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MATERIAL SAFETY DATA SHEET NO. 301

STATEMENT OF HAZARDOUS NATURE: In its intact state this product is not classified as a hazardous substance according to the criteria of NOHSC.

Wood dust from this product is classified as a hazardous substance according to the criteria of NOHSC.

TRADE ESSENTIALS - PARTICLEBOARD

IMPORTANT NOTICE: This Material Safety Data Sheet (MSDS) is issued by The Laminex Group in accordance with National Occupational Health and Safety Commission (NOHSC) Guidelines. As such, the information contained herein must not be altered, deleted or added to. The Laminex Group will issue a new MSDS when there is a change in product specifications and/or NOHSC guidelines / regulations. The Laminex Group will not accept any responsibility for any changes made to its MSDS in content by any other person.

Section 1: PRODUCT IDENTIFICATION**Appearance:**

The products are manufactured as pressed boards ranging in thickness from 9mm to 33mm. They are made from wood particle / fibres which are bonded together with resin.

Odour:

Newly manufactured board and freshly cut surfaces may have a pine odour

Use:

Construction of furniture and cabinets and / or general purpose building board

Section 2: COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion	Exposure Limits NOHSC [1003(1995)]
Wood Particles	None	> 85%	Not applicable for intact products
Urea formaldehyde resin	9011-05-6	< 13%	
Melamine urea formaldehyde resin	25036-13-9	< 13%	
Paraffin wax	8002-74-2	< 2%	
Dust from this product contains:			
Soft wood dust		> 85%	There is no specific exposure standards for dust from wood panel products but the following should apply:
Cured binder		< 15%	
			<p>1. Wood dust (softwood): 5.0 mg/m³ time weighted average (TWA) – measured as inspirable particulates sen - sensitising to skin and respiratory tract</p> <p>2. Formaldehyde: 1.0 ppm (1.2mg/m³) TWA: 2.0 ppm (2.5 mg/m³) short term exposure limit STEL sen – sensitiser; Cat 3 (possible human carcinogen)</p>
<p>The Laminex Group recommendation: Keep exposure as low as practicable with the aim of keeping dust exposure below 1.0 mg/m³ measured as inspirable dust.</p>			

Notes:

- The above ingredients are bound together under heat and pressure.
- The process "cures" the resin, but small amounts of formaldehyde may be released from the finished product.
- The finished product contains less than 0.01% free formaldehyde.
- Potential exposure to dust will occur only when power tools or wood working machinery is used on the product such as planning, sawing, drilling or sanding, or in poorly maintained workshops

AICS status: All components of the finished product are listed on the AICS

Section 3: HAZARDS IDENTIFICATION

Emergency Overview

Dust Hazard

Occupational exposure to wood dust from any timber product has been classified hazardous according to the NOHSC. Inhalation of excessive amounts of dust may cause temporary upper respiratory irritation and / or congestion; and irritation of the eyes and skin. Repeated inhalation of wood dust increases the risk of nasal cancers and may increase the risk of lung fibrosis.

Formaldehyde

Formaldehyde gas may be released under some conditions particularly when the boards are heated and laminated or cut by laser cutting machines. However in well-ventilated storage areas and workplaces, the concentration of formaldehyde is unlikely to exceed the World Health Organisation Standard of 0.1ppm for the general environment and it will be well below the NOHSC Occupational Exposure Standard of 1.0ppm

Wood dust may be produced from machining the product, and formaldehyde gas may be produced from heating processes

Explosion Hazard

Wood dust may ignite at temperatures greater than 204°C and high concentrations in air (>60mg/m³) may spontaneously explode

Acute (short term) Health Effects

- Swallowed: Unlikely under normal conditions. Swallowing the dust may cause abdominal discomfort.
- Eye: Wood dust and the resin may be irritating to the eyes resulting in redness and watering.
- Skin: Skin contact with wood dust and the resin, may result in skin itching and redness and dermatitis in some people.
- Inhaled: Inhalation of wood dust and the resin may be irritating to the nose, throat and lungs.

Chronic (long term) Health Effects

Repeated exposures over many years to uncontrolled dusts increase the risk of nasal cavity cancer. Inhalation of wood dust may also increase the risk of lung fibrosis (scarring). There are also increased risks of respiratory and skin sensitization from wood dust and resin in asthma and dermatitis respectively.

Wood dust has been evaluated by the International Agency for Research on Cancer (IARC) as group 1, carcinogen to humans

Formaldehyde has been evaluated by the IARC as group 1, carcinogenic to humans and by the European Union (EU) as a Category 3 carcinogen (possibly carcinogenic)

Section 4: FIRST AID MEASURES

Swallowed: Drink a glass of water. If irritation persists, seek immediate medical attention

Eye: Flush with flowing water for at least 15 minutes, and if symptoms persist seek immediate medical attention.

