ROSEBURG

P.O. Box 1088 • Roseburg, OR 97470
Ph: 541-679-3311 • Fax: 541-679-2543
Website: www.rfpco.com

MATERIAL SAFETY DATASHEET

Complies with ANSI Z400.1 format

	HMIS Label
Health (potential chronic effects)	1*
Fire Hazard	0
Reactivity	0
Personal Protection – depends on usage	**See Section 8**

PRODUCTS: Roseburg Urea Formaldehyde Bonded Composite Panel

Roseburg Forest Products ***Date of Preparation:*** *rev. 1/22/09*

Chemical Name & Synonyms: **Roseburg UltraBlend® Particleboard** (*Lite Industrial, Commercial, Industrial, Premium*), **Roseburg Stairtread®, Roseburg Underlayment (PBU), Novoflor®, Roseburg Medium Denisty Fiberboard** (*Synergite®, Synergite Lite®,Synergite Plus®, Synergite Ultra®, Holly Hill MDF®, Synerlite Superlite MGP®*), **Duramine®** Laminated Products

Description: A panel product manufactured from particles of wood bonded together with urea formaldehyde resins.

Chemical Family: Wood
Manufacturer Information:
Roseburg Forest Products
P.O. Box 1088
Roseburg, Oregon 97470
Telephone: 541-679-3311

Formula: Mixture

Prepared by: Roseburg Forest Products and DeEtta Burrows, MSPH, CIH Wise Steps, Inc.

Section 2: HAZARD IDENTIFICATION

2.1 Emergency Overview: Under normal use this product does not present any type of emergency conditions. If the product is in contact with strong oxidizers or exposure to temperatures greater than 400 degrees F a fire may be caused. Fire smoke contains hazard chemicals such as carbon monoxide, aldehydes and other toxic materials. Airborne wood and resin dust may explode if in high concentrations and combined with an ignition source.

2.2 OSHA regulatory status: This product is generally an article but is regulated under OSHA for the release of wood dust and total dust cured resins during mechanical operations releasing dust. The formaldehyde levels are below OSHA reporting requirements.

2.3 Potential health effects (See section 11 Toxicology Information for further details)

Routes of Entry: Inhalation and skin contact

Target Organs: Eyes, skin, mucous membranes, upper respiratory tract.

Acute: Wood dust may cause dryness, irritation, coughing and sinusitis. Dust may irritate the eyes. Some wood species may cause skin and respiratory irritation. The irritation is generally caused by mechanical action on the skin or mucous membranes.

Chronic: 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 hardwood dust has been reported by some scientists to be associated with nasal cancer. Formaldehyde has been shown to cause cancer in certain laboratory animals at extreme conditions (14 ppm), far above those normally found in the workplace with this product.

Cancer Listing: **Wood dust**: NTP known to be a Human Carcinogen (10th Report), IARC Monographs:, Group 1 **Formaldehyde:** NTP and OSHA – Probable Human Carcinogen, IARC Group 1

Medical Conditions That May Be Aggravated by Exposure: Wood dust may aggravate preexisting respiratory conditions or allergies. Formaldehyde may aggravate existing respiratory problems and cause allergies to susceptible persons.

2.4 Potential Environmental Effects: These wood products are not expected or known to pose an ecological hazard as the result of their intended uses.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

These wood products are composed of wood and cured resins (urea formaldehyde resins). The product may release small quantities of formaldehyde in gaseous form. Emissions decrease through time as the panels' age. Manual or mechanical cutting or abrasion processes performed on the product can result in generation of wood dust. The panels all meet Department of Housing and Urban Development Safety Standards. SEE Section 8 for exposure limits discussion.

Section 4 FIRST AID MEASURES

4.1: First aid procedures
Inhalation: Remove from area to fresh air. Seek medical attention if persistent irritation, severe coughing or breathing difficulty occurs.
Eye Contact: Immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Seek medical care if irritation persists.
Skin Contact: Wood dust of certain species may elicit allergic contact dermatitis in sensitized individuals and can cause mechanical irritation. Wash affected areas with soap and water. Seek medical attention if rash, irritation or dermatitis persists.
Ingestion: Not applicable under normal use.

4.2 Note to Physicians: None

Section 5 FIRE FIGHTING MEASURES

5.1 Flammable Properties
Flash point: Not Applicable
Flammable limits: LEL Not Applicable, **UEL** Not Applicable, **Wood and Wood Dusts are combustible**
Autoigniton Temperature: Variable typically 400 to 500 degrees F (204 to 260 C)
Building Code & Flame Spread Ratings: ASTM E-84 standard fire test flame spread places the products in a *Class C or Class III category.* Class C are generally approved for rooms and other areas within all but a few special service-type buildings.

