

COSHH DATA SHEET

Timber and Wood-Based Products

The Control of Substances Hazardous to Health Regulations 1999 came into force on 25 March 1999. These regulations revoke and replace previous COSHH Regulations, although the basic duties of employers are not changed significantly. These regulations require all companies to minimise employees' exposure to hazardous substances, carcinogenous and biological agents. As part of their contents, they give a definition of what is meant by 'Hazardous to Health'. This means that a substance, in order to be classed as 'hazardous', must:-

- a. Be listed in Part 1 of the approved supply list as dangerous for supply within the meaning of the Chemicals (Hazard Information and Packaging) Regulations 1994 (CHIP) and for which indication of danger is given as very toxic, toxic, harmful, corrosive or irritant.
- b. Be a substance for which the Health and Safety Commission has approved a maximum exposure limit (MEL) or an occupational exposure standard (OES),
- c. Be a biological agent.
- d. Be a dust (of any kind) present in substantial concentration in air.
- e. Be any other hazardous substance, not strictly defined, but which still creates a hazard to health.

Hazard & Risk

Hazard is the term that applies to an inherent property of a substance that under normal working conditions is not going to be altered and the action that substance can produce on or in the human body.

Risk is the term applied to the likelihood of a substance coming into contact with the body so as to produce a health effect. It incorporates the concepts of the length of exposure?, how much exposure?, method of entry into body? etc.

Solid Timber

In normal circumstances contact by any harmful substances with the human body is restricted because of the large solid mass of timber involved, and a negligible risk exists.

Skin contact with some gums or resins, introduction of splinters into the skin, inhalation of disturbed moulds and dusts together with dust derived from sawing can occasionally produce an increased risk of ill health.

Solid timber is not in itself a hazardous substance. Contact with wood therefore does not create any health risk under normal use, although some timbers may cause skin irritation or dermatitis to sensitised individuals. Thus, solid timber does not require a 'Hazard Data Sheet' to describe its properties, how to deal with exposure, etc.

A simple 'risk assessment' should be carried out before solid timber is handled. Normally, the conclusion will be that the risk of a hazard to health is 'negligible'. However, there are limits for exposure to dust derived from the processing of timber, and these are outlined below:-

Hardwood Dust

This is given a maximum exposure limit (MEL) in the COSHH Regulations which should not, in normal circumstances be exceeded. It is given as a weight of material per cubic metre of air, time weighted over a reference period of 8 hours.

Hardwood dust is also defined as a carcinogen within the Regulations.

The COSHH Regulations impose a duty on employers to take all reasonable precautions and to exercise all due diligence to ensure that exposure is kept as far below the MEL as it reasonably practicable.

The limit is 5mg/m³ based on an 8 hour TWA (time weighted average).

Softwood Dust

Softwood dust has also been assigned a MEL in the 1996 amendment to the COSHH regulations. The MEL has been set the same as Hardwood dust at 5mg/m³ based on an 8 hour TWA. The duties as above apply.

Note

Timber users should be aware that if timber is worked so as to produce dust, and that dust is present in concentrations above the levels laid down, it will constitute a hazardous substance.

Treated Timber

Timber treated with a chemical preservative has to remain in storage for a specified period before delivery to allow solvents and water to evaporate and the chemicals on the surface to become fixed in the timber. Excess chemicals on the surface should be removed by washing down and/or brushing.

Provided this practice has been properly followed, then treated timber also should present no hazard in itself. If the timber is not completely dry, then gloves should be worn and the preservative manufacturers' guidance followed.

Customers purchasing treated timber will be informed that the wood has been treated with a certain chemical process and, if required, a hazard data sheet on that chemical can be supplied. This will only be required if substantial re-working of treated material is carried out and this is not normal practice on the majority of cutting etc. should be completed prior to treatment.

Joinery Components

A treated softwood window or a hardwood window is not, for reasons given above, a hazardous substance, nor does it present a hazard in itself to a building site worker or subsequent user. The actual risk from small amounts of cutting in well ventilated areas (e.g. horns of a window) is negligible.

Similarly, most joinery or trim components, treated or otherwise, should not require hazard data sheets under most circumstances of use.

Wood Based Sheet Materials

The risks associated with wood-based sheet materials such as plywood, chipboard, MDF etc are the same for solid timber. Dust produced during cutting operations and present in the air at levels above the concentrations laid down will constitute a hazardous substance.

The MEL of 5 mg/m³ should be used as per hardwood and softwood dust.

The only possible additional and occasional hazard from supplies of sheet materials may be a tendency to give off small quantities of formaldehyde vapour when new. This can arise from the adhesive used in manufacture of the boards. The MEL for formaldehyde (2 parts per million) is

rarely likely to be exceeded from most boards in normal use and processing. However, purchasers should be aware that some formaldehyde emissions may occur and that sensitive people may sometimes be affected. In extreme cases, follow-up action e.g. monitoring will be required and more information can then be obtained from the manufacturer or supplier of the board.

Note

Further information on the potential hazards of processing MDF are presently being researched by the Health and Safety Executive and, until further guidance is issued, the above exposure limits apply.

It should be remembered that the vast majority of all board materials based on wood are not hazardous when used properly and sensibly.

Glued Laminated Timber

The risks associated with Glulam are largely the same as with solid timber and wood-based sheet materials. These paragraphs, therefore, should also be read. During manufacture or if substantial re-working is required, the MEL of 5mg/m³ should be adhered to. The actual risk associated with small amounts of cross cutting of beams or columns can be described as negligible.

As with sheet materials, a very small amount of formaldehyde may be emitted during cross-cutting or manufacture but this is unlikely to exceed the MEL of 2ppm.

Many adhesives contain acids, solvents and a range of other chemicals. Uncured adhesives used in the Glulam manufacturing process should be handled with caution and the manufacturer's advice regarding safety precautions followed strictly.

Waste

The main hazard is fine particles or dust since these can be inhaled. Therefore, ways of reducing this route should be sought, particularly if additional chemicals such as preservatives or glues containing formaldehyde are present. The previously indicated MEL should be used.

Dustless cleaning and handling should be a priority; however, in some circumstances, the use of respiratory protection and personal protection may have to be used.

Alternative Processes

Traditional methods of shaping, cutting or forming timber have been used for many years and the risks are known. New machines are often accompanied by built-in dust extraction devices (local exhaust, ventilation, LEV) which deal with the major risk of inhalation of dust. These should be inspected and maintained as per the Regulations. Personal monitoring should be carried out to ensure LEV is working correctly and the MELs are being achieved.

New methods of cutting, involving such devices as lasers, are now being introduced. These do not tend to produce dust but fumes. At present there is little known about the toxic hazards of such fumes and careful discussions with the equipment supplier should take place where these machines or processes are used (*Revised August 1999*).