

WOOD DUST-RELATED HEALTH EFFECTS AND OCCUPATIONAL LIMIT VALUES

Husgafvel-Pursiainen K.

Finnish Institute of Occupational Health, Helsinki, Finland

Exposure to dusts from both hardwood (deciduous) and softwood (coniferous) tree species is associated with a large variety of health effects. The non-carcinogenic ones include irritation and other symptoms in the nose and the eyes, irritation and inflammation of the respiratory epithelium, coughing, wheezing, chronic bronchitis, and asthma. In addition, one of the main concerns is the observation that occupational exposure to wood dust – especially to hardwood dust – is related to considerably elevated risk of cancer. Numerous epidemiological studies have consistently demonstrated a strong causal association between exposure to hardwood dust and sino-nasal adenocarcinoma (ICD10: C31), a rare type of human cancer. The overall evaluation of the working group of the International Agency for Research on Cancer (1995) notifies that wood dust is carcinogenic to humans (Group 1). The evaluation is based on the marked increase in the occurrence of cancers of the nasal cavities and paranasal sinuses among workers exposed predominantly to hardwood dusts. Accordingly, Council Directive 1999/38/EC, enforced in April 1999, states that hardwood dusts, exposure to oak and beech in particular, are to be considered human carcinogens. The Directive gives a limit value of 5 mg/m³ (inhalable fraction) for occupational exposure to hardwood dust. However, it seems evident that to protect woodworkers from effects on respiratory health, a lower limit value is needed. It appears very well documented in the scientific literature that exposure to wood dust at levels below 5 mg/m³, including 1 mg/m³ and lower, is causing sino-nasal as well as pulmonary symptoms. In fact, symptoms in the upper and lower respiratory tracts have been observed in some studies at exposure levels as low as 0.5 mg/m³ and lower. The Scientific Committee of Occupational Limits (SCOEL), giving expert advice to the European Commission, is currently preparing documentation on the existing scientific evidence on wood dust for establishment of occupational exposure limits in the EU.

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