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Title 29—Labor

VII—OCCUPATIONAL SAFETY ALTH ADMINISTRATION, DE- NT OF LABOR

1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Emergency Temporary Standard for Exposure to Vinyl Chloride

Background. Vinyl chloride (chloroethene), Chemical Abstracts Service registry No. 75015, is a synthetic chemical made by oxychlorination of ethylene or by hydrochlorination of acetylene. It is the parent compound of a series of thermoplastic resin polymers and copolymers which are widely used for containers, wrapping tissues, electrical insulation, pipe, conduit and a variety of other products. Vinyl chloride has been made commercially in this country since 1939 and present production is in excess of seven billion pounds per year.

Vinyl chloride (VC) is a gas at ambient temperature and pressure and is a chlorinated hydrocarbon which has moderate liver toxicity. The present standard sets a ceiling value of 500 parts per million (ppm) (29 CFR 1910.93).

On January 22, 1974, the Occupational Safety and Health Administration was informed by the National Institute for Occupational Safety and Health (NIOSH) that the B. F. Goodrich Chemical Company reported that deaths of several of its employees from a rare form of liver cancer may have been occupationally related. As a result of this notification, and after consultation with NIOSH and a joint inspection of the plant by OSHA, NIOSH, and the Kentucky Department of Labor, a fact-finding hearing on possible hazards involved with the manufacture and use of both VC and polyvinyl chloride was announced on January 30, 1974 (39 FR 3874), and held on February 15, 1974.

2. *Carcinogenicity of VC.* Information produced at the hearing demonstrated that exposure of laboratory animals (mostly Sprague-Dawley rats) to VC by inhalation at and below the current OSHA standard of 500 ppm induced tumors, including angiosarcomas of the liver. Professor Cesare Maltoni, of the Instituto di Oncologia, Bologna, Italy, reported on a series of experiments on the effect of exposure of rats, mice, and hamsters to VC at concentrations of 10,000; 6,000; 2,500; 500; 250; and 50 ppm for varying periods of time (TR 43-63). Some of the experiments have been concluded, and others are still ongoing. The experimental results so far reported are that tumors have been observed in groups of animals exposed to VC at concentrations as low as 250 ppm. No tumors have been observed in the group of animals exposed to VC at a concentration of 50 ppm. It also appears so far that the total number of tumors, as well as the numbers of angiosarcomas of the liver, decrease as the concentrations of VC are reduced to 250 ppm. Finally, another experiment by Professor Maltoni is underway involving the exposure of 300 animals to VC at concentrations of 50 ppm, in order to assess in a more definitive way whether that level of exposure produces tumors in animals. Data reported by Torkelson, Oyen and Rowe (American Industrial Hygiene Association J 22:354-361 (1961)) indicate that exposure to VC at concentrations of 50 ppm failed to induce tumors in rats, hamsters, rabbits, and dogs.

The employees of the B. F. Goodrich Chemical Company who died from angiosarcoma of the liver had an average exposure of approximately 19 years to vinyl chloride, at unknown concentrations, and variable exposures to other volatile chemicals. (TR 93). Some employees of Union Carbide Company and Goodyear Company are also reported in a post-hearing comment from NIOSH dated March 11, 1974, to have had exposure to vinyl chloride and to have died from angiosarcoma of the liver. Finally, autopsies of four deceased employees revealed that liver angiosarcoma tumors were histologically indistinguishable from the angiosarcoma tumors observed in Professor Maltoni's experimental animals. It is concluded therefore, that vinyl chloride is carcinogenic for humans.

We therefore conclude that the present standard for VC should be lowered from a ceiling of 500 ppm to a ceiling of 50 ppm for the following reasons:

(a) In light of the evidence referred to above including the Maltoni experiments demonstrating that VC is carcinogenic in animals at 250 ppm, we conclude that VC must be considered carcinogenic in man at the same level;

(b) Although Professor Maltoni did not induce tumors in his experimental animals at an exposure concentration of 50 ppm, these data do not support the concept that occupational exposure of employees to concentrations of 50 ppm throughout their working lifetime would be without detrimental health effects;

(c) The question whether safe levels of exposure to carcinogens exist for humans and, if so, what such levels would be, is the subject of continuing scientific deliberation. In the case of VC, Professor Maltoni did not observe tumors in his animals at exposure concentrations of 50 ppm. In addition, Torkelson, Oyen, and Rowe found that exposure to concentrations of 50 ppm of VC failed to induce tumors in rats, hamsters, rabbits, and dogs. Accordingly, there is insufficient evidence at this time to conclude that VC at concentrations of 50 ppm or below poses a grave danger to humans.

(d) The emergency temporary standard adopted represents a substantial reduction in the permissible level of exposure and, in our practical judgment, is the lowest level that can be complied with immediately; and

(e) This standard will be in effect for a period of no longer than six months, during which time the whole question of possible safe exposure of humans to VC will be reconsidered more fully and in the light of more information, including experiments which are under way at this time (TR 47, 49, 71-74).

3. *Petitions for an emergency temporary standard.* In a telegram to the Assistant Secretary of Labor, received on or about March 14, 1974, the President of the United Rubber Workers International Union urged the establishment of an emergency temporary standard for VC. During the hearing of February