

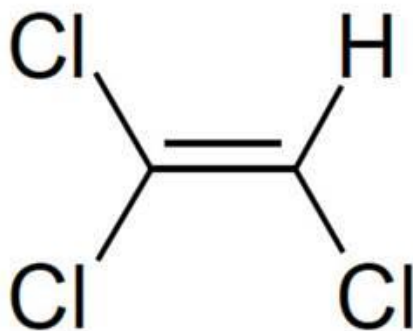


Final Risk Evaluation for Trichloroethylene

Supplemental Information File:

Memorandum on Respirator Usage in Private Sector Firms

CASRN: 79-01-6



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MEMORANDUM

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THRU: Nhan Nguyen, Chief *NN*
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FROM: Rehan Choudhary *RC*
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DATE: February 18, 2020

RE: **NIOSH/BLS Respirator Usage in Private Sector Firms**

The purpose of this memo is to summarize results from a survey on the use of respirators in private sector firms.

The National Institute for Occupational Safety and Health (NIOSH) and the U.S. Department of Labor's Bureau of Labor Statistics (BLS) conducted a voluntary survey of U.S. employers regarding the use of respiratory protective devices between August 2001 and January 2002. The survey was sent to a sample of 40,002 establishments designed to represent all private sector establishments. The survey had a 75.5% response rate (NIOSH, 2001).

A voluntary survey may not be representative of all private industry respirator use patterns as some establishments with low or no respirator use may choose to not respond to the survey. Therefore, results of the survey may potentially be biased towards higher respirator use.

The statistics of this survey may not be representative of all industry sectors and conditions of use for a given chemical. However, this survey-based information helps to highlight the potential uncertainty that comes with assuming widespread usage of respiratory protective equipment for estimating occupational exposures.

NIOSH and BLS estimated about 619,400 establishments used respirators for voluntary or required purposes (including emergency and non-emergency uses). About 281,800 establishments (45%) were estimated to have had respirator use for required purposes in the 12 months prior to the survey. The 281,800 establishments estimated to have had respirator use for required purposes were estimated to be approximately 4.5% of all private industry establishments in the U.S. at the time (NIOSH. 2001). The survey found that the establishments that required respirator use had the following respirator program characteristics (NIOSH. 2001):

- 59% provided training to workers on respirator use.
- 34% had a written respiratory protection program.
- 47% performed an assessment of the employees' medical fitness to wear respirators.
- 24% included air sampling to determine respirator selection.

The survey report does not provide results for respirator fit testing or identify if fit testing was included in one of the other program characteristics. Of the establishments that had respirator use for a required purpose within the 12 months prior to the survey, NIOSH and BLS found (NIOSH. 2001):

- Non-powered air purifying respirators are most common, 94% overall and varying from 89% to 100% across industry sectors.
- Powered air-purifying respirators represent a minority of respirator use, 15% overall and varying from 7% to 22% across industry sectors.
- Supplied air respirators represent a minority of respirator use, 17% overall and varying from 4% to 37% across industry sectors.

Of the establishments that used non-powered air-purifying respirators for a required purpose within the 12 months prior to the survey, NIOSH and BLS found (NIOSH. 2001):

- A high majority use dust masks, 76% overall and varying from 56% to 88% across industry sectors.
- A varying fraction use half-mask respirators, 52% overall and varying from 26% to 66% across industry sectors.
- A varying fraction use full-facepiece respirators, 23% overall and varying from 4% to 33% across industry sectors.

Table 1 summarizes the number and percent of all private industry establishments and employees that used respirators for a required purpose within the 12 months prior to the survey and includes a breakdown by industry sector (NIOSH. 2001).

Table 1. Number and Percent of Establishments and Employees Using Respirators Within 12 Months Prior to Survey.

Industry	Establishments		Employees	
	Number	Percent of All Establishments	Number	Percent of All Employees
Total Private Industry	281,776	4.5	3,303,414	3.1
Agriculture, forestry, and fishing	13,186	9.4	101,778	5.8
Mining	3,493	11.7	53,984	9.9
Construction	64,172	9.6	590,987	8.9
Manufacturing	48,556	12.8	882,475	4.8
Transportation and public utilities	10,351	3.7	189,867	2.8
Wholesale Trade	31,238	5.2	182,922	2.6
Retail Trade	16,948	1.3	118,200	0.5
Finance, Insurance, and Real Estate	4,202	0.7	22,911	0.3
Services	89,629	4.0	1,160,289	3.2

REFERENCE:

[NIOSH](https://www.cdc.gov/niosh/docs/respsurv/). (2001). Respirator Usage in Private Sector Firms. Washington D.C.: United States Department of Labor, Bureau of Labor Statistics and National Institute for Occupational Safety and Health.
<https://www.cdc.gov/niosh/docs/respsurv/>