

**Respirator Use and Practices in Furniture and Fixtures Manufacturing
Establishments: Results of a National Survey of Private Sector Employers**

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Introduction

In 2001, the *Survey of Respirator Use and Practices* gathered information on respirator use from 40,002 randomly selected U.S. establishments.¹ The survey collected data on the types of respiratory protection used by workers at an establishment, types of respirator fit tests performed, and presence of substances that prompted the decision to use respiratory protection.

The findings of the survey raised questions regarding respirator usage practices and how these practices compare with Occupational Safety and Health Administration (OSHA) regulations² and NIOSH recommendations.³

Respiratory Protection Program Quality Indicators

Each of the indicators listed below (developed on the basis of OSHA requirements² and NIOSH recommendations³) is an important part of an effective respirator program. If the answer to any of these questions is *no*, it may indicate that an operation's overall quality of respiratory protection is inadequate and improvements may be needed:

- Does the program include a trained respirator program administrator?
- Has management adopted a written respirator program that determines how respirators are used?
- Does the program include written procedures for maintaining respirators?
- Are wearers of tight-fitting respirators fit tested?
- Are employees assessed for medical fitness to wear respirators?

- Does the program provide training regarding the need, use, limitations, and capabilities of respirators?
- Do written procedures include a periodical evaluation of the effectiveness of respirators used at the establishment?
- Are airline respirator couplings incompatible with other gas systems at the establishment?
- Does the program require use of the manufacturer user's instructions or NIOSH certification labels to adjust the airflow for airline respirators?
- Is there a written change-out schedule for air-purifying gas/vapor filters?
- Are dust masks used (filtering-facepiece respirators) to protect only against dusts, but not gases or vapors?

This report focuses on information from the respirator use and practices survey collected from the *Furniture and Fixtures* manufacturing industry. This industry includes establishments engaged in manufacturing furniture for homes, offices, public building, ships, hospitals, and cafeterias; and partitions, shelving, and lockers (Standard Industrial Classification 25).⁴

Findings and Discussion

Approximately 16.6% or an estimated 1,786 establishments in the *Furniture and Fixtures* manufacturing industry used respirators for required purposes in 2001. This percentage (16.6%) was higher than the percentage of establishments with respirator use in its parent industry of *Manufacturing* (12.8%) and *All Private Industry* (4.5%). Among the types of respirators used, dust masks were used in 85.0% (1,518 of 1,786) of the *Furniture and Fixtures* respirator-using establishments compared to 71.3%

(200,995 of 281,776) of *All Private Industry* establishments. Also, employees in *Furniture and Fixtures* were as likely to use respirators as were *All Private Industry* employees as a whole (both 3.1%).¹

Operations in the *Furniture and Fixtures* industry (e.g., sanding, staining, painting and applying urethane coating, and furniture stripping) can result in exposures to airborne contaminants and agents. For example, workers in this industry may be exposed to isocyanates and paint vapors from coating and painting, methylene chloride, caustic soda or acids from furniture stripping, welding fumes from welding of metal furniture, and wood dusts from sawing and sanding.⁵ These exposures are associated with various respiratory diseases. For example, exposure to wood dust and isocyanates can cause asthma.⁵⁻¹⁰ While the survey did not allow determination of particular substances that prompted respirator use within the *Furniture and Fixtures* industry, it did provide such information for its parent industry, *Manufacturing*. There, *Dust, paint vapors, solvents, and welding fumes* were the substances for which respirators were most frequently used (Figure 1).

Of the respirator-using *Furniture and Fixtures* establishments, 76%, or an estimated 1,355 establishments, had three or more indicators of a potentially inadequate respiratory protection program (Figure 2) as measured against OSHA respirator program requirements and NIOSH recommendations listed in the previous section.

The survey findings are subject to some limitations. Public sector, self-employed, and agriculture establishments with less than 11 workers were not included in the survey. Although the instructions stated that the person most familiar with respiratory

protection should complete the questionnaire, this may not have always happened. In spite of the cognitive and field testing of the survey at small, medium, and large establishments prior to its mailing, recipients may have misinterpreted the written questions. The survey was not designed to collect exposure information specifically for *Furniture and Fixtures*, though it did collect such information for the broader industry category of *Manufacturing*.

Respiratory Protection Program Consultation Service

Employers who suspect their respiratory protection program is in need of improvement should consider contacting the OSHA free confidential consultation service available for small businesses in every state. OSHA also has a *Small Entity Compliance Guide for the Revised Respiratory Protection Standard* available at <http://www.osha.gov/Publications/secgrev-current.pdf>. Another resource is the American Industrial Hygiene Association list of consultants at <http://www.aiha.org/Content/AccessInfo/consult/consultlisting.htm>.

