

WOOD BASED BOARDS

Wood based boards are used almost everywhere. Workers complain of the dust produced by the boards but few workers know what the boards are made of or the hazards.

Boards are categorised into three main groups, laminated boards, particle boards or fibre boards.

Laminates or wood particles are glued or bonded together by formaldehyde resins. Most boards will be glued by urea formaldehyde but exterior, 'WBP', or marine quality boards will be glued by stronger glues, normally phenol formaldehyde or possibly resorcinol formaldehyde. Water resistant boards may have melamine mixed with the glue.

Rumours that medium density fibre board (MDF) is banned in the USA are untrue. Emissions of formaldehyde from board products are, however, regulated in the USA and Germany, and are expected to be regulated throughout the European Union (EU) in the future. Formaldehyde emissions at work in the UK are controlled by standards set in the Control Of Substances Hazardous to Health Regulations (see factsheet, Daily Hazard 24) and the occupational exposure standards set out in HSE Guidance note EH40.

In the UK, board manufacturers are advertising low formaldehyde or zero formaldehyde emission boards made to the stringent German 'E1' standard. This appears to be because manufacturers feel the EU is very likely to adopt this standard in the future.

Some boards are finished with laminated plastic sheet (melamine), foil (PVC) or wood veneer. Boards may be treated with flame retardant chemicals.

Hazards

Polyurea resin, urea formaldehyde resin

Formaldehyde resins are used to bond the constituent parts together (in some particleboards and all fibreboards). Irritant at low levels to eyes, mucous membranes, nose and throat. Can sensitise skin (dermatitis) and respiratory system (asthma and rhinitis). Increases risk of cancer. Some evidence of reproductive hazards and ability to damage a foetus. Formaldehyde resin continues to emit vapour after it has hardened. (See factsheet, Daily Hazard 25).

Melamine

An eye, skin and mucous membrane irritant, causes dermatitis, and is an experimental carcinogen.

Paraffin and mineral wax

Petroleum derivatives which can cause dermatitis. If not solvent refined may contain small amounts of hazardous impurities such as benzene.

Wood dust

Hardwood dust can cause nasal cancer, with a small number of woods being directly implicated (Beech, Oak, Redwood). All hardwood dusts have a UK Maximum Exposure Limit (MEL) of 5mg/m³. This is totally inadequate as the mucociliary escalator, the throat's natural defence, is severely impaired at 2mg/m³. Dust levels must therefore be kept as low as possible.

Inhaled softwood dust, although not recognised as having the same potential hazard as hardwood, should be treated with caution. Respirable dust of any kind can irritate the respiratory system or interfere with mucociliary action.

A number of woods are irritants of the skin (Iroko, Keruing, Afrosomia), the respiratory tract (Beech, Iroko, Maple) or the eyes (Yew, Teak, Satinwood). Some, such as Western Red Cedar, Iroko and Mahogany, cause allergic asthma. The HSE lists 'hardwood' as a respiratory sensitiser.

Some woods are poisonous, such as Yew and Oleander which can cause nausea and malaise and affect the heart.

Large quantities of airborne wood dust in an enclosed space can cause an explosion. Some wood dusts will spontaneously combust on contact with certain oils or chemicals.

Pesticides

Timber may be sprayed with a pesticide when it is logged to prevent mould growth, or at any point on its journey from the forest to the workplace or home. Some boards may contain wood treated with pesticides but it will be difficult to check this.

Mould

Moulds such as neurospora which grow on wood and board products can irritate the respiratory system and cause asthma.

VCM

When machined, PVC veneers can give off fumes of vinyl chloride monomer (VCM), a very potent cancer agent.

Combined effects

The combined effects of wood dust, formaldehyde or other substances, and any other hazards are not known. Effects of combined exposure will probably be greater than the sum of the parts, especially if dust has disabled the body's defence mechanisms.

Control of hazards

Hazards must be identified ('risk assessment') and eliminated or reduced before work starts, as demanded by COSHH (Control of Substances Hazardous to Health Regulations) and other legislation.

