



Carpenter/Joiner

HAZARDS AND RISKS

The biggest respiratory ill health risk to woodworkers comes from inhaling wood dust. Carpentry, joinery and shop fitting work typically involves cutting, shaping and fixing timber and wood pieces using saws, planes, chisels and other power and hand tools, all of which generate wood dust, as do tasks such as sweeping and cleaning. These workers can also be at risk through inhaling solvents and isocyanates from adhesives, paints, stains and varnishes that are used to fix and treat wood products.

Wood dust

Wood can be in many forms such as softwood and hardwood, and wood-based products such as MDF and chipboard. Exposure to all types of wood dust can lead to the development of asthma which is a serious, debilitating, and sometimes life-limiting condition, and can also trigger asthma attacks in existing asthma sufferers. Certain hardwood dusts can cause a rare form of nasal cancer. More rarely, there is an increased risk of developing extrinsic allergic alveolitis (a disease which can cause progressive lung damage) when working with some specific woods (eg. western red cedar or iroko). Exposure to any type of wood dust can also cause irritation, allergic rhinitis (runny nose) and impaired lung function.

Solvents & isocyanates

Inhaling solvents can lead to irritation, dizziness and drowsiness. Exposure to isocyanates can cause allergic rhinitis and asthma.

CONTROL OPTIONS

Elimination/prevention

- Use pre-cut materials, to eliminate the need to cut wood on site, wherever possible.
- Use less toxic materials/substances, eg: avoid high risk woods (such as Western Red Cedar); use solvent-free products, etc.

Engineering controls

- Use powered hand tools that feature integrated dust extraction (or "on tool" dust extraction).
- Use local exhaust ventilation (LEV) for bench or semi-permanent machines; stand-alone dust collectors can be considered for occasional use.
- Use dustless cleaning methods eg: H or M class vacuum cleaner (HEPA filter) with antistatic hoses.

Safe working methods

- Ensure good general ventilation to the work area; work outdoors if feasible.
- Set up dedicated work areas with restricted access to other workers.
- Clean up regularly and ensure vacuuming or wet cleaning; avoid dry sweeping or use of compressed air to remove dust from clothing.
- Minimise dust release eg. through damping down of work areas.
- Use roller/brush application of coatings rather than spraying if feasible.

PPE

- Risk assess the tasks and also refer to Australian Standard AS/NZ 1715 for RPE guidance.
- Respiratory protective equipment (RPE) may be required to supplement the control measures described above. RPE must be worn if, for example, LEV cannot be used when operating power saws or machines, or hand sawing is carried out in enclosed or poorly ventilated areas. As a minimum, a re-usable half mask with a P2 rated filter, or disposable RPE (rated at least P2) for wood dust.
- All staff required to use RPE should be subject to face fit testing to ensure the RPE selected provides each individual with the anticipated level of protection.
- Check RPE requirements for protection against chemical solvent exposures. These are different to wood dust and particulate filters.

Preferred control methods

- Outdoor hand sawing, on-tool dust extraction and LEV for machinery, in dedicated work areas and use of vacuum cleaners.

MANAGING THE RISK

Training & communication, supervision, maintenance & testing of controls and air monitoring* are all vital aspects of managing the risk, in addition to health surveillance which can be a requirement in certain circumstances.

See our introductory [Respiratory Health Hazards in Construction Fact Sheet Series: Overview](#) for more information about what things to consider and implement.

Air monitoring*

Air monitoring is a specialist activity. It may be needed as part of a risk assessment, as a periodic check on control effectiveness and to assess compliance with relevant WES, or where there has been a failure in a control (for example if a worker reports respiratory symptoms). A qualified Occupational Hygienist can ensure it is carried out in a way that provides meaningful and helpful results.

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WORKPLACE EXPOSURE STANDARDS (WES) & EXPOSURE LEVELS

Agent or substance	Control/Exposure Limit	Exposure Levels
Wood dust - soft wood:	5 mg/m ³ (8 hour TWA)	Exposure levels are affected by the frequency and duration of the work being undertaken and are likely to be higher in poorly ventilated spaces/areas.
Wood dust - certain hard wood:	1 mg/m ³ (8 hour TWA)	
Other substances		Adhesives, paints and paint strippers, varnishes and wood preservatives may all contain substances which have a Workplace Exposure Standard (WES); refer to Safety Data Sheets (SDSs) for the substances present and to Safe Work Australia website and workplace Exposure Standards, http://hcis.safeworkaustralia.gov.au/

Further information

- Wood dust: Controlling the risks: www.hse.gov.uk/pubns/wis23.pdf
- Wood dust: Selecting suitable respiratory protective equipment: www.hse.gov.uk/pubns/wis14.pdf
- Controlling construction dust with on-tool extraction: www.hse.gov.uk/pubns/cis69.pdf
- COSHH Essentials: Circular bench saws: www.coshh-essentials.org.uk/assets/live/wd02.pdf
- COSHH Essentials: Cross-cut saws: www.coshh-essentials.org.uk/assets/live/wd03.pdf
- COSHH Essentials: Stand-alone dust collectors: www.coshh-essentials.org.uk/assets/live/wd09.pdf
- On video: How to improve dust control at circular saw benches: www.youtube.com/watch?v=_4kyohTbNTQ&feature=youtu.be