Skin: Wash with mild soap and running water. If irritation persists, seek immediate medical attention

Inhaled: Leave the dusty area. If irritation persists, seek immediate medical attention

First Aid Facilities: Provide eye wash facilities

Advice to Doctor: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Unusual Fire / Explosion Hazards

Wood dust may form explosive mixtures with air. Burning of smoldering boards or wood dust and boards cut by laser cutting machines can generate:

- Carbon dioxide
- Carbon monoxide
- Oxides of nitrogen
- Hydrogen cyanide
- Other pyrolysis products that are irritating to the respiratory tract

Avoid breathing smoke from laser cutting machines and from burning or smouldering materials.

Full protective clothing and self-contained breathing apparatus should be worn for firefighting.

The intact product and dust must not be burnt in barbeques; combustion stoves or open fires in the home as irritating gases are emitted.

Fire Fighting Recommendations

Use water, fog, CO₂, foam or dry chemical fire extinguishers.

Section 6: ACCIDENTAL RELEASE MEASURES

Off cuts and general waste material should be placed in containers and disposed of at approved landfill sites, or burnt in an approved furnace or incinerator, in accordance with disposal authority guidelines.

Vacuuming or wet sweeping should be used to clean up dust. Refer to Personal Protective Equipment section of this MSDS for appropriate equipment to use during clean up

Section 7: HANDLING & STORAGE

The boards should be stored in well-ventilated areas away from sources of heat, flame or sparks.

No special transport requirements are considered necessary.

Section 8: EXPOSURE CONTROL & PERSONAL PROTECTION

Summary

Keep exposure to dust as low as practicable with the aim of maintaining airborne dust levels to below 1.0 mg/m³ Time Weighted Average (TWA) measure as inspirable dust.

Working with wood panel products must be carried out in such a way as to minimise exposure to dust.

Under factory conditions machining, sawing, drilling, routing, laser cutting and sanding of the wood must be done with equipment fitted with local exhaust ventilation devices capable of removing dust and smoke at source.

Work areas should be kept clean by regular vacuuming or wet sweeping

Ventilation

Local exhaust ventilation should be provided at areas of cutting to remove airborne dust.

General dilution ventilation should be provided as necessary to keep airborne dust below the applicable exposure limits and guidelines.

The need of ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

Personal Protective Equipment

Use personal protective equipment as discussed above. Where possible, vacuum all equipment before repair/maintenance to remove excessive dust.

Eye: Non-fogging dust resistant safety goggles or glasses conforming with Australian and New Zealand Standards AS/NZS 1336. *Recommended practices for occupational eye protection* should be worn if there is a risk of dust getting into the eye, such as when using power tools.

Skin: Wear standard duty gloves conforming with Australian Standards AS 2161. *Industrial safety gloves and mittens*, loose comfortable clothing, and boots. Long-sleeved shirts and long trousers are recommended if skin itching occurs. Wash skin with mild soap and water after working with these products. Wash work clothes regularly and separately from other clothes.

Respiratory: Avoid breathing dust. Wear a P1 or P2 particulate disposable or cartridge dust mask (respirator) conforming with Australian and New Zealand Standards AS/NZS 1715 *Selection, use and maintenance of respiratory protective devices*, and AS/NZS 1716 *Respiratory protective devices when exposed to dust*. These

Standards should be followed in the selection, fit-testing, use, storage and maintenance of the dust masks.

Smoking: Inhalation of airborne particles from other sources, including those from cigarette smoke, may increase the risk of lung disease. All storage and work areas should be smoke free zones and other airborne contaminants be kept to a minimum.

Section 9: PHYSICAL & CHEMICAL PROPERTIES

Boiling point, °C:	Not applicable
Evaporation Point (Butyl acetate =1)	Not applicable
Melting Point	Not applicable
pH	Not applicable
Saturation in Air (%)	Not applicable
Solids Content	Not applicable
Vapour Pressure, mm Hg at 25°C:	Not applicable
Vapour Density (Air = 1)	Not applicable
Solubility in Water (%)	Insoluble
Specific Gravity (Water = 1)	0.60 – 0.75
Viscosity	Not applicable
VOCs (g/l)	Not applicable
Volatile by Volume (%)	Not applicable
Flash Point, °C:	Not applicable
Flammability Limits, %:	Not applicable
Auto ignition Temperature, °C:	> 220°C

Section 10: STABILITY & REACTIVITY

Reactivity: Stable at normal temperatures and pressures

Section 11: TOXICOLOGICAL & EPIDEMIOLOGICAL DATA

Any health hazards associated with these products have been evaluated on the basis of the individual ingredients, and these hazards should be assumed to be additive. The hazards described in this document have been evaluated based on a threshold of 1.0% for all hazardous ingredients and 0.1% for all carcinogens.

Acute Effects

The dust, which may be generated during manual or mechanical cutting, drilling, sanding or other abrading processes, and the smoke generated by heating or laser cutting, may cause temporary irritation of the eyes and upper respiratory system.

The symptoms are expected to subside after exposure has stopped and are not expected to cause any long-term effects.

Allergic skin and lung reactions have been reported with exposure to various wood panels dusts due to the chemicals presented in wood and cured resin. These rashes resemble other allergic skin reactions caused by plants, and usually heal rapidly.

