"

UFL = NAP

Extinguishing Media: Water, carbon dioxide, sand

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

Special Firefighting Procedures: None

Unusual Fire and Explosion Hazards: Depending on moisture content, and more importantly, particle diameter, wood dust may explode in the presence of an ignition source. 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 for guidance.

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

NFPA Rating (Scale 0-4): **Health = 1** **Fire = 1** **Reactivity = 0**

6. Accidental Release Measures

Steps to be Taken In Case Material Is Released or Spilled: Not applicable for products in purchased form. Wood dust generated from sawing, sanding, drilling, or routing of these products may be vacuumed or shoveled for recovery or disposal. Avoid dusty conditions and provide good ventilation. Use a NIOSH-approved filtering face piece respirator ("dust mask") and goggles where ventilation is not possible and the allowable exposure limits may be exceeded.

7. Handling and Storage

Precautions to be Taken In Handling and Storage: No special handling precautions are required for products in purchased form. Avoid repeated or prolonged breathing of wood dust. These products may release very small quantities of formaldehyde in gaseous form. Under foreseeable conditions of use, these products release less than 0.10 ppm in standard large chamber test conditions. Store in well-ventilated, cool, dry place away from open flame.

8. Exposure Control Measures, Personal Protection

Personal Protective Equipment:

RESPIRATORY PROTECTION – Not applicable for product in purchased form. A NIOSH-approved filtering face piece respirator (“dust mask”) is recommended when exposure limits may be exceeded.

EYE PROTECTION – Not applicable for product in purchased form. Goggles or safety glasses are recommended when machining this product.

PROTECTIVE GLOVES – Not required. However, cloth, canvas, or leather gloves are recommended to minimize potential slivers or mechanical irritation from handling product.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT – Not applicable for product in purchased form. Outer garments may be desirable in extremely dusty areas.

WORK/HYGIENE PRACTICES – Follow good hygienic and housekeeping practices. Clean up areas where wood dust settles to avoid excessive accumulation of this combustible material. Minimize blow down or other practices that generate high airborne-dust concentrations.

Ventilation:

LOCAL EXHAUST – Provide local exhaust as needed so that exposure limits are met.

MECHANICAL (GENERAL) – Provide general ventilation in processing and storage areas so that exposure limits are met.

SPECIAL – NAP

OTHER – NAP

9. Physical/Chemical Properties

Physical Description: Parallam® Plus PSL(CA-B) is green in color consisting of southern yellow pine or Douglas fir softwood with a woody odor.

Boiling Point (@ 760 mm Hg):	NAP
Evaporation Rate (Butyl Acetate = 1):	NAP
Freezing Point:	NAP
Melting Point:	NAP
Molecular Formula:	NAP
Molecular Weight:	NAP
Oil-water Distribution Coefficient:	NAP
Odor Threshold:	NAP
pH:	NAP
Solubility in Water (% by weight):	NAP
Specific Gravity (H₂O = 1):	Variable; depends on wood species and moisture
Vapor Density (air = 1; 1 atm):	NAP
Vapor Pressure (mm Hg):	NAP
Viscosity:	NAP
% Volatile by Volume [@ 70°F (21°C)]:	NAP

10. Stability and Reactivity

Stability: Unstable Stable

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

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

Hazardous Decomposition or By-Products: Thermal decomposition products include carbon monoxide, carbon dioxide, aliphatic aldehydes, resin acids, terpenes, polycyclic aromatic hydrocarbons, chlorine compounds and copper fume.

Hazardous Polymerization: May occur Will not occur

Sensitivity to Mechanical Impact: NAP

Sensitivity to Static Discharge: NAP

11. Toxicological Information

Wood dust (softwood or hardwood)

OSHA Hazard Rating = 3.3; moderately toxic with probable oral lethal dose to humans being 0.5-5 g/kg (about 1 pound for a 70 kg or 150 pound person). Source: *OSHA Regulated Hazardous Substances*, Government Institutes, Inc., February 1990.

Wood dust – 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). 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.

Formaldehyde

OSHA Hazard Rating = 3 for local and systemic acute and chronic exposures; highly toxic. Irritation studies: human skin, 150 ug/3 days, intermittent exposure produced mild results; human eye, 1 ppm/6 minutes produced mild results. Toxicity studies: human inhalation TC_{Lo} of 8 ppm reported, but response not specified; 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; LC₅₀ (rat, inhalation) = 1,000 mg/m³, 30 minutes; LC₅₀ (mice, inhalation) = 400 mg/m³, 2 hours. Source: *OSHA Regulated Hazardous Substances*, Government Institutes, Inc., February 1990; Registry of Toxic Effects of Chemical Substances (RTECS), National Institute for Occupational Safety and Health (provided by Canadian Centre for Occupational Health and Safety, CCINFO May 1995).

Exposure to gaseous formaldehyde may cause temporary irritation to the nose and throat as well as lead to respiratory disorders. However, in a thorough review of sensory/respiratory irritation studies of formaldehyde from the standpoint of occupational exposure, an expert panel has observed exposure up to concentrations of 0.3 ppm failed to produce irritation. With regard to respiratory disorders, studies have concluded the threshold for long-term chronic pulmonary effects is between 0.4 and 3 ppm and for chronic obstructive pulmonary disease is 2 ppm. Pre-existing respiratory disorders may be aggravated by exposure.

