Material Safety Data Sheet

Laminated Veneer Lumber (LVL) – Untreated

Date of Issue: August 2005

Important Notice	This Material Safety Data Sheet (MSDS) is written by Wesbeam Pty Ltd in accordance with Worksafe Australia Guidelines. As such, the information contained herein must not be altered, deleted or added to. Wesbeam will issue a new MSDS when there is a change in product specifications and/or Worksafe Australia guidelines/regulations. Wesbeam will not accept responsibility for any changes made to its MSDS in content by any other person.
Statement of Hazardous Nature	Not classified as hazardous according to the criteria of Worksafe Australia.

Identification

Product Name	e-beam	– Structural Laminated Veneer Lumber (LVL) to AS/NZS4357
	e-stick	– Structural LVL to AS/NZS4357
	e-batten	– Structural LVL to AS/NZS4357
	e-purlin	– Structural LVL to AS/NZS4357
	e-strut	– Structural LVL to AS/NZS4357
	e-hip	– Structural LVL to AS/NZS4357
	e-rafter	– Structural LVL to AS/NZS4357
	e-shed	– Structural LVL to AS/NZS4357
	e-chord	– Structural LVL to AS/NZS4357
	e-lintel	– Structural LVL to AS/NZS4357
	e-joist	– Structural LVL to AS/NZS4357
	e-bearer	– Structural LVL to AS/NZS4357
	e-form	– Structural LVL to AS/NZS4357
	e-board	– Structural LVL to AS/NZS4357
UN Number	None allocated	
Dangerous Goods Class	None allocated	
Hazchem Code	None allocated	
Poisons Schedule No.	None allocated	
Use	Residential, commercial, and industrial construction and/or general purpose building material.	

Physical Description/Properties

Appearance	Laminated Veneer Lumber (LVL) is manufactured as pressed billets ranging in thickness from 9mm to 120mm. These billets are ripped into strips between 36mm and 1200mm wide to form lineal wood components. The product may be coated with a clear or coloured water based micro-emulsion water repellent. Wesbeam LVL is made from Maritime Pine (Pinus pinaster) and/or Radiata Pine (Pinus radiata) wood veneers bonded together with resin.
Odour	No distinctive odour. Newly manufactured LVL and freshly machined surfaces tend to have the odour of the wood species from which the LVL is manufactured.
Melting Point	Not applicable
Boiling Point	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Solubility in Water	Highly insoluble
Flashpoint	Not applicable
Specific Gravity	Range of 0.50 -1.00
Dust Explosion Potential	Fine airborne dust, generated when the product is machined (sawn, sanded, drilled, routed, planed, etc.), can ignite spontaneously
Auto Ignition Temperature	>220°C

Ingredients

Substance/Chemical/Entity	CAS No.	Properties by Weight
Wood veneer	None	>92%
Phenol formaldehyde resin	40798-65-0	<8%
Water based emulsion with colour pigments	None	<0.01%
Lead free organic unregulated	None	<0.03%
Additives, thickeners, unspecified	None	trace

Note The above ingredients are bonded together under heat and pressure to form LVL. The process cures the resin. However, small amounts of formaldehyde may be released from the finished product.

Health Hazard Information

Health Effects

This product, in its natural form, is not classified as hazardous according to the criteria of Worksafe Australia.

In well ventilated storage areas and work places utilising these products the concentration of formaldehyde in the air will not exceed the World Health Organisation (WHO) standard of 0.1ppm for the general environment and it will be well below the Worksafe Australia Occupational Exposure Standard of 1.0ppm on a Time Weighted Average (TWA).

Sealing LVL with appropriate paint, varnish or other surface finishes further reduces aldehydes emissions.

The known health effects of the constituents of the billets are as follows:

Cured resin

The cured resin is inert and not likely to contribute to health effects.

Formaldehyde

In newly manufactured LVL, which is the worst case scenario, formaldehyde emission has been measured in the range 0.03-0.05ppm using the large scale chamber test method. As LVL products have emission levels of 0.03 to 0.05 ppm, well below the WHO recommended level of 0.1 ppm, under reasonably foreseeable circumstances it is unlikely that the presence of traces of formaldehyde in the product poses a health risk.

Worksafe Australia has classified formaldehyde as a Category 3 carcinogen - possibly carcinogenic to humans - on the basis of evidence that inhalation of gas caused nasal cancer in experiments with rats. In the experiments, groups of rats were exposed to formaldehyde for six hours a day, five days a week for up to two years at concentrations of 0, 2.0, 5.6 and 14.3ppm. Fifty percent of those exposed at 14.3ppm, one percent exposed to 5.6ppm, but none exposed to 2.0 or 0ppm developed nasal cancers.

Formaldehyde gas is irritating to the nose and throat, eyes and skin. It is recommended that storage areas be well ventilated to avoid any irritating effects of a build-up of formaldehyde. Natural aldehydes are present in solid timber at similar levels.

