



## Weyerhaeuser Insulated Rimboard

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### 1. Product Identification

<b>Product</b>	
Weyerhaeuser Insulated Rimboard	

Synonyms: iLevel® Insulated Rimboard

### 2. Hazardous Ingredients/Identity Information

Name	CAS#	Percent	Agency	Exposure Limits	Comments
Wood (wood dust, softwood and hardwood)	None	92-94	OSHA	PEL-TWA 15 mg/m <sup>3</sup> (see footnote <sup>A</sup> below)	Total dust (PNOR)
			OSHA	PEL-TWA 5 mg/m <sup>3</sup> (see footnote <sup>A</sup> below)	Respirable dust fraction (PNOR)
			ACGIH	TLV-TWA 1 mg/m <sup>3</sup>	Inhalable fraction
Co-binder	None	0-2	OSHA ACGIH	None None	
Polymeric Diphenylmethane Diisocyanate <sup>B</sup>	9016-87-9	4-6	OSHA ACGIH	None None	
Modified polyisocyanurate rigid cellular polymer (contains pentane)	None	0.5-1	OSHA ACGIH	PEL-TWA 1000 ppm TLV-TWA 600 ppm	For Pentane(all isomers) For Pentane(all isomers)

<sup>A</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" (PNOR), which is also referred to as "nuisance dust".

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

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.

<sup>B</sup> This ingredient is the polymerized form of MDI resin.

## 3. Hazard Identification

### Primary Safety/Health Hazards:

**Warning:** Weyerhaeuser Weyerhaeuser® Insulated Rimboard dust may pose a combustible dust explosion hazard if suspended in air in sufficient concentrations in a contained area and in proximity to an ignition source. Users of this product should examine the potential to generate wood, organic resin and rigid foam dusts during handling and processing and related combustibility hazards and controls. Flammable hydrocarbon gases may be released from the foam portion of the product and accumulate depending on environmental conditions and degree of containment. See additional comments in MSDS.

The primary health hazard posed by this product is thought to be due to exposure to airborne wood, organic resin and rigid foam dusts.

**Appearance and Odor:** Weyerhaeuser Weyerhaeuser® Insulated Rimboard wood portion consists of a ligno-cellulosic matrix of interlocking wood fibers having a slightly aromatic odor. The wood component of this product may consist of alder, aspen, beech, birch, cottonwood, fir, gum, hemlock, hickory, maple, oak, pecan, pine, poplar, spruce, or walnut. Weyerhaeuser® Insulated Rimboard is a one-piece, 1¼" TJO® Joist, Weyerhaeuser® TimberStrand LSL and a portion of 1" polyisocyanurate foam insulation containing small amounts of non-respirable continuous filament glass fibers with a durable foil facing over the foam.

### Primary Route(s) of Exposure:

- Ingestion:
- Skin: Dust
- Inhalation: Dust
- Eyes: Dust

**Medical Conditions Generally Aggravated by Exposure:** Weyerhaeuser® Rimboard dust may aggravate pre-existing respiratory and skin conditions or allergies.

### Signs and Symptoms of Exposure:

**Acute Health Hazards:** Wood, resin and foam dusts 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. There are continuous filament glass fibers in this product. Direct contact with continuous filament glass fibers may cause skin, eye and upper respiratory tract irritation; glass fibers may become imbedded in the skin and cause irritation.

**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.
- IARC Monographs: Wood dust, Group 1 - carcinogenic to humans.
- OSHA Regulated:

### 3. Hazard Identification (cont'd.)

**Wood Dust - NTP:** According to its Report on Carcinogens, Eleventh 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.

### 4. Emergency and First-Aid Procedures

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

**Eye Contact:** Weyerhaeuser® Insulated Rimboard 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:** Wash with cool water and soap using clean washcloth to remove particulate. 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. Polymer dust may also cause skin reactions in susceptible individuals.

**Skin Absorption:** Not known to occur under normal use.

**Inhalation:** Weyerhaeuser® Insulated Rimboard 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:** LEL = See below under “Unusual Fire and Explosion Hazards” UEL= NAP

**Extinguishing Media:** Water, carbon dioxide, sand

**Autoignition Temperature:** Variable [typically 400°-500°F (204°-260°C)] for wood portion. 914 °F (490°C) for foam insulation portion.

**Special Firefighting Procedures:** None

**Unusual Fire and Explosion Hazards:** Depending on moisture content and more importantly, particle diameter and airborne concentration, Insulated Rimboard dust (wood, resin, foam) in a contained area may explode in the presence of an ignition source. Insulated rimboard dust may similarly deflagrate (combustion without detonation like an explosion) if ignited in an open or loosely contained area. For wood dust, an airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the Lower Explosive Limit (LEL). Reference NFPA Standards 654 and 664 for guidance. Ventilation systems should be kept clean and precautions should be taken to prevent sparks or other ignition sources. When product is stored in closed containers, a flammable atmosphere can develop since flammable gases may be released from the foam.

## 6. Fire and Explosion Data (cont'd.)

**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:** Sweep or vacuum up for recovery and disposal. Avoid creating dusty conditions whenever feasible. Maintain good housekeeping to avoid accumulation of Insulated Rimboard dust on exposed surfaces. Insulated rimboard dust may pose a combustible dust hazard. Place recovered dust in a container for proper disposal. Fabrication methods which involve cutting the foam portion of this product may release the blowing agent(s). Provide adequate ventilation to assure localized concentrations in release areas are maintained below the lower flammable limit. Refer to Exposure Controls and Personal Protection, Section 8 of the MSDS.