First ask if a safer material can be used. For instance, in erecting a wall would it be better to use blockwork or bricks with a plaster finish rather than board products, or where a floor is to be laid would it be better to use traditional wooden floor boards rather than a board product? Substitution should only be made if the new method presents either equal or less of a hazard than the original proposal.

If a board has to be used then low emission standard boards will reduce the formaldehyde hazard.

The work system must control dust and fumes from wood and glues, with dust well below the UK 5mg/m³ maximum.

In a factory or joinery shop, there should be a permanent mechanical ventilation system. Housekeeping methods must keep workshops free from dust and dust must be disposed of safely.

On a construction site or temporary workplace, cutting

in the open air will reduce dust problems but not solve them. A portable dust extraction unit with a flexible hose should be fixed to the power tool. The extractor must meet British Standard BS 5415, which means it filters out 99.99% of dust particles gathered. But it may not pick up all the dust and a residue may remain airborne or settle. Respiratory protection will still be necessary. Residual dust should be cleaned afterwards using the hose of the extractor like a domestic vacuum cleaner.

Safety Representatives

Trade union safety representatives (see factsheet Daily Hazard 42) have rights of consultation and access to information in risk assessments made under COSHH and to information required in the safety plan under the new Construction (Design & Management) Regulations, which applies to large construction sites

Laminated boards	By alternating the wood grain direction for each layer (laminated) and using very strong glues, high board strength and increased rigidity is achieved. Laminated boards fall into three main groups.
Plywood	Thin layers of wood (veneers) stuck together. The number and thickness of veneers is variable.
Blockboard	Two veneers which sandwich many strips of wood of equal thickness.
Laminboard	Similar to blockboard but the strips of wood tend to be of a smaller size and a different glueing method is used.
Particle boards	Made from different types of cellulose based material. The raw material is processed to produce particles of varying size and bonded with a resin binder. The main types are:
Wood chipboard	Chips from either soft or hardwood, or a combination of both. Different grades of chipboard are made by varying particle size, distribution and bonding agent type and quantity.
Flaxboard	Made from linen particles. Has added hazard of the disease byssinosis.
Bagasse Board	Made from sugar cane. Has the added hazard of the disease bagassosis.
Wafer board	Made from larger wood flakes.
Oriented strand board	Is a three layer wafer board, with opposing grain as in plywood.
Cement bonded particleboard	Wood particles bonded together with either portland or magnesite cement. (See factsheet Daily Hazard 17).
Fibre boards	Types of fibreboard are differentiated by the size and type of wood fibres used, the method of drying, bonding agent (where used) and the method of pressing into shape.
Hardboard	Fibres suspended in water are usually bonded by resins from the wood itself in a roller press at high temperature and pressure. Manufactured resins and drying oils can be added to mix.
Medium board (MBL and MBH) and Soft Board (SB)	Similar to hardboard but manufactured at varying pressures giving varying density and strength. Softboards are sometimes impregnated with bitumen as an extra bond and for limited waterproofing.
Medium density fibreboard (MDF)	MDF is manufactured by a dry process at lower pressing temperatures than for hardboard which renders the natural glues/resins in wood ineffective. A manufactured bonding agent or resin is used instead. Varying density boards with different finishes are made for different end uses. MDF is made into mouldings such as skirting board, architrave etc.

Health charter spans the factory gate

An international session of the Permanent Peoples' Tribunal on Industrial Hazards and Human Rights was convened in London and hosted by the Pesticides Trust from 28 November to 2 December 1994 to commemorate the tenth anniversary of the world's worst industrial disaster. Over 2,500 people were killed and hundreds of thousands of others were injured and maimed when lethal methyl isocyanate gas leaked from a Union Carbide pesticide plant at Bhopal, India on the night of 3 December 1984.

The conference focused attention on the continuing danger to

workers and communities posed by major industrial accidents and pollution, and launched a draft Charter of Health, Safety and Environmental Rights of Workers and Communities. Comments and suggestions for promoting the use of the Charter by workers and communities in their struggle to extend the right to health, safety and a clean environment are welcome. Copies of the Charter can be obtained from the Pesticides Trust, Eurolink Centre, 49 Effra Road, London SW2 1BZ. Tel: 0171 274 8895. The conference proceedings will be published later in 1995.