5.2 Extinguishing Media: Water, carbon dioxide, sand, and chemical extinguisher.

5.3 Protection of Firefighters: Self-contained breathing apparatus (SCBA) recommended when fighting fire.

5.4. Hazardous Combustion Products: FIRE can result in carbon dioxide, carbon monoxide, oxides of nitrogen, aldehydes, cyanides and other hazardous gases and particles.

5.5. Unusual Fire & Explosion: Wood dust from sawing, sanding, or machining can be explosive in the presence of an ignition source depending on particle size and moisture content. Airborne concentrations of 40 grams per cubic meter are often used as the lower explosive limit

(LEL) for wood dusts. OSHA interprets the explosive level as having no visibility within five feet or less. **NFPA Rating** Scale 0 – 4 Health = 1; Fire = 1, Reactivity = 0

Section 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, or machining may be vacuumed or shoveled for recovery or disposal. Avoid dusty conditions and provide good ventilation. Use NIOSH/MSHA-approved respiratory protection and goggles where exposure limits may be exceeded.

Section 7 HANDLING AND STORAGE

7.1 Handling Precautions: Avoid repeated or prolonged inhalation of wood dust. No special handling precautions are warranted for products in purchased form.

7.2 Storage Precautions: Store in a well-ventilated, cool, dry place, away from ignition sources. Store flat, supported and protected from direct contact with the ground.

Section 8 EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Exposure Guidelines

Component	Percentage	Exposure Limits			
		OSHA PEL	OSHA STEL	ACGIH TLV-TWA	ACGIH TLV-STEL
Wood Dust*	>92%	10 mg/m^3	None	1 mg/m^3 (I)	None
Cured Resin Solids as dust	8%	PNOS - 10 mg/m^3	None	5 mg/m^3 (I)	None
Potential Trace Gas from Resin: Formaldehyde	<0.1%	0.75 ppm	2.0 ppm	None	0.3 ppm ceiling

** except for Western Red Cedar: 2.5 mg/m^3 (OSHA) and 0.5 mg/m^3 inhalable (TLV)*

Note: OSHA = Occupational Safety & Health Administration PEL for wood is 15 mg/m^3 but many state plans regulated wood dust at 10 mg/m^3
ACGIH = American Conference of Governmental Industrial Hygienists
PEL = Permissible Exposure Limit
TWA = Time Weighted Average
TLV = Threshold Limit Value – recommended levels
STEL = Short Term Exposure Limit (15-minutes)
PNOS = Particles not otherwise specified
I = inhalable
C = Ceiling Limit, never to be exceeded

8.2 Engineering Controls

Required Ventilation: Not applicable for the product in purchased form. If dust is generated provide local exhaust ventilation as needed so that exposures are below exposure limits.

8.3 Personal Protective Equipment (PPE)

Eye Protection: Goggles or safety glasses are recommended when manufacturing, sanding, sawing or machining product.

Skin Protection: Protective Gloves: Cloth, canvas or leather gloves are recommended for protection against mechanical irritation or wood slivers.

Respiratory Protection: Not applicable for products in purchased form. Use a NIOSH/MSHA approved respirator when the allowable exposure limits may be exceeded during mechanical processing.

General Hygiene Considerations: None required for product in purchased form. Other protective equipment, such as gloves and outer garments, may be needed depending on dust conditions.

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (F^0): Not applicable

Solubility in Water: <0.1%

Vapor Pressure (mm Hg): Not applicable

pH: Not applicable

% Volatiles by Volume (@70^0F(21^0C)): 0

Evaporation Rate: Not applicable

Vapor Density (air =1): Not applicable

Spec Gravity (H_2O=1): 0.40-0.80, variable depends on wood species and moisture

Section 10 STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Avoid open flame. Product may ignite at temperatures in excess of 400^0F (204^0C).

Incompatible Materials: Concentrated acids or bases will alter the product. Avoid contact with magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze. Contact with these materials may generate hydrogen which is explosive. Exposure to elevated temperatures or strong acids or bases will cause polymerization with evolution of formaldehyde and/or water.

Hazardous Decomposition Products: Thermal and/or thermal-oxidative decomposition can produce irritating toxic fumes and gases, including carbon monoxide, carbon dioxide, formaldehyde, sulfur oxides, nitrogen oxides, and hazardous particles.

Hazardous Polymerization: Will not occur

Section 11 TOXICOLOGICAL INFORMATION

Toxicity Data: None available for products in purchased form. Individual component information is provided below if available.

