

## MATERIAL SAFETY DATA SHEET NO.001

### WOOD PANEL PRODUCT – Medium Density Fibreboard

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### IDENTIFICATION

Product Name:	Medium Density Fibreboard
Trade Names:	MDF, MDF-Thin, MDF-FSC <sup>®</sup> , MDF Mouldings, HDF-Flooring, MDF-Light, MDF-Ultralight, HDF- High Density, MDF-Crossbands for Doors, MDF-Low Formaldehyde JIS,
UN Number:	None allocated.
Dangerous Goods Class:	None allocated.
Hazchem Code:	None allocated.
Toxic Substances Schedule:	Not scheduled
Uses:	Construction of furniture, cabinets and doors. General purpose building and packaging for high value items.
Appearance	Dongwha NZ LTD products are manufactured as compressed wood panel sheets in thickness from 1.6mm to 30mm. They are made from wood fibres bonded together with formaldehyde-based resins. This density of products range from 380 to 940 kg/m <sup>3</sup> and are referred to as medium density fibreboards (MDF).
Boiling Point (°C):	Not applicable
Vapour Pressure (mm Hg at 25 °C)	Not applicable
Vapour Density:	Not applicable
Solubility in Water (g/l):	Not soluble
Specific Gravity (relative to water):	0.4-0.9
Flash Point (°C):	Not applicable
Flammability Limits (%)	Not available
Odour:	Newly manufactured board, and freshly cut surfaces may have an odour due to residual formaldehyde from the resin binder.

### INGREDIENTS:

<i>Chemical Entity</i>	<i>CAS No.</i>	<i>Proportion</i>
Plantation softwoods	None	>80 %
Urea/melamine/Phenol formaldehyde resins	9011-05-6 9003-35-4	<21%
Paraffin wax	8002-74-2	<1.5%

Note: The above ingredients are bound together under heat and pressure. The cured resin may release small amounts of formaldehyde from the finished product. The finished product contains less than 0.1% free formaldehyde.

## HEALTH HAZARD INFORMATION

**Health Effects:** When first manufactured, the unsealed surfaces of these boards may release small quantities of formaldehyde gas. The concentrations will be highest when the boards are stored in confined, poorly ventilated spaces. When the boards are sealed with paint, varnish, or other surface decorative finishes, the potential for the release of formaldehyde will be greatly reduced. When the boards are cut, drilled or sanded etc. dust will be given off.

### The known health effects of the constituents of the boards are as follows:

**Wood Dust:** Dust and splinters may cause irritation of the nose and throat, eyes and skin. Some woods may also be sensitizers, and some people may develop allergic dermatitis or asthma. Inhalation of wood dust, both hardwood and softwood, may increase the risk of nasal and paranasal cancers. The International Agency for Research on Cancer (IARC), in 1995 classed wood dust as carcinogenic to humans.

**Cured Resin:** The cured resin is inert, and not likely to contribute to health effects.

**Paraffin Wax:** The wax vapour may be irritating to the nose and throat, eyes and skin, if the board is heated to 120 °C or more.

**Formaldehyde:** Formaldehyde gas and dilute solutions of formaldehyde in water are irritating to the nose and throat, eyes and skin. The solutions are also sensitizers and contact dermatitis has been reported.

The International Agency for Research on Cancer (IARC), reassessed the hazard classification of formaldehyde in June 2004 and upgraded from Group 2A to Group 1 which means it is now considered carcinogenic to humans. This is the same hazard classification as wood dust. The reclassification was based on new information from epidemiology studies which provided evidence that workers exposed to high levels of formaldehyde in the workplace are at risk from developing nasopharyngeal cancer. The reclassification has still to be officially published and so workplace standards still reflect the old classification.

### Exposure to the dust, gas and vapour from the boards may result in the following health effects:

#### Acute Effects:

Swallowed: Unlikely to occur, but swallowing would result in abdominal discomfort.

Eye: The dust, gas and vapour may be irritating to the eyes causing discomfort and redness.

Skin: The dust, gas and vapour may irritate the skin, resulting in itching, and occasionally a red rash. Allergic dermatitis may occur.

Inhaled: The dust, gas and vapour may irritate the nose, throat and lungs; especially in people with upper respiratory tract or chest complaints. Asthma may occur.

**Chronic Effects:** Repeated exposure over many years to uncontrolled dusts from these boards may result in allergic dermatitis, asthma, or chronic nose or throat irritation in some people. The risk of nasal or paranasal sinus cancers may be increased. But if the work practices noted in the MSDS are followed, and exposure to airborne dust is kept to low, no chronic health effects are anticipated.

#### First Aid:

Swallowed: Drink a glass of water.

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

Skin: Wash with mild soap and water.

Inhaled: Leave the dusty area.

**Advice to Doctor:** Treat symptomatically.

## HEALTH HAZARD INFORMATION continued...

<b>Exposure Standards:</b>	The New Zealand Workplace Exposure Standards (2002) for wood dust, formaldehyde and paraffin wax are listed below. For guidelines in other countries contact the relevant regulatory authority.
<u>Wood Dust</u> <u>(softwood):</u>	5 mg / m <sup>3</sup> average over 8 hrs 10mg/m <sup>3</sup> average over any 15 minute period (it is also listed as a sensitiser).
<u>Formaldehyde:</u>	1.0ppm ceiling limit It is also listed as a sensitiser and as a category 2A carcinogen (IARC) (suspected human carcinogen).
<u>Paraffin Wax Fume</u> <b>Engineering Controls:</b>	2mg/m <sup>3</sup> average over 8 hrs All work with these boards should be carried out in such a way as to minimise the generation of dust, gas, and vapours. Under factory conditions, sawing, drilling, sanding, etc. should be done with equipment fitted with exhaust devices capable of removing dust, gas, and vapour at source. Hand power tools should be used in well ventilated areas so as to avoid the spread of dust, gas, and vapour. Storage and work areas should be well ventilated. Work areas should be cleaned at least daily, and dust removed by vacuum cleaning or wet sweeping methods. Avoid using compressed air.
Skin Protection:	Wear loose, comfortable clothing. Long sleeved shirts and trousers are recommended if 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 separate from other clothes. Comfortable work gloves should be worn.
Respiratory Protection:	A Class P1 or Class P2 replaceable filter or disposable face piece respirator should be worn when sawing, drilling, or sanding, etc. 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 should be worn when sawing, drilling or sanding (AS/NZD 1337).
Flammability:	These boards are flammable, but difficult to ignite. Avoid a build-up of dust, and keep all storage and work areas well ventilated. Avoid sources of radiant heat and flame and avoid sparks, and all sources of ignition in all electrical equipment, including dust extraction systems.

## SAFE HANDLING INFORMATION

Storage and Transport:	The boards should be stored in well ventilated areas away from sources of heat, flame or sparks. No special transport requirements are considered necessary
Waste Disposal:	Offcuts and general waste materials should be placed in containers and disposed of at approved landfills sites, or burnt in an approved furnace or incinerator, in accordance with disposal authority guidelines. Dust can be disposed of in the same way as off-cuts but should be cleaned up by vacuuming or wet sweeping.
Fire / Explosion Hazard:	Early fire hazard properties (as stated in AS 1530 part3): Ignitability index: 15 Heat evolved index: 7 Spread of flame index: 7 Smoke evolved index: 3 Burning or smouldering boards can generate carbon dioxide and other pyrolysis products typical of burning organic material. Dry dust in high concentrations can be explosive. Use water or dry foam fire extinguishers.

## CONTACT POINT

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