## 7. Handling and Storage

**Precautions to be Taken In Handling and Storage:** Insulated rimboard 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 dust. Provide adequate ventilation to assure localized concentrations in release areas are maintained below the lower explosive limit. Minimize sources of ignition, such as static build-up, heat, spark or flame. Flammable gases may accumulate in some storage situations. During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources.

## 8. Exposure Control Measures, Personal Protection

### Personal Protective Equipment:

**RESPIRATORY PROTECTION** – Use NIOSH approved filtering face piece respirator (“dust mask”) or higher levels of respiratory protection as indicated for particulates 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 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 Weyerhaeuser insulated Rimboard dust settles to avoid excessive accumulation of this combustible material. Minimize compressed air blowdown or other practices that generate high airborne-dust concentrations.

### 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 and LEL is not exceeded.

## 9 Exposure Control Measures, Personal Protection (cont'd.)

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.

OTHER – Cutting & Machining of product should preferably be done outdoors or with adequate ventilation & containment.

## 9. Physical/Chemical Properties

**Physical Description:** See Section 3 "Appearance and Odor".

<b>Boiling Point (@ 760 mm Hg):</b>	NAP
<b>Evaporation Rate (Butyl Acetate = 1):</b>	NAP
<b>Freezing Point:</b>	NAP
<b>Melting Point:</b>	NAP
<b>Molecular Formula:</b>	NAP
<b>Molecular Weight:</b>	NAP
<b>Oil-water Distribution Coefficient:</b>	NAP
<b>Odor Threshold:</b>	NAV
<b>pH:</b>	NAP
<b>Solubility in Water (% by weight):</b>	<0.1
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	Variable; depends on wood species and moisture
<b>Vapor Density (air = 1; 1 atm):</b>	NAP
<b>Vapor Pressure (mm Hg):</b>	NAP
<b>Viscosity:</b>	NAP
<b>% Volatile by Volume [@ 70°F (21°C)]:</b>	NAV (hydrocarbon foam blowing agent may be released over time)

## 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 (i.e. smoldering, burning) can release carbon monoxide, oxides of nitrogen, oxides of aluminum, carbon dioxide, aliphatic aldehydes, hydrogen cyanide, hydrogen halides, 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.

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

**Sensitivity to Mechanical Impact:** NAP

**Sensitivity to Static Discharge:** Flammable gases from the foam blowing agent may be released. If gases accumulate to levels within the explosive range in enclosed area sources of ignition such as static discharge may ignite the gas mixture.

## 11. Toxicological Information

**Wood dust (softwood or hardwood) Toxicity Data:** No specific information available for product in purchased form. Individual component information is listed below.

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

### Components:

#### Wood dust (softwood or hardwood)

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). See Section 3 above.

**Target Organs:** Eyes, skin, respiratory system.

## 12. Ecological Information

**Environmental Fate:** The wood and resin portions of this product would be expected to be biodegradable.

**Polymeric MDI:** The effects from a simulated accidental pollution event in a pond with polymeric MDI on different trophic levels of the aquatic ecosystem were investigated (Heimbach F. et.al., 1996).

Neither monomeric MDI nor its potential reaction product MDA (4, 4'-diphenylmethanedianiline) was detected in water or accumulated by fish. The MDI polymerized to inert polyurea on the sediment of the test ponds. This polymerization formed carbon dioxide, released as bubbles which floated to the water surface. There was no direct effect on the pelagic community (phytoplankton, zooplankton, fish, and macrophytes) of the test ponds. The atmospheric concentration of MDI arising from a release is naturally low on account of MDI's very low volatility. It is expected that airborne MDI will have a rather short half-life as a consequence of ready degradation to inorganic compounds by hydroxyl radicals present in the troposphere.

**Environmental Toxicity:** The foam component is not expected to be acutely toxic to aquatic organisms.

## 13. Disposal Considerations

**Waste Disposal Method:** If disposed of or discarded in its purchased form, incineration is preferable, if allowed. Dry land disposal is acceptable in most states. It is, however, the user's responsibility to determine at the time of disposal whether your product meets RCRA criteria for hazardous waste. Follow 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).

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

## 15. Regulatory Information

**TSCA:** All ingredients of this product are either listed on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

**CERCLA:** Not listed.

**DSL:** The following ingredients are on the Canadian Domestic Substance List inventory: Polymeric Diphenylmethane Diisocyanate (MDI) and soybean oil.

## 15. Regulatory Information (cont'd.)

**OSHA:** 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.

### **STATE RIGHT-TO-KNOW:**

California Proposition 65:

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

**Warning:** This product contains small amounts of 1-bromopropane known to the State of California to cause birth defects or other reproductive harm.

Pennsylvania – When cut or otherwise machined, the product may emit wood dust. Wood dust and soybean oil, CAS# 8001-22-7 appears on Pennsylvania's Appendix A, Hazardous Substance List.

New Jersey – When cut or otherwise machined, the product may emit wood dust. Wood dust is on the New Jersey 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 no chemical subject to 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

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

**WHMIS Classification:** Controlled Product: D2A - wood dust: IARC Group 1.

## 16. Additional Information

**Date Prepared:** 11/29/2010

**Date Revised:** 10/17/2011

**Prepared By:** Weyerhaeuser Company Environment, Health, Safety and Sustainability

**Weyerhaeuser MSDS available on:** <http://www.weyerhaeuser.com/Sustainability/Planet/Products/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

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

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