



Current Report

Benzene**PENDERGRASS SIGNS FINAL RULE SETTING
1 PPM EXPOSURE LIMIT, 5 PPM SHORT-TERM LIMIT**

In a Sept. 1 ceremony, Assistant Secretary of Labor John A. Pendergrass signed a final rule developed by the Occupational Safety and Health Administration to reduce workplace exposures to benzene.

The final rule reduces the current exposure limit for the chemical from 10 parts per million to 1 ppm. The agency also set a short-term exposure limit of 5 ppm averaged over a 15-minute period.

Because the U.S. Supreme Court struck down the same 1 ppm exposure limit in 1980 (8 OSHC 1586), Pendergrass described the new standard as a "landmark." The high Court decision, which ruled that the agency failed to demonstrate "significant risk of material health impairment" at the previous 10 ppm level, has led to new risk analysis requirements for standards developed since then, the OSHA administrator said.

Benzene is widely used, frequently as a solvent, in the chemical, printing, rubber fabricating, paint, adhesive, and petroleum industries. The agency estimated that 240,000 workers under OSHA jurisdiction may be exposed to the chemical, which is associated with a "significant risk" of leukemia and other diseases of the blood and blood-forming organs.

In announcing the new standard, Pendergrass stated that it will "greatly reduce the risk of these diseases for thousands of American workers."

Other Provisions

Under the new standard, which goes into effect 90 days after its publication in the *Federal Register*, employers will be required to comply with provisions concerning methods of compliance, personal protective equipment, employee monitoring, medical surveillance, medical removal protection, hazard communication, regulated areas, and recordkeeping.

The standard also establishes an action level of 0.5 ppm below which employers are not required to comply with certain other provisions of the standard.

The final rule will be posted at the *Register* Sept. 3 and will be published "next week," according to the agency.

The standard, which will cost employers about \$24 million each year, is expected to save a minimum of 326 lives over a 45-year working lifetime.

Excluded from the rule's coverage are employers who use solutions that are less than 0.5 percent benzene in the first year and less than 0.1 percent benzene after the second year. This provision was included, according to the agency, to give employers an incentive to use low benzene concentrations.

Also excluded from the final rule are employers involved in the distribution and sale of fuels and benzene in sealed containers and pipelines, coke production, oil and gas drilling and production, and natural gas processing.

Exemptions from methods of compliance and some monitoring provisions for barge cleaning and repair operations also are included in the final rule.

The short-term limit was included, the agency said, because studies of refinery workers show excess leukemia risk

among pipefitters, maintenance workers, and other jobs where intermittent peak exposures to benzene occur.

The decision also was influenced by animal studies showing that intermittent or peak exposures cause more severe effects than continual exposures of the same or lower levels, according to OSHA.

OSHA proposed in December 1985 to reduce the permissible exposure limit from 10 ppm to 1 ppm (Current Report, Dec. 5, 1985, p. 555; text, Dec. 12, 1985, p. 693).

Asbestos**UNIFORM ENFORCEMENT, CLARIFICATION
TO BE PROVIDED UNDER AGENCY DIRECTIVE**

To ensure uniform enforcement of the Occupational Safety and Health Administration's asbestos standards, the agency issued a Sept. 1 directive establishing policies and clarifying certain provisions of the standards.

The directive, OSHA Instruction CPL 2-2.40, specifies personal protective equipment and decontamination procedures for inspectors, and clarifies the rules' scope as well as provisions for regulated areas and hygiene facilities. Also established by the instruction are guidelines for safety and health inspectors for pre-entry appraisal and establishing the presence of asbestos.

In June 1986, OSHA published its revised general industry standard for asbestos, tremolite, anthophyllite, and actinolite, 29 CFR 1910.1001 (Reference File, 31:8121). At the same time the agency published a new standard for asbestos, tremolite, anthophyllite, and actinolite in the construction industry 29 CFR 1926.58 (Reference File, 31:3116).

Requirements of the standard as they apply to the three non-asbestiform minerals currently are under an administrative stay until July 21, 1988 (Current Report, May 6, p. 1352). In the interim, OSHA is undertaking a supplemental rulemaking to determine whether the three non-asbestiform minerals should be regulated in the same standards and to the same extent as asbestos (Current Report, July 24, 1986, p. 195).

During the stay, the three non-asbestiform minerals are covered under the old asbestos standard, recodified as 29 CFR 1910.1101.

This instruction will be published in a future Reference File supplement.

Clarifications

The directive specifies that the construction standard does not apply only to employers falling within the Standard Industrial Classification Codes singled out by that standard — demolition, renovation, maintenance, and removal of asbestos. Consequently, according to the directive, a manufacturer whose employees remove asbestos from a building, piping system, or boiler system must adhere to provisions of the construction standard.

OSHA's instruction also enlarged the construction standard's definition of "small-scale, short-duration" operations exempt from requirements for the establishment of regulat-

ed areas and negative-pressure enclosures. Such operations include (1) maintenance or renovation tasks where the removal of asbestos is not the primary goal of the job, (2) activities where employees' exposure to asbestos can be kept below the action level via worker isolation techniques, and (3) non-repetitive operations.