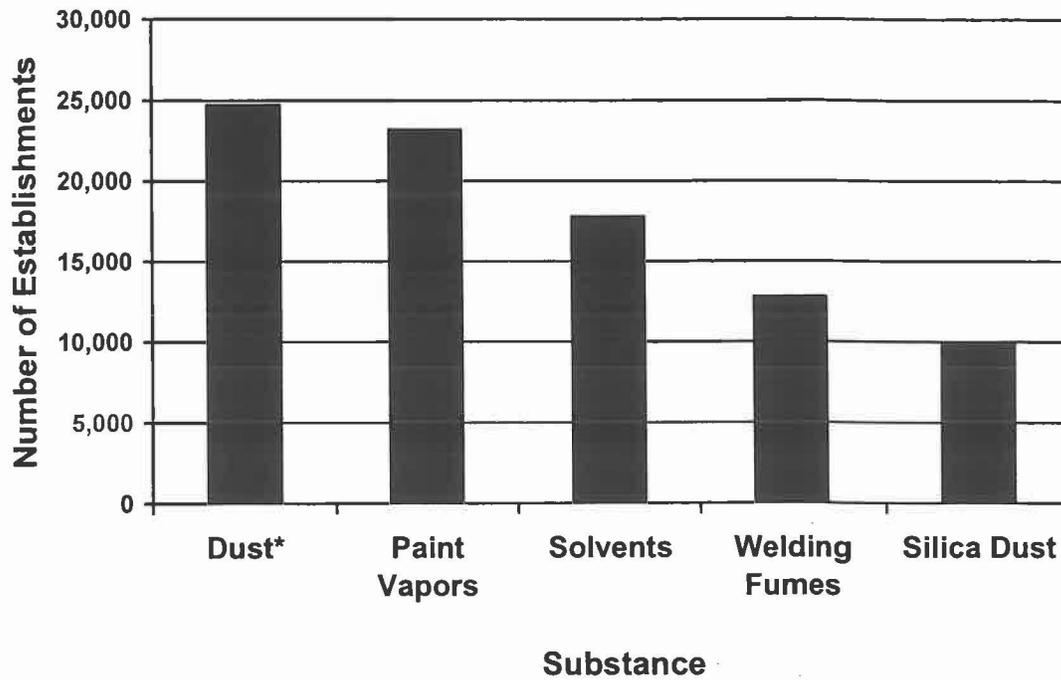
Disclaimer: The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the National Institute for Occupational Safety and Health.

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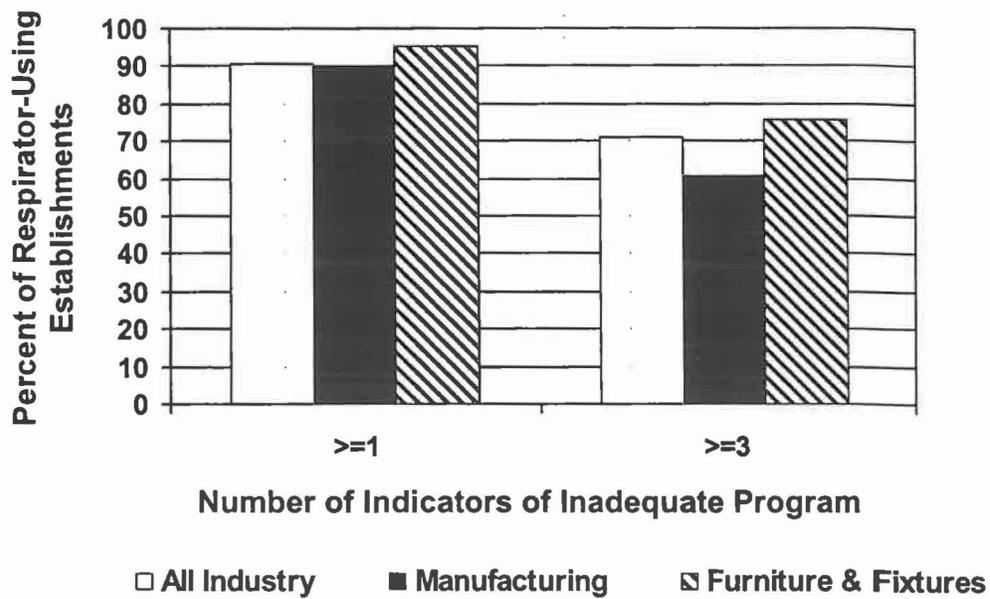
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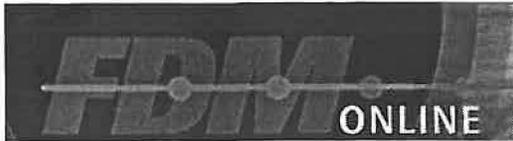
Figure 1
Number of *Manufacturing* Establishments Using Respirators to Protect Employees from Specified Substances



* *Dust* category does not include silica and asbestos

Figure 2
Percent of Respirator-Using Establishments with Specified Number of Indicators of a Potentially Inadequate Respirator Program





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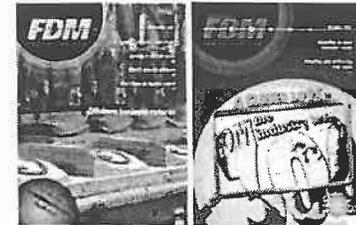
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