A report by the Australian Government's National Industrial Chemicals Notification and Assessment Scheme (NICNAS) concluded that occupational exposures to formaldehyde from pressed wood products can cause health concerns.

**Formaldehyde and Health Effects**

Formaldehyde is a colourless gas with a pungent, irritating odour, which is commonly used in the production of resins that act as glues for wood products.

Occupational exposure to formaldehyde in wood products is primarily by inhalation.

Acute affects - Breathing formaldehyde vapour can irritate the eyes and nose, which may cause burning, stinging or itching sensations, a sore throat, watery eyes, blocked sinuses, runny nose, and sneezing.

Potential Chronic affects - Formaldehyde has been shown to cause nasal cancers in animals. However, the risk of respiratory tract cancers for the majority of workers is considered to be low. The limited monitoring data available indicates that formaldehyde levels at the majority of workplaces are <0.2 ppm, and the nasal cancer risk is very low at these levels.

**What should I know?**

• Formaldehyde is found in resins that act as a glue in the manufacture of pressed wood products. (Also pulp, paper, glasswool and rockwool.). Pressed wood products include: plywood:
  o used for paneling, furniture and other products
  o particleboard: used for shelving, countertops, floor underlay, some laminated flooring, furniture
  o Medium Density Fiberboard (MDF) used for cabinets, furniture, doors and some laminated flooring
• Formaldehyde can be released as a vapour, due to off gassing from products containing formaldehyde-based resins.
• Formaldehyde release is highest in newly manufactured pressed wood products, and decreases over time.
• Conditions of high humidity, heating or agitation of formaldehyde based products can lead to increased levels of formaldehyde in the air.
• The concentrations of free formaldehyde in the resins used in manufacture of pressed wood products vary from <0.2% up to 5% in the plywood industry.

Pressed wood products are used in the construction of furniture, kitchens and flooring and are commonly used in caravans, mobile homes and demountable buildings. Pressed wood products can also be used in on site construction applications including structural ramps, overhead protection barriers and runways etc.

Outdoor applications of pressed wood products occur under conditions of good ventilation, and are not likely to give rise to health effects.

**What should I do?**

Under the **Work Health and Safety Act 2011** (the Act), persons conducting business or undertaking (PCBU), and self-employed persons must take all reasonably practicable steps to ensure that persons at or near the workplace are not exposed to health and safety risks.
Formaldehyde Exposure from Pressed Wood Products

The primary control measure for occupational exposure is elimination of the source of exposure.

- Low formaldehyde-emitting pressed wood products should be used, such as those that meet the Australian Standards for formaldehyde emission limits.
- Untreated surfaces should be coated or laminated with vinyl or water resistant coating to reduce formaldehyde emissions.
- Effective ventilation is a key control measure for reducing exposure to formaldehyde. Occupational risks to formaldehyde exposures can be managed by ensuring effective ventilation when these products are used in indoor environments.

Manufacturers of mobile homes and relocatable buildings should aim to minimise levels of formaldehyde in indoor air and these should be designed to ensure that the recommended indoor air guidance value of 80 parts per billion (ppb) is not exceeded.

If symptoms of burning, stinging or itching of the eyes and/or nose, sore throat, watery eyes, blocked sinuses, runny nose or sneezing occur it is advised to move to an area with fresh air.

New Proposed Occupational Exposure Standards

The current national occupational exposure standard for formaldehyde is 1 ppm 8-hour time weighted average (TWA) and 2 ppm short-term exposure limit (STEL).

The NICNAS report recommends that the occupational exposure standard be lowered to 0.3 ppm TWA and 0.6 ppm STEL based on irritation of the eyes and nose. This level provides adequate protection against discomfort of irritation, but also provides a high level of protection against the risk of cancer. This standard has been recommended to the Safe Work Australia, the agency responsible for setting national occupational exposure standards.

For more Information

For further information refer to the following: