

UAW originally petitioned the court last year for an order that would force OSHA to issue an ETS, to which the agency replied that there was lack of evidence of a grave danger needed to issue a temporary standard (Current Report, Aug. 18, 1983, p. 291; Nov. 17, 1983, p. 683).

Frank Mirer, director of the UAW's health and safety department, said in a July 2 statement, "Today's ruling supports our belief that the politically oriented leadership of OSHA has violated its duty to protect workers against job hazards."

Don Morgan of Cleary, Gottlieb, Steen and Hamilton, counsel for the Formaldehyde Institute, which filed as intervenors in the case for OSHA, said the institute agreed with the court's decision not to compel an ETS. He said the institute doesn't see any "significant risk" from the current use of formaldehyde, adding, however, that the organization will cooperate with OSHA and provide further information if a rulemaking is conducted.

Asbestos

VANDERBILT URGES REVISED DEFINITION OF ASBESTOS TO EXCLUDE NONASBESTIFORMS

The current definition of asbestos contained in the Occupational Safety and Health Administration's standard for occupational exposure to asbestos is "scientifically wrong and in need of immediate correction," Allan Harvey, director of environmental affairs for the R.T. Vanderbilt Company, Inc., testified July 5 at rulemaking hearings held by the agency.

OSHA issued its proposed asbestos standard in April (Current Report, April 12, p. 1195), and hearings began June 19 (Current Report, June 21, p. 35; June 28, pp. 60, 61; July 5, pp. 140, 141).

Harvey noted that for the past 12 years, OSHA's definition of asbestos "has not only stated that chrysotile, crocidolite, and amosite are asbestos, it has also suggested that all tremolite, anthophyllite, and actinolite must be treated as asbestos regardless of whether those minerals are of the asbestiform or nonasbestiform variety." This definition has resulted in undue and unnecessary hardship to various industries, especially those involved in the production of non-asbestiform amphiboles, he said.

Vanderbilt supports the agency's proposal to exclude the nonasbestiform varieties of tremolite, anthophyllite, and actinolite from its definition of asbestos as well as OSHA's proposal to include only particulate forms of asbestos in its definition of an asbestos fiber, according to Harvey. He added, however, that the "fiber" definition suggested by OSHA requires further clarification and amplification.

Harvey maintained that the 3:1 aspect ratio is not an adequate asbestos fiber criterion, especially if it is used as the sole criterion to identify the mineral particles that are known to be asbestos. "It simply does not accurately characterize an asbestos fiber," he charged, adding that if it were used in any environment other than where asbestos was being mined, milled, fabricated, or installed, only false data would result. "Because particles produced by many non-asbestos mineral industries like ours satisfy the simple 3:1 aspect ratio criterion, the consequences of inadequate asbestos definitions become quite apparent." Harvey stated that during processing a significant proportion of nonasbestiform amphiboles are fractured into fragments with lengths greater than five micrometers and aspect ratios greater than 3:1.

Without adequate definition of what is an asbestos fiber, these fragments can be mistaken for asbestos particles, he said.

Differing Crystal Growth Patterns

Other regulatory agencies have qualified their listing of asbestos by designating the asbestiform varieties of tremolite, anthophyllite, and actinolite as "tremolite asbestos, anthophyllite asbestos, and actinolite asbestos," according to Harvey. He asserted that OSHA remains the only regulatory agency that does not specify the asbestiform varieties of tremolite, anthophyllite, and actinolite as regulated minerals. Although it is "reasonable to assume that OSHA never intended to regulate the nonasbestiform varieties of tremolite, anthophyllite, or actinolite," he noted that, without this specification, it could be suggested that nonasbestiform varieties of these minerals are subject to regulation as asbestos.

C.S. Thompson, manager of research and development for the minerals, ceramics, and paper department of Vanderbilt, explained that each asbestiform mineral and its non-asbestiform counterpart have the same chemical composition and crystal structure, but the forms differ in the manner of crystal growth. An asbestiform mineral is a result of a very uncommon crystal growth in basically only one dimension, while its nonasbestiform counterpart is the product of two or three dimensional crystal growth, he said.

According to Thompson, it is widely held by mineralogists who have studied the issue that asbestos fibers generally have aspect ratios ranging from 20 to 1 to 1,000 to 1 or even higher, and very thin fibrils with aspect ratios generally less than one micrometer in width. In addition, asbestos fibers have two or more of the following attributes: parallel fibers occurring in bundles; fibers displaying splayed ends; fibers displaying thin needles; matted masses of individual fibers; or fibers showing curvature. He suggested that these characteristics should be the definitive criteria for distinguishing between a particle which is an asbestos fiber and a particle that is merely a cleavage fragment of a nonasbestiform mineral.

PLM Method Recommended

"We would recommend the use of polarized light microscopy as the prime method for the identification of asbestos because both the morphology and mineral identification may be determined," Thompson said. The limitations of this method are essentially those of resolution of very small particles, he added. When identification of very small thin particles is necessary, Thompson recommended the use of transmission electron microscopy coupled with selected area diffraction capabilities. This method allows for the determination of morphology and for the identification of the mineralogy of individual particles by the determination of the crystal structure, he stated.

Ann Wylie, an associate professor of geology at the University of Maryland, also urged that mineralogical distinctions be based upon careful polarized light microscopic examination and X-ray diffraction, rather than on electron microscopy. Once the presence of asbestos has been established, an exposure index must be established and this will probably rest upon a dimensional criterion, according to Wylie. Because the use of a dimensional criterion alone can result in significant problems, Wylie suggested that a combination of electron microscopy, polarized light microscopy, and phase contrast microscopy may all be necessary to

evaluate the concentration of airborne asbestos when the source material contains a great variety of mineral material.

Wylie conceded that it is "probably appealing" to use the definition of a fiber that is currently in place since changes in the definition of what should be counted and what should be measured as an asbestos fiber would be complicated. "However, it seems to me that the alternative of ignoring the facts and leaving the existing regulations in place puts an unnecessary burden on our domestic mining industry, without any obvious benefits for their employees, customers, or the general public," she said.

Research

UAW AND GM LAUNCH STUDY ON EFFECTS OF EXPOSURE TO CHEMICALS IN MACHINING

A comprehensive, five-year scientific study of the health effects of exposure to cutting fluids that are used in General Motors plants to cool and lubricate machine tools was announced by the United Auto Workers and GM.

Scheduled to begin this summer, the study is to be conducted by a team of scientists at the Harvard School of Public Health under the direction of Drs. Richard Monson and Thomas Smith.

UAW Vice President Donald F. Ephlin, director of the union's General Motors Department, and Alfred S. Warren Jr., GM vice president for industrial relations, said the investigation is being undertaken "in response to workers' concerns and scientific speculation that long-term exposure to chemicals in machining and grinding operations may lead to some adverse health effect."

"We need a full and independent investigation," Warren and Ephlin said. "If problems exist, we need to know it so that effective protective measures can be taken."

The cutting fluid investigation will have three components — an epidemiologic study to examine causes of death, a survey of lung function among exposed workers, and an industrial hygiene profile of past and present chemical exposures in machining plants.

UAW Health and Safety Director Frank Mirer told BNA July 5 that the study will examine, in particular, the respiratory effects of exposure to cutting fluids, and the issue of whether these substances pose a cancer hazard.

Mirer reported that the union receives complaints "on a regular basis" about respiratory problems and skin irritations among workers using cutting fluids. Further, he stated, there is a "great deal of British [scientific] literature" on skin cancer associated with types of cutting fluids used in the past, and there also are epidemiological studies of stomach cancer and gastrointestinal cancer cases which "may involve" exposures to water-based mixtures now in use.

The Harvard researchers will conduct on-site investigations in GM plants located in several states over a five-year period.

The announcement of this study came just 18 months after the UAW and GM established a jointly administered Occupational Health Advisory Board. The board was established to advise the UAW-GM National Joint Committee on Health and Safety in the evaluation and development of research projects, occupational health programs, and related activities.

The advisory board will work closely with the Harvard team during the five-year study period and will review the

completed study and recommend appropriate follow-up steps to the company and union.

Scaffolds

DETAILS OF SPECIAL EMPHASIS PROGRAM PROVIDED TO FIELD STAFF IN OSHA DIRECTIVE

Procedures to be followed by agency field staff in carrying out the Occupational Safety and Health Administration's new national emphasis program for inspecting temporary two-point suspended scaffolds were detailed June 22 in an OSHA instruction.

OSHA included the scaffolding systems, which are often used by window washers, in the special emphasis inspection program for high hazard industries and operations because of the high number of fatalities and injuries caused by the scaffolds collapsing (Current Report, June 14, p. 21).

OSHA explained in the directive, Instruction CPL 2.62, that two-point suspension scaffolds consist of the platform; the suspension system, including the rigging used to support the platform; and the hoisting equipment used for raising and lowering the platform. Permanent units, defined as powered platforms, which are used at single buildings are not covered by the emphasis program. Rather, temporary scaffolds which are moved from building to building are the focus.

OSHA's directive explained that all compliance personnel are required to report sites of operations using a temporary two-point-scaffolding system. Based on the number of responses the area director expects to receive from compliance personnel balanced against other office priorities and the inspection time available, OSHA area directors will determine the frequency of inspections for the scaffolding units. Area directors must submit anticipated schedules to the regional office within four weeks of the date of the instruction sheet.

Once the area office has achieved the number of inspections the area director has determined to be manageable for the fiscal year, "no further inspection activity need be scheduled," the OSHA directive said. However, the instruction sheet noted that the regional administrator may choose to extend the program, based on local conditions, such as the frequency of scaffolding accidents in the area.

Calculating Number of Inspections

If, under this system, the area director determined that there are sufficient personnel to conduct an inspection for every ninth scaffolding system site, then the area office should schedule an inspection "as soon as practicable," after the ninth site is identified by the compliance officer, "taking into consideration the anticipated duration of the work being performed there."

If the inspection office sees what would constitute a serious hazard, such as a worker who is not "tied off," then an inspection should be conducted immediately.

The OSHA directive also encouraged area offices to develop "outreach programs," including letters to employers using swing scaffolds, such as window washing contractors, explaining the hazards and the OSHA requirements. In addition, the OSHA instruction sheet explained that area offices could distribute fatality reports resulting from accidents on swinging scaffolds in the maintenance and construction industries.