According to OSHA's clarifications, construction sites are exempted from specific shower facility provisions where space limitations prohibit locating them next to the equipment room, and where hot water is not available. In such situations, however, the use of trailers containing equipment rooms, shower rooms, and change rooms may be appropriate, the agency suggested.

Inspector Guidelines

Outlined by the directive are procedures for respiratory protection, protective clothing, and decontamination to be followed by compliance officers.

The directive states that where work involves asbestos, and where the employer has not done any initial monitoring or followed other requirements of the standards, the compliance officer shall obtain a bulk sample of suspected asbestos materials and arrange for an "expedited" analysis. If results are positive, the officer shall consider this to be an "imminent danger situation" and follow appropriate procedures, according to the OSHA document.

It also sets out alternate methods for determining the presence of asbestos when there is a delay either in getting a bulk sample or having it analyzed. Such methods include reviewing building plans, the building's age, or previous inspection files by OSHA and other state, local, and federal agencies.

Two appendices to the directive outline start-up dates and triggering events for provisions of the general industry and construction standards.

Display Terminals

INDUSTRY, WORKER GROUPS DISAGREE ON IMPLICATIONS OF SWEDISH VDT HEALTH STUDY

Although results of a recently released Swedish study found an increase in fetal deaths and fetal losses among pregnant mice exposed to weak pulsed magnetic fields — radiation similar to that emitted from video display terminals — worker and industry groups disagree on the findings' implications for workers regularly exposed to VDTs.

According to the study, released in June by the Swedish University of Agricultural Sciences in Uppsala, the experiment was designed to extend earlier studies on teratogenic effects in mice after exposure to magnetic fields. The previous study, performed at the Karolinska Institute in Stockholm, showed a higher than expected rate of malformation in 40 mice exposed to radiation (Current Report, Feb. 6, 1986, p. 948).

According to the Uppsala study results, 36 of the 1,566 fetuses in 211 pregnant mice exposed to the radiation died after 19 days of exposure to the radiation, compared to 11 deaths in 1,125 fetuses in the 154 control mice.

The results showed "no statistically significant increase in the number of malformations" in the exposed groups as compared to that in the controls, the abstract said.

However, "the number of placental resorptions was greater and the number of dead fetuses was probably higher in the exposed females compared with the controls," according to the abstract.

Results Show Need for More Study

The study's results show "there should be an intensified focus on more scientific studies and a push for new preventive measures" to protect VDT workers from exposures, Deborah Meyer, associate director of the National Association of Working Women (9 to 5), told BNA Aug. 31.

"The fact that [Swedish researchers] found [results showing adverse affects on embryos] twice is very frightening and signifies the potential for harm to humans," Meyer said.

Meyer said that although the study "is not conclusive evidence," it "certainly means [adverse affects from exposure to VDT radiation] is possible, and we shouldn't play Russian roulette" with workers' health.

To protect workers from VDT exposures, Meyer said 9 to 5 advocates the use of shielding on machines, and that manufacturers make machines that emit lower levels of radiation. "There has been much foot dragging" by industry on this issue, she added.

Meyer pointed out that the results of the two Swedish studies differ in that the first found that exposed mice fetuses showed more of a particular type of abnormality while the most recent study showed a higher rate of fetal deaths and miscarriages.

The recent study also included more mice, and exposed the mice to 19 days of exposure, as compared to 14 days in the first study.

Study is Inconclusive

While the worker association sees the results of the study as another confirmation of the adverse health affects of VDTs, an industry information clearinghouse, the Center for Office Technology, views the results as inconclusive with regard to how the results apply to human VDT operators.

"Scientists seem to agree that there is an effect from exposure to pulsed magnetic fields, but there continues to be wide disagreement on the nature of the effect and the meaning of specific study results. Neither study draws any conclusions about relevance of this research to actual VDT use or human reproductive systems," the center said in an Aug. 7 statement.

In an Aug. 31 speech before the American Chemical Society in New Orleans, Linden Heck, executive director of the center, noted that "while the Uppsala study did not produce the same results as regards malformed fetuses [as found in the first study], there was a higher incidence of fetal deaths. The Uppsala researchers concluded that the study did not replicate the Karolinska results and that the increase in fetal deaths may be the result of a therapeutic effect of early exposure which caused implantation of unviable embryos."

"Neither study produced a demonstrable link between the exact kind of wave emitted in very small quantities by VDTs and any abnormal pregnancy outcomes in laboratory animals. Neither set of researchers drew conclusions about applicability of study results to human VDT operators," Heck said.

Congressional Interest

The results on the Uppsala study are also of interest to the House Government Operations Subcommittee on Human Resources and Intergovernmental Relations which has been following the issue of the possible adverse VDT health affects on workers.

In an Aug. 31 statement, Subcommittee Chairman Ted Weiss (D-NY) said, "These findings are extremely important