

Material Safety Data Sheet

SECTION 1: PRODUCT IDENTIFICATION

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|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Product Name: Alpine MDF Alpine Primed MDF Doorskins Alpine Primed MDF Mouldings | CAS #: - |
| Generic Name: Wood panel product | Formula: mixture |
| Chemical Name: - | Hazard Label: - |
| Manufacturer: ALPINE MDF Industries Pty Ltd ABN: 37 064 766 301 | Telephone: 03 5721 3522 |
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Appearance and odour:

These products are manufactured as pressed boards ranging in thickness from 3 mm to 33 mm. 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.

Uses: Construction of furniture and cabinets and/or general purpose building boards.

SECTION 2: HAZARD IDENTIFICATION

OVERVIEW

Dust Hazard: Occupational exposure to wood dust from any timber product has been classified as hazardous according to the criteria of the National Occupational Health and Safety Commission (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 cancer and may increase the risk of lung fibrosis.

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 1.0 ppm.

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 (>60g/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 resin may be irritating to the nose, throat and lungs.

Chronic (long term) Health Effects:

Repeated exposure over many years to uncontrolled wood dust 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 sensitisation from wood dust and resin resulting in asthma and dermatitis respectively.

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

Formaldehyde has been evaluated by the International Agency for Research on Cancer (IARC) as group 1, carcinogenic to humans, and the current European Union (EU) classification under the Dangerous Substances Directive as category 3 (C3) carcinogen leading to a risk phrase R 40 (Limited evidence of a carcinogenic effect).

SECTION 3: INGREDIENTS

| Ingredient Name | CAS # | % | Exposure Limits NOHSC[1003(1995)] |
|----------------------------------------------------|--------------|----------|----------------------------------------------|
| Wood particles or fibres from plantation softwoods | - | >79% | Not applicable for intact products. |
| Urea formaldehyde resin | 9011-05-6 | <20% | |
| Melamine urea formaldehyde resin | 25036-13-9 | <20% | |
| Paraffin wax | 8002-74-2 | <1% | |

| Ingredient Name | CAS # | % | Exposure Limits NOHSC[1003(1995)] |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dust from this product contains: | | | |
| Soft wood dust | - | >80% | There is no specific Exposure Standard for dust from wood panel products, but the following should apply: (i) wood dust (softwood): Time-Weighted Average TWA 5.0 mg/m ³ ; Short Term Exposure Limit (STEL) 10.0 mg/m ³ . Measured as inspirable particulates. sen - sensitising to skin and respiratory tract (ii) formaldehyde: TWA 1.0 ppm (1.2 mg/m ³); STEL 2.0 ppm (2.5 mg/m ³). sen - sensitiser; Cat 3 (possible human) carcinogen. |
| Cured binder | - | <20% | |
| < Company > recommendation: Keep exposures as low as practicable with the aim of keeping dust exposures below 1.0 mg/m ³ measured as inspirable dust. | | | |
| Note: The ingredients are bonded together under heat and pressure. The process cures the resin 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. The proportion of paint on coated products is less than 1 % of the board mass. Potential exposures 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 workshops. | | | |

SECTION 4: FIRST-AID MEASURES

Swallowed:

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

Eyes:

Irrigate eyes 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 if contaminated with dust.

Inhaled:

Leave the dusty area.

First-aid facilities:

Provide eye-wash facilities.

Notes to doctor:

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Unusual Fire / Explosion Hazards:

Wood dusts may form explosive mixtures with air. Burning or smouldering boards or dust, and boards cut by laser cutting machines can generate carbon dioxide, carbon monoxide, oxides of nitrogen, hydrogen cyanide and 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.