Wood Dust:
The wood in this product is a potential mixture of soft and hardwoods. Overexposures to wood dusts may cause respiratory ailments including bronchitis, impairment of breathing functions, and asthma. Certain exotic woods contain alkaloids that can cause headache, anorexia, nausea, and difficulty with breathing.

Wood Dust Carcinogenicity Listing: Wood dust is listed by NTP known to be a Human Carcinogen (10^{th} Report), IARC Monographs: Wood dust, Group 1 - 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 hypopharynx, oropharynx, lymphatic and hematopoietic systems, lungs, stomach, colon or rectum.

Formaldehyde:
These panels based on ASTM E1333 Test Methods do not release formaldehyde in levels that would be seen to generally cause irritant or sensitization effects. Formaldehyde gas is however reported to have the potential to cause sensitization. Toxicology Reports: 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/m_3 produced nose and central nervous system results; LC_{50} of (rat, inhalation) = 1,000 mg/m_3, 30 minutes; LC_{50} (mice, inhalation) = 400 mg/m_3, 2 hours.

Cancer Listing: 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. However, formaldehyde is listed by IARC as Carcinogenic to Humans (Group 1) for sufficient evidence that formaldehyde causes nasopharyngeal, a rare cancer in humans, and limited evidence for cancer of nasal cavity and sinuses, and a strong but not sufficient evidence for leukemia. NTP included formaldehyde in the annual report on carcinogens. OSHA regulated formaldehyde as a potential carcinogen.

Section 12 ECOLOGICAL INFORMATION

No information available at this time. As with all foreign substances do not allow to enter the storm drainage systems. These wood products are not expected to pose an ecological hazard as a result of their intended use.

Section 13 DISPOSAL CONSIDERATIONS

Follow safe solid waste disposal guidelines in accordance with federal, state and local regulations. If disposed of or discarded in its purchased form, incineration is the preferred method. 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 meets RCRA criteria for hazardous waste.

Section 14 TRANSPORT INFORMATION

Not regulated as a hazardous material by the U.S. Department of Transportation.

Section 15 REGULATORY INFORMATION

It is the user's responsibility to determine what regulatory information is relevant dependant upon the usage of this product.

EPA – TSCA: The resin components are listed in TSCA inventory
EPA – CERCLA: The following Ingredient is on the SARA Section 302 EHS, 304 EHS and CERCLA lists: Formaldehyde CAS #50-00-0
EPA SARA 313: No chemicals subject to Section 313 in the product
EPA SARA 311/312 Hazard Category: Under Section 311 and 312 considered: an immediate acute health hazard, a delayed chronic health hazard but not a fire or reactivity or sudden release hazard.
Canadian Domestic Substance List (DSL) inventory includes Formaldehyde CAS# 50-00-0
WHMIS Ingredient Disclosure List: Formaldehyde CAS#50-00-0

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 and Wood Dust (as of 12/02 because of the NTP listing) are on California's list of chemicals known to the State to cause cancer.

Minnesota Statutes 1984 Section 144.495 and 325 F.18 required that all particleboard and medium-density fiberboard sold or used in Minnesota meet the HUD Formaldehyde Emissions Standard, 24 CFR Sections 3280.308 and 3280.406.

New Jersey: Under certain conditions, this product may release free formaldehyde vapors. Formaldehyde is a substance listed on New Jersey's *Environmental Hazardous Substance List.*
Pennsylvania: Under certain conditions, this product may release free formaldehyde vapors. Sawing, sanding or machining this product may generate wood dust. Formaldehyde and certain

hardwoods as oak and softwoods are substances that appear on Pennsylvania's *Appendix A – Hazardous Substance List.*

Independent third-party testing has been done in accordance with ASTM E1333 Large Chamber Test, which confirms that the emissions are within the Department of Housing and Urban Development (HUD) Manufacturing Home Construction and Safety Standards, 24 CFR Part 3280. Particleboard products do not exceed 0.2 ppm emission rates.

SECTION 16. OTHER INFORMATION

HMIS Hazard Rating (0- Insignificant, 1- Slight, 2- Moderate, 3- High, 4- Extreme, * = chronic effects) Health – 1* Flammability - 0 Reactivity - 0 Personal Protective Equipment – Depends on use conditions – see Section 8

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
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
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)
UEL = Upper Explosive Limit
WHMIS Workplace Hazardous Materials Information System

Disclaimer

Roseburg Forest Products believes the information contained in this MSDS to be accurate at the time of preparation and has been compiled using sources believed to be reliable. However, Roseburg Forest Products 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. It is the further responsibility of the buyer to research and understand safe methods of storing, handling and disposal of this product.