1995 Training

London Hazards Centre general health and safety courses provide participants with a sound grounding in the law combined with practical help to improve health and safety in your workplace. Topics covered include risk assessment, hazards identification, safety representatives and safety committees, and welfare requirements.

To reserve a place, at £40 per participant, on any of the following courses, contact a member of the training team on 0171 267 3387

London Hazards Centre general health and safety training courses:
Thursday 13th April
Thursday 22nd June
Thursday 28th September
Thursday 30th November

Interchange training runs short courses in small groups at Interchange Studios in management and self development skills.

Prices are around £75 a day to voluntary groups and £100 a day to statutory organisations, with discounts to LBGC clients and London artists. They also offer customised courses for £525 plus VAT and expenses per day. Contact them on 0171 267 5220/9421.

PUBLICATIONS

- ▲ **Hard Labour: Stress, ill-health and hazardous employment practices.** August 1994. £6.95.
- ▲ **VDU Work and the Hazards to Health.** August 1993. £6.50
- ▲ **Protecting the Community: A worker's guide to health and safety in Europe.** May 1992. £9.95
- ▲ **Basic Health and Safety: Workers' rights and how to win them.** June 1991. £6.00
- ▲ **Repetition Strain Injuries: Hidden harm from over-use.** January 1988. £3.00*/£6.00
- ▲ **Out in the Open** (supplement to *Repetition Strain Injuries*). January 1993. £1.00 (free with *Repetition Strain Injuries*).
- ▲ **Sick Building Syndrome: Causes, effects and control.** June 1990. £4.50
- ▲ **Fluorescent Lighting: A health hazard overhead.** March 1987. £2.00*/£5.00
- ▲ **Toxic Treatments: Wood preservative hazards at work and in the home.** January 1989. £5.95
- ▲ **After the Sprayer: investigation and treatment of ill-health caused by wood preservatives and how to get help.** January 1992. Factsheet. £1.00
- ▲ **Factpack:** Set of factsheets from the Daily Hazard. £5.00
- ▲ **Daily Hazard** complete run: £25.00

* Price to community/tenants/union groups.

Add £1.00 post and packing up to the first £10.00 worth of books, add an additional £1.00 up to each subsequent £10.00 worth. Discounts for 10 or more copies. All orders must be accompanied by a cheque made payable to London Hazards Centre.

HAZLIT is London Hazards Centre's library database on the Poptel Geonet electronic mail system. For information about on-line access, contact the Centre.

A celebration and a farewell

After ten years, Maggie Alexander, the Centre's longest serving worker, left at the end of January to take up a new post as Information Services Manager at Cancerlink.

Maggie was among the first team of workers employed when the Centre was set up.

Since then, at different times, she has taken responsibility for information work, administration, fund-raising, advice and publications. The Centre's development has owed a lot to her consistent hard work and willingness to take on new roles

when necessary.

We wish her all the best in her new job.

Fiona Murie who took a year's sabbatical in Spain has decided to stay there. She is working on hazards issues with the Spanish trade union movement. Fiona joined the Centre in 1988 and made a big contribution to the advice, research and training activities of the Centre. We wish her well. Fiona's locum, Shonagh Methven, has been given a permanent appointment as a Training and Advice worker.



Maggie Alexander (centre) is joined by Pat Kinnerly, one of the original Centre workers and Management Council member, Andrea Oates, at the London Hazards Centre's 10th anniversary celebration.

National hazards conference

Safety reps and community activists will be gathering in Liverpool on 7-9 April for the National Hazards Conference. The conference, organised by the Hazards Campaign, is a unique chance to share your experiences and learn from others. Workshops led by trade union tutors, Hazards Centre workers, and other activists, will cover the whole spectrum of health and safety issues and campaigning.

Full fee with board is £70; attendance only is £30. Creche facilities. Apply by 10th March. Details from Merseyside TUCRC, 24 Hardman Street, Liverpool L1 9AX, tel 0151-709 3995, fax 0151-708 8862.

Remember the London Hazards Centre has moved. Our new address is below.



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