Flammable Properties and Explosive Limits:

| | | | |
|------------------------------|----------------|-------------------------------------|----------------|
| Flash Point: | not applicable | Lower Explosive Limit (LEL): | not applicable |
| FP Test Method: | not applicable | Upper Explosive Limit (UEL): | not applicable |
| Flame Classification: | not determined | Autoignition Temperature: | > 220°C |
| Flame Propagation: | not determined | Decomposition Temperature: | not applicable |

SECTION 6: ACCIDENTAL SPILL AND 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 cannot be used as a means of disposal without specific local authority and EPA approval.

SECTION 7: HANDLING AND STORAGE

Handling and storage:

No special transport or storage requirements are considered necessary.

The boards should be stored in well ventilated areas away from source of heat, flames or sparks.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Summary:

Keep exposures as low as practicable with the aim of maintaining airborne dust levels below 1.0 mg/m³ time-weighted average (TWA), measured as inspirable dust. All work with wood panels 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 for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

Special Considerations for Repair/Maintenance of Contaminated 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 1336:1997 *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 2161.1 2000 *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 1715:2009 *Selection, use and maintenance of respiratory protective devices*, and AS/NZS 1716:2003 *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 AND CHEMICAL PROPERTIES

Boiling Point (°F/°C): not applicable

Evaporation Rate (Butyl acetate = 1): not applicable

| | |
|--------------------------------------|----------------|
| Melting Point: | not applicable |
| pH: | not applicable |
| Saturation in Air (%): | not applicable |
| Solids Content: | not applicable |
| Specific Gravity (Water = 1): | 0.5 - 0.85 |
| Vapor Density (Air = 1): | not applicable |
| Vapor Pressure: | not applicable |
| Viscosity: | not applicable |
| VOCs (g/liter): | not applicable |
| Volatile by Volume (%): | not applicable |
| Water Solubility (%): | insoluble |

SECTION 10: STABILITY AND REACTIVITY

Reactivity:

This product is not reactive.

Hazardous Decomposition Products:

Thermal-oxidative degradation of this and other wood products produces irritating and toxic smoke and gases. These include carbon monoxide, aldehydes, carbon particles, and organic acids.

SECTION 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 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 the final findings published in 2006³ concluded that: "*There is sufficient evidence in humans for the carcinogenicity of formaldehyde. There is sufficient evidence in experimental animals for the carcinogenicity of formaldehyde*" with the overall evaluation being: "*Formaldehyde is carcinogenic to humans (Group 1)*".

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.
3. IARC *Monographs on the Evaluation of Carcinogenic Risks to Humans*. Volume 88 (2006) Formaldehyde, 2-Butoxyethanol and 1-tert-Butoxypropan-2-ol.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

This product should be used only for its designated purposes.

SECTION 13: DISPOSAL CONSIDERATIONS

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.

SECTION 14: TRANSPORT INFORMATION

Transportation Summary:

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

SECTION 15: REGULATORY INFORMATION

Alpine MDF Pty Ltd has assessed this product in accordance with the criteria of the National Occupational Health and Safety Commission: NOHSC:1008(2004) and the Hazardous Substances Information System, 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 2009 'Hazardous Substances Information System.'

Formaldehyde - is listed in the 2009 'Hazardous Substances Information System.' If present in concentrations of 0.2% or more (this wood panel product contains <0.01% formaldehyde).

SECTION 16: HEALTH & SAFETY INFORMATION TO USERS

Alpine MDF Pty Ltd Health and Safety Warning**Wood panels product**

- 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.

SECTION 17: OTHER INFORMATION

Contact Point: Technical Manager
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Facsimile 03 57 213 588

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Date of Last MSDS Revision: June 2009

Data Sources: . IARC *Monographs on the Evaluation of Carcinogenic Risks to Humans*. Volume 62: Wood dust and formaldehyde. IARC, Lyon, France. 1995.
IARC *Press Release No 153, 15 June 2004*. IARC, Lyon, France.
IARC *Monographs on the Evaluation of Carcinogenic Risks to Humans*. Volume 88 (2006) Formaldehyde, 2-Butoxyethanol and 1-tert-Butoxypropan-2-ol.