

MATERIAL SAFETY DATA SHEET NO: 07**1. Identification**Product Name: **MR rawboard**Other Names: **MR door core, MR particleboard, Eco Door Core**

Manufacture Details: D & R Henderson Pty Ltd
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Uses: Construction of furniture, cabinets and doors / or general purpose building board.

Appearance and Odour: These products are manufactured as pressed boards ranging in thickness from 3mm to 43mm. They are made from wood particles/fibres which are bonded together with resin. Newly manufactured board and freshly cut surfaces may have a pine odour.

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.

2. Composition and Ingredients

Chemical Entity	CAS No.	Proportion
Wood Particles or fibres from plantation softwood and recycled wood species	None	> 85%
Urea formaldehyde resin	9011-05-6	< 9%
Melamine urea formaldehyde resin	25036-13-9	<10%
Wax	8002-74-2	< 2%
Note: The ingredients are bonded together under heat and pressure. The process cures the resins but small amounts of formaldehyde from the resin may be released from the finished product. The finished product contains less than 0.01% free formaldehyde by weight.		

Dust from this product contains:	CAS No.	Proportion
Soft wood dust	None	> 85%
Cured binder	None	< 15%
<p>Please note: Keep exposures as low as practicable with the aim of keeping dust exposures below 1.0mg/m³. Potential exposure to dust will occur only when power tools or wood working machinery is used on the product such as planing, sawing, drilling or sanding or in poorly maintained workshop.</p>		

3. Hazard identification

Dust Hazard

Occupational exposure to wood dust from any timber product has been classified hazardous according to the criteria of 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 / 400°F and high concentrations in air (>60mg/m³) may spontaneously explode.

Potential Health Effects

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 increases 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 International Agency for Research on Cancer as group 2A, (probably a carcinogenic to humans).

4. First aid measures

Swallowed: If dust is swallowed give water to drink. Seek medical attention if any abdominal discomfort.

Eye: Irrigate eye thoroughly with plenty of water for at least 15 minutes. If symptoms persist seek medical attention.

Skin: Wash thoroughly with mild soap and water. Remove clothing contaminated with dust.

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

First Aid Facilities: Provide eye wash facilities.

Advice to Doctor: Treat symptomatically.

5. Fire fighting measures

Wood dusts may form explosive mixtures with air. Burning or smouldering boards or dusts and boards cut by laser cutting machine can generate:

- Carbon dioxide
- Carbon monoxide
- Oxides of nitrogen
- Hydrogen cyanide
- Other pyrolysis products which 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 fire fighting.

Extinguish fire with water, fog, foam, carbon dioxide or dry chemical.

THE INTACT PRODUCT AND DUST MUST NOT BE BURNT IN BARBECUES, COMBUSTION STOVES OR OPEN FIRES IN THE HOME AS IRRITATING GASES ARE EMITTED.

6. Accidental release measures

Spills and disposal: Off-cuts and general waste material should be placed in containers and disposed of at approved landfill sites or incinerated in accordance with local authority guidelines. Burning can not be used as a means of disposal without specific local authority approval.

7. Handling and storage

No special transport or storage requirements are considered necessary. The boards should be stored in well ventilated areas away from sources of heat, flames or sparks.

8. Exposure control and personal protective equipment

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.

All work 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 or 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.

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 mask.

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.

9. Physical and chemical properties

Boiling point, °C / °F	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)	0.5 - 0.85
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

10. Stability and reactivity

This product is stable at normal temperatures and pressures.

11. Toxicological and 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 panel 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.

12. Ecological information

This product should be used only for its designated purposes.

13. Disposal

Summary: 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.

Burning must not be used as a means of disposal unless local authority and EPA approvals have been obtained.

14. Transport information

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

15. Regulatory information

D & R Henderson has assessed this product in accordance with the criteria of the National Occupational Health and Safety Commission: NOHSC: 1008(2004) and NOHSC: 1005(2007), 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 NOHSC list of Designated Hazardous Substances: NOHSC: 1005(2007).

Formaldehyde - is listed in the NOHSC list of Designated Hazardous Substances: NOHSC: 1005(2007) if present in concentrations of 0.2% or more (this wood panel product contains <0.01% formaldehyde).

16. Other information

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