

AUSTRALIAN WOOD PANELS ASSOCIATION INCORPORATED

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THE GOOD WOOD — MDF/PARTICLEBOARD

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WOOD DUST

Should I be concerned about the possible health effects caused by exposure to dust from Medium Density Fibreboard (MDF) or Particleboard?

All dust, regardless of whether it comes from MDF, Particleboard or any other building material, is potentially harmful.

The International Agency for Research on Cancer (IARC) classifies wood dust as a Group 1 Carcinogen. This means the substance is carcinogenic to humans.

This classification is not unique to either MDF or Particleboard – but applies equally to all dust from timber and wood panel products.

I've heard that dust from Medium Density Fibreboard (MDF) is finer than dust from solid timber. Does this mean dust from MDF is more of a problem than dust from solid timber?

According to the Victorian Workcover Authority there is "no distinction between dust generated from wood and fibreboard or particleboard such as MDF. This decision is based on a comprehensive study conducted in the United Kingdom by the Health and Safety Executive (HSE). It concluded that the ill-health effects associated with dust exposure arising from the

machining of MDF are no different from those effects arising from machining other forms of wood".

The research indicates that the size of the dust particles from MDF is very similar to solid timber whether cutting or sanding. Specifically, the quantity of particles less than 10-micron inspirable (inhalable) dust is similar.

In addition, the amount of dust when cutting MDF is similar to solid timber. However, the amount of dust generated when sanding MDF is higher than solid timber.

Dust from MDF contains formaldehyde—is this a problem?

The issue is the amount of dust not whether it is MDF or solid wood dust. Research shows that while MDF dust contains formaldehyde the level of free formaldehyde generated when cutting, sawing or sanding ranges from 0.01mg/m³ to 0.56mg/m³ well below the National Occupational Health and Safety Commission limit of 1.2mg/m³.

By following the manufacturer's recommendations for dust containment all known health effects associated with exposure to dust from MDF or Particleboard can be prevented.

How much wood dust is present at workplaces in Australia?

AMCOSH Occupational Health Services conducted an occupational hygiene evaluation at 6 Victorian, 13 NSW and 14 Qld workplaces. A total of 159 wood dust samples were taken comprising 149 personal samples and 10 area samples.

The results of the study show that wood products can be safely worked within the National Occupational Health and Safety Commission standard for softwood dust of 5.0 mg/m³.

The results of the area samples were all low, ranging from 0.1 to 1.7mg/m³. They included:

- 0.07mg/m³ in a laminating area;
- 0.2mg/m³ in an office;
- 0.3mg/m³ on a construction site; and
- 0.41mg/m³ in a factory assembly area.

The personal samples showed greater variability of results.

<1mg/m³ (AWPA recommended level):
72 samples

1.1 – 5mg/m³ (NOHSC Standard): 68 samples

>5mg/m³: 9 samples

AWPA TEST CENTRE



TESTING ALL AWPA MEMBERS
MDF AND PARTICLEBOARD

WOOD DUST

continued

The AWWPA recommends inspirable (inhalable) wood dust levels should not exceed 1mg/m³ if used in accordance with the MSDS rather than the 5mg/m³ being the National Occupational Health and Safety Commission Standard.

Half the personal samples were within the AWWPA recommended level. Only 6% were above the National Occupational Health and Safety Commission Standard and these were due to equipment issues, in particular bag house filters not operating properly.

The results from the samples above demonstrate that if people are vigilant and aware of the performance of their equipment and comply with manufacturers recommendations, then wood dust exposures from standard building and manufacturing applications can be managed at safe levels.

I've heard MDF has been banned in the United States. Is that correct?

No. The Composite Panels Association, which represents US MDF manufacturers, has confirmed that the product is not banned in the United States and advises that no such action is contemplated.

Furthermore, demand for MDF continues to grow in both industrial and construction applications in the United States. Wood panel products, like MDF, are increasingly being specified for construction/structural applications, in addition to more traditional applications like residential and office furniture.

What can I do to ensure a safe workplace?

In order to ensure a safe working environment, when machining timber or wood panel products, priority should always be given to limiting the volume of dust.

Dust extraction equipment should be fitted to machinery and workplaces to minimise the volume of dust. People working with wood panels should always wear protective clothing, such as eye and face-masks if exposed to dust, and where possible wood products should be cut or machined in a well-ventilated area.

In relation to building sites the CFMEU Working Safely with Wood & Wood Products Training Kit reinforces the importance of limiting the volume of dust to below safe exposure levels.

The Training Kit indicates that "a cutting room should be used when cutting will generate high concentrations of wood dusts (>1mg/m³). Where cutting will generate low concentrations of wood dust (<1mg/m³) isolation of processes may be necessary". Isolation may not be necessary for activities such as the installation of pre-cut fittings, drilling holes, screwing pieces together, single cut, trim to size etc. All equipment used should have dust extraction bags.

For further information on the correct health and safety procedures for handling wood panel products, workers and employers should refer to the Material Safety Data Sheet (MSDS), available at the Australian Wood Panel Association website:

www.woodpanels.org.au