Formaldehyde may be possibly toxic to humans. A substance with an LC50 of about 200mg/kg is moderately toxic. The LC50 for formaldehyde is reported as 203mg/kg. Given the low concentration in air of formaldehyde above the newly manufactured LVL formaldehyde emissions at the F**** level which is less than 0.08mg/kg, then the toxicity risk is very low.

Wood Dust

When LVL is machined (sawn, sanded, drilled, routed, planed, etc.) wood dust is produced. Wood dust and splinters may cause irritation of the nose and throat, eyes and skin. Some woods may also be sensitisers, and some people may develop allergic dermatitis or asthma. Inhalation of wood dust, both hardwood and softwood, may increase the risk of nasal and para-nasal sinus cancers.

Exposures to the wood dust produced from machining LVL may result in the following health effects:
Acute:

Swallowed:	Unlikely to occur, but swallowing the wood dust may result in abdominal discomfort
Eye:	The wood dust may be irritating to the eyes causing discomfort and redness.
Skin:	The wood dust may irritate the skin, resulting in itching and occasionally a red rash. Allergic contact dermatitis may occur.
Inhaled:	The wood dust may irritate the throat and lungs especially in people with upper respiratory tract or chest complaints. Asthma may occur.
Chronic:	Repeated exposures over many years to uncontrolled wood dust from LVL may increase the risk of allergies, dermatitis, asthma or chronic nose or throat irritation in some people. The risk of nasal or para-nasal sinus cancers may also be increased. If the work practices noted in this MSDS are followed, no chronic health effects are anticipated.
First Aid:	
Swallowed:	Drink a glass of water
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.
Inhaled:	Leave the dusty area.
Advice to Doctor:	Treat symptomatically.

Precautions for Use

Exposure Standards

The Worksafe Australia Exposure Standards for softwood (e.g. pine) dust and formaldehyde are:

Wood dust:	5 mg/m^3 time-weighted average (TWA) 10 mg/m^3 short term exposure limit (STEL) Wood dust is also listed as a sensitiser Note: The Exposure Standard is under review.
Formaldehyde:	1.0 ppm (1.2 mg/m^3) time-weighted average (TWA) 2.0 ppm (2.5 mg/m^3) short term exposure limit (STEL)

Wood dust is also listed as a sensitiser and the Exposure Standard is under review. In the interests of maintaining a safe working environment, it is recommended that workplace exposures to wood dust should not exceed 1.0 mg/m^3 TWA.

Engineering Controls

All work with LVL should be carried out in such a way as to minimise the generation of wood dust.

Under factory conditions, machining should be done with equipment fitted with exhaust devices capable of removing wood dust at the source. Hand power tools should be fitted with dust bags.

Work areas should be well ventilated. They should be cleaned at least daily, and wood dust should be removed by vacuum cleaning or by the wet sweeping method.

Skin Protection

Wear loose, comfortable clothing. Long-sleeved shirts, trousers and comfortable work gloves (AS/NZS 2161) should be worn if skin irritation occurs.

After handling boards, wash with mild soap and water. Do not scratch or rub the skin if it becomes irritated.

Wash work clothes regularly and if possible separate from other clothes.

Respiratory Protection

If wood dust exposures are not controlled when machining (sawing, routing, planing, drilling, sanding, etc.) a class P1 or P2 replaceable filter or disposable face-piece respirator should be worn. Respirators should comply with AS/NZS 1716, and be selected, used and maintained in accordance with AS/NZS 1715.

Eye Protection

Safety glasses or non-fogging goggles (AS/NZS 1337) should be worn when machining.

Flammability

LVL is flammable but difficult to ignite.

Avoid a build-up of wood dust and keep all storage and work areas well ventilated.

Avoid sources of radiant heat and flame, and avoid sparks and sources of ignition in all electrical equipment, including dust extraction equipment.

People must not smoke in storage or work areas.

Safe Handling Information

Storage and Transport

LVL should be stored on level bearers at maximum 1800mm centres at least 75mm clear of the ground, well ventilated and away from any source of ignition.

LVL should be kept dry during transportation. LVL should be wrapped and truck loads tarped to protect the product from weather and wheel spray.

Spills and Disposals

LVL 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.

Wood dust should be cleaned up by vacuuming or wet sweeping.

Fire/Explosion Hazard

Early fire hazard properties as determined in accordance with AS1530 Part 3.

Ignitability Index:	14
Spread of Flame Index:	8
Heat Evolved Index:	8-10
Smoke Developed Index:	2-3

Burning or smouldering LVL or wood dust can generate carbon dioxide and other pyrolysis products typical of burning organic material. Dry wood dust in high concentrations can be explosive. Use water or dry chemical powder fire extinguishers.

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