

Clayton Environmental Consultants

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OSHA Issues New Asbestos Standards

newsletter

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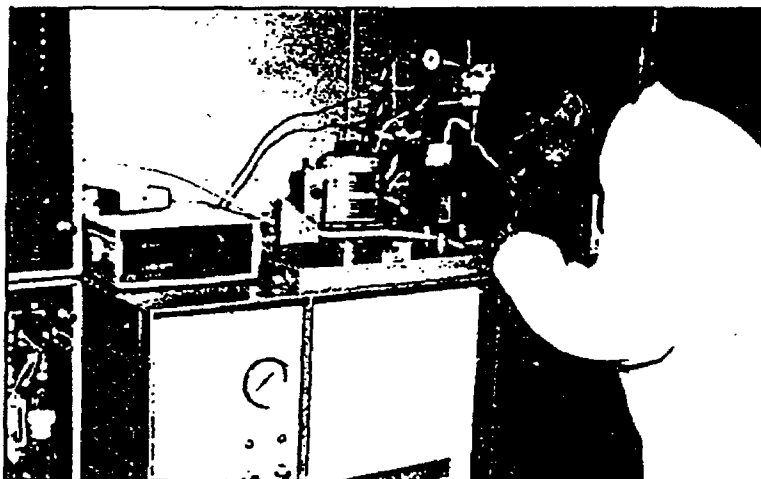
Since it was first proposed in April 1984, the revised OSHA asbestos standard has been the subject of much debate. On June 20, 1986, in the latest round of that debate, OSHA issued two final rules for asbestos: 29 CFR 1910.1001 for general industry, and 29 CFR 1926.58 for the construction industry.

In issuing two separate rules, OSHA recognized the difficulties most employers have faced in trying to apply the existing standard (which was intended for fixed places of employment) to construction, renovation, demolition, and maintenance work involving asbestos-containing building products.

The new OSHA regulations reduce the permissible exposure limit (PEL) for asbestos from 2 fibers (longer than 5 micrometers) per cubic centimeter of air (fibers/cc) to 0.2 fibers/cc and establish an "action level" of 0.1 fibers/cc.

OSHA has also specified a mandatory reference method for air sampling and analysis in both versions of the standard. The sampling and analytical method is essentially the same as the 7400 method proposed by NIOSH in February 1984 (see Clayton Newsletter 16). The principal

difference between the NIOSH 7400 method and the OSHA reference method (ORM) is the sampling flowrate. Under the ORM, the sampling rate is restricted to 0.5 to 2.5 Lpm, while the NIOSH method permits air sampling at any flowrate above 0.5
(Continued on Page 6)



Dr. Shekar Viswanathan characterizes odors using organoleptic (sensory) and gas chromatographic techniques.

An Environmental Dilemma

Industrial Odors

by S. Viswanathan, Ph.D.,
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and
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Windsor Office
...the gas chromatograph/mass spectrometer, has in general neither the sensitivity nor the discriminative ability of the bloodhound...—Carl Sagan, *The Dragons of Eden*.

Even with the considerable advances in environmental analytical techniques, identification

and control of industrial odors remains elusive and poses a dilemma. In many instances, success depends more on the investigator's ingenuity, intuition, and experience than on established engineering and scientific principles.

Of the various categories of air pollutants, odors are the most immediately noticeable in a neighborhood. They generally are
(Continued on Page 2)

In This Issue

OSHA Issues Comprehensive Asbestos Standard.....	1
Odor Testing.....	1
Breakfast Seminar Schedule.....	3
Profile of Vic Hanson.....	4
Quantifying VOC Emissions.....	9
PCB Removal.....	11
Clayton News Briefs.....	12

OSHA Issues New Asbestos Standards

(Continued from Page 1)

Lpm, with no maximum specified.

By standardizing the sampling procedure used, OSHA hopes to reduce the relatively large inter-laboratory variability which may partly result from different laboratories following different procedures.

OSHA also requires that persons performing asbestos analysis attend the NIOSH course for sampling and evaluating airborne asbestos fiber concentrations, or equivalent. From a practical standpoint, this may turn out to be a formidable task. Although no accurate figures are available, a rather large number of people are currently engaged in asbestos sampling and analysis, particularly at asbestos removal jobs. Imparting NIOSH training to all those persons could be a lengthy process.

It should be emphasized that participation in a course alone does not ensure competency in asbestos analysis. Only successful participation in an ongoing rigorous quality control program, such as the AIHA PAT program, can ensure maintenance of proficiency. While OSHA mandates participation in such a program, it does not specify any performance requirement.

For general industry, OSHA requires that initial air monitoring be conducted prior to October 1986 to evaluate employee exposures. If an employer has already conducted such monitoring after December 20, 1985, OSHA will accept that data. If the initial or subsequent monitoring indicates 8-hour, time-weighted average (TWA) exposures exceeding the action level, monitoring must be repeated every six months.

For the construction industry, OSHA requires that initial monitoring be conducted at the beginning of each job involving asbestos unless monitoring data from an earlier but similar project

can be presented or if the employer can demonstrate with objective data that employee exposures will not exceed 0.1 fibers/cc. If initial monitoring indicates 8-hour, TWA exposures above the action level (0.1 fibers/cc), the employer must conduct representative daily monitoring unless all employees are provided with supplied air respirators.

For general industry, when exposures are found to be above the PEL, OSHA requires employers to establish regulated areas and change rooms (including showers), and provide employees with respiratory protection, coveralls, gloves, head and foot coverings, and eye protection, and

to develop a written compliance program. The employer is also responsible to ensure that employees shower at the end of the work shift. For employees exposed at or above the action level, OSHA requires annual training of employees and preplacement, annual, and termination-of-employment physical examinations.

For the construction industry standard, when exposures are found to be above the PEL, OSHA requires the establishment of a regulated area and use of respiratory protection and protective clothing. For projects involving removal of asbestos-containing materials, OSHA

(Continued on Page 7)

TABLE 1

Measured 8-Hour, TWA Exposure	Type of Respirator
Not in excess of 2 fibers/cc (10 X PEL) <i>PERMISSIBLE EXPOSURE LIMIT</i>	Half-mask air-purifying respirator equipped with high-efficiency filters
Not in excess of 10 fibers/cc (50 X PEL)	Full facepiece air-purifying respirator equipped with high-efficiency filters
Not in excess of 20 fibers/cc (100 X PEL)	Any powered air-purifying respirator equipped with high-efficiency filters
	Any supplied-air respirator operated in continuous flow mode
Not in excess of 200 fibers/cc (1,000 X PEL)	Full facepiece supplied-air respirator operated in pressure demand mode
Greater than 200 fibers/cc (>1,000 X PEL) or unknown	Full facepiece supplied-air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus

(Continued from Page 6)

Both standards mandate the selection of respiratory protection based on measured employee exposures and the criteria outlined in Table 1.

Table 2 contains a summary of the compliance schedule for these regulations.

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Requirement	General Industry	Construction Industry
Initial Monitoring	10-20-86	01-17-87
Regulated Areas	11-17-86	01-17-87
Respiratory Protection		
Exposures > 2 f/cc	07-21-86	01-17-87
Exposures between 0.2 and 2 f/cc	11-17-86	01-17-87
Powered air purifying	01-16-87	01-17-87
Hygiene/Lunchroom Areas		
Construction plans in use	01-16-87 07-20-87	01-17-87 01-17-87
Employee Training	10-20-86	01-17-87
Medical Surveillance	11-17-86	01-17-87
Written Program	07-20-87	01-17-87
Engineering Controls	07-20-88	01-17-87
All Other Requirements	07-20-86	07-20-86