Epidemiology studies of workers exposed to formaldehyde have failed to consistently identify an association between formaldehyde exposure and cancer. In animal studies, rats and mice exposed to high levels of formaldehyde developed nasal cancer while hamsters did not. These exposure levels are far above those levels normally found in the workplace. Formaldehyde is classified by IARC as carcinogenic to humans (Group 1). 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. NTP included formaldehyde in the annual report on carcinogens.

11. Toxicological Information (cont'd.)

Copper-Azole (tebuconazole)

Oral LD50 (male rat): 741 - 760 mg/kg. Oral LD50 (female rat): 650 – 651 mg/kg. Dermal LD50 (rat) >2020 mg/kg. Ames Test: negative. Source: *Tanalith E Copper-based Wood Preservative* [Copper-Azole concentrate] MSDS published by Koppers Arch Wood Protection (Aust) Pty Limited.

A human health risk assessment evaluated copper-azole exposure potential in occupational (adult builders) and residential/playground (adult handlers and children) populations and concluded that “no adverse health effects are expected” and that “none of the exposures to azole [tebuconazole] or copper evaluated pose a potential health risk”. Cancer risks were not assessed in this study because, according to the U.S. Environmental Protection Agency, neither Tebuconazole nor copper is a known or probable human carcinogen. Source: *Executive Summary – Assessment of Potential Human Health Risks Associated with Exposure to Copper Tebuconazole-Treated Wood*. July 10, 2003. Gradient Corporation.

Tebuconazole

Oral LD50 (bird, domestic): 1,000 mg/kg. Oral LD50 (rabbit): 1,000 mg/kg. Oral LD50 (rat): 3,352 mg/kg. Dermal LD50 (rat): 5,000 mg/kg. Source: *National Institutes of Health, U.S. National Library of Medicine, Specialized Information Services*. Tebuconazole is listed by the U.S. Environmental Protection Agency as a Group C – Possible Human Carcinogen. Source: U.S. EPA, Office of Pesticide Programs. *List of Chemicals Evaluated for Carcinogenic Potential (5/10/2002)*. OPP, Washington, DC.

Target Organs: Eyes, skin, and respiratory system.

12. Ecological Information

Environmental Fate: Biodegradable.

Environmental Toxicity:

Copper-Azole treated wood is non-phytotoxic.

Components:

Formaldehyde

96 hr LC ₅₀ Fathead Minnow	24mg/L
96 hr LC ₅₀ Bluegill	0.10 mg/L
5 min EC ₅₀ Photobacterium phosphoreum	9mg/L
96 hr EC ₅₀ Water flea	20 mg/L

Tebuconazole: Toxic to the aquatic environment.

13. Disposal Considerations

Waste Disposal Method: If disposed of or discarded in its purchased form, ordinary trash collection or approved burial is acceptable in most states.

CAUTION: Do not burn treated wood in open fires, stoves, fireplaces, or residential boilers because toxic chemicals may be produced in the smoke and ash. Treated wood from commercial or industrial use (for example, construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with federal, state, and local regulations. Do not use treated wood as a compost or mulch. This product is typically not considered a hazardous waste, but State-run waste programs may be more stringent. Check with your local or state regulators prior to disposal.

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.

14. Transportation Information (cont'd.)

Proper Shipping Name: NAP
Hazard Class: NAP
UN/NA ID Number: NAP
Packing Group: NAP
Information Reported for Product/Size: NAP

15. Regulatory Information

TSCA: Formaldehyde and copper carbonate are on the TSCA inventory.

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

DSL: Formaldehyde and copper carbonate are on the Canadian DSL.

OSHA: Finished wood products are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, wood 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 Prop 65 – This product contains formaldehyde which, depending on temperature and humidity, may be emitted from the product. California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Initiative Measure, Proposition 65): Title 22 California Code of Regulations requires that a clear and reasonable warning be given before exposure to chemicals listed by the State as causing cancer or reproductive toxicity. Formaldehyde is on California's list of chemicals known to the State to cause cancer. Weyerhaeuser has evaluated formaldehyde emission rates from its products and have found these rates to be below the significant risk level that would require product warnings.

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 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 as purchased has been reviewed according to the EPA "Hazard Categories" promulgated under the SARA Title III Section 311 and 312 and is considered , under applicable conditions, 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

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

WHMIS Classification: D2A (wood dust and formaldehyde: IARC Group 1).

16. Additional Information

Date Prepared: 12/30/2004

Date Revised: 08/03/2009

Prepared By: Weyerhaeuser Company Corporate Environment, Health & Safety

Weyerhaeuser MSDS available on: <http://www.weyerhaeuser.com/Sustainability/MSDS>

User's Responsibility: The information contained in this Material 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 make sure that this MSDS is the most up-to-date issue.

Definition of Common 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
EC50	=	Effective concentration that inhibits the endpoint to 50% of control population
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
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	=	Canadian National Pollution Release Inventory
NTP	=	National Toxicology Program
OSHA	=	Occupational Safety and Health Administration
PEL	=	Permissible Exposure Limit
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