Chronic Effects

The risk of nasal cancer has been associated with wood dust exposure. In the 1960s, studies linking wood dust exposure in the furniture industry with nasal cancer were first reported in England. The link was confirmed in several other European countries and furniture industries. The studies showing a link to nasal cancer have been primarily conducted in industries using hardwood. The International Agency for Research on Cancer (IARC) evaluated dusts from both hardwood and softwood in 1995 and concluded that: “there is sufficient evidence in humans for the carcinogenicity of wood dust. There is inadequate evidence in experimental animals for the carcinogenicity of wood dust. Wood dust is carcinogenic to humans (Group 1)”.

The IARC also evaluated formaldehyde in 1995¹ and concluded that: “There is *limited* evidence in humans for the carcinogenicity of formaldehyde: there is *sufficient* evidence in experimental animals for the carcinogenicity of formaldehyde; and that overall formaldehyde is *probably carcinogenic to humans (Group 2A)*”. The IARC again evaluated formaldehyde in June 2004² and concluded that: “*there are adequate data available from humans for an increased risk of nasopharyngeal cancer*” and that formaldehyde should now be classified as Group 1, carcinogenic to humans.

Whilst this wood panel product contains less than 0.01% free formaldehyde, people using the product may be exposed to low concentrations of formaldehyde if the boards are heated (as in laminating), are cut by laser cutting machines, and/or if dust particles come in contact with the moist mucous membranes lining the upper respiratory tract. Extensive literature searches and research carried out by independent occupational and environmental health specialists has not indicated any risks over and above those associated with wood dust without binder. This research includes the 1999 formaldehyde risk assessment carried out by US scientists in collaboration with the US EPA and Health Canada. The risk assessment concludes that if a non-smoking worker were exposed to 0.004 ppm of formaldehyde continuously for 80 years and also to 0.1 ppm for 40 years at work then the predicted additional risk of respiratory tract cancer would be 4.1 per 1,000,000,000. The controls needed for minimising the potential for formaldehyde exposure from this product will be the same as those for control of dust exposures. These risk assessments and conclusions are in no way altered by the reclassification of formaldehyde to Group 1 by the IARC

References:

- 1 IARC *Monographs on the Evaluation of Carcinogenic Risks to Humans.* Volume 62: Wood dust and formaldehyde. IARC, Lyon, France. 1995.
- 2 IARC Press Release No. 153, 15 June 2004. IARC, Lyon, France.

Section 12: ECOLOGICAL INFORMATION

This product should be used only for its designated purposes

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Section 13: DISPOSAL

This product is not regulated as a hazardous waste by Australian environmental authorities. Local authority guidelines should be followed in the disposal of waste products and dust.

Section 14: TRANSPORT INFORMATION

This product is not regulated as a dangerous good. No special transport requirements are necessary.

Section 15: REGULATORY INFORMATION

The Laminex Group has assessed this product in accordance with the criteria of the National Occupational Health and Safety Commission: NOHSC:1008 (1999) and NOHSC:10005(1999), and the assessment is that occupational exposure to dust , smoke or fume from this product is hazardous according to the criteria of the NOHSC.

No special State or Commonwealth regulations apply. The product is not listed in the Standard for the Uniform Scheduling of Drugs and Poisons.

Wood dust - (certain hardwoods such as beech and oak), and Wood dust - softwood are listed in the 1999 NOHSC list of Designated Hazardous Substances: NOHSC: 10005(1999).

Formaldehyde - is listed in the 1999 NOHSC list of Designated Hazardous Substances: NOHSC: 10005(1999) if present in concentrations of 0.2% or more (this wood panel product contains <0.01% formaldehyde).

Section 16: OTHER INFORMATION

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HEALTH & SAFETY INFORMATION TO USERS

The Laminex Group Health and Safety Warning

Wood Panel Products

Ingredients: Wood fibre or particles and heat cured resin.

Risk: Dust and smoke from this product are irritating to eyes, skin and respiratory system.
May cause sensitisation by inhalation (asthma) and skin contact (dermatitis).
Repeated inhalation of the dust increases the risk of nasal cavity cancer and may increase the risk of lung fibrosis (scarring).

Safety: Avoid repeated or prolonged contact with skin.
Avoid contact with eyes.
Avoid breathing dust and smoke.
Wear suitable clothing, standard duty gloves (AS 2161), and dust resistant eye protection (AS/NZS 1336). If machining without adequate dust or smoke extraction or if dusty or smoke, respiratory protection (particulate dust mask) must be worn (AS/NZS 1715 and 1716). Keep work areas clean by wet sweeping and/or vacuuming.
Wash work clothes regularly and separately from other clothes.

First-Aid: Irrigate eyes with plenty of water.
Wash skin with soap and water.

Disposal: Follow above safety instructions, and:
Collect in containers for disposal as trade waste in accordance with local authority guidelines.
The intact product and dust must not be burnt in barbecues, combustion stoves, or open fires in the home, as irritating gases are emitted.

Fire: Dust may form an explosive mixture in air.
Earth all exhaust equipment and prevent high dust concentrations in confined spaces.
Extinguish with water, CO₂, foam or dry chemical extinguishers.
Firefighters must wear self-contained breathing apparatus.