

## MEASUREMENT OF WOOD DUST EXPOSURE

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The Finnish Institute of Occupational Health is coordinating the EU project 'Risk Assessment of Wood Dust: Assessment of Exposure, Health Effects and Biological Mechanisms'. The exposure assessment part of the project aims at assessing current exposure (prevalence and level) to wood dust by industry in the member states of EU. For this purpose the following measurement data were received from six EU countries:

Country	Source of data	Total number of measurements	Number of measurements used in exposure estimation *
Denmark	Danish National Institute of Occupational Health and Dr Vivi Schlünssen	2 970	1 900
Finland	Finnish Institute of Occupational Health (FIOH)	2 300	590
France	COLCHIC data base, Institut National de Recherche et de Sécurité (INRS) and CRAM	7 880	5 000
Germany	Holz-Berufsgenossenschaft (Holz-BG) Munich	20 870	8 930
the Netherlands	studies of Wageningen Agricultural University and Utrecht University	530	360
the UK	Health and Safety (HSE)	2 260	400

\* measurements older than 10 years, background measurements, measurements with sampling time less than 2 h were excluded

All concentrations were presented as inhalable dust; conversion factors (between 1 - 2) were therefore used to convert "total" dust concentrations to inhalable dust.

The level of wood dust concentrations has decreased in many countries from the late 1980s to the beginning of the 2000s. According to the latest measurement results (10 past years) the mean (GM) wood dust concentrations varied between 1.0 - 1.5 mg/m<sup>3</sup> in sawmilling and planing, and the manufacture of wooden boards. The average concentrations were between 0.5 - 3.5 mg/m<sup>3</sup> in the manufacture of wooden products, and between 1.0 - 3.0 mg/m<sup>3</sup> in furniture manufacturing.

The average wood dust concentrations were below the occupational exposure limit (OEL) of the EU, i.e. 5 mg/m<sup>3</sup>, but in Finland about 5 - 10%, and in the UK 15 - 30% of the concentrations exceeded this value. Typically about 30% of the measured concentrations exceeded the value of 2 mg/m<sup>3</sup>, which is the OEL e.g. in Germany.

However, it seems that it is possible to reduce wood dust levels with efficient dust control measures, e.g. only 0.4% of the Danish measurement results in the furniture industry exceeded the limit value of 5 mg/m<sup>3</sup>. When the furniture factories with good exhaust ventilation were selected from the German data, 99% of the concentrations were below 5 mg/m<sup>3</sup> and 89% below 2 mg/m<sup>3</sup>, according to the calculations by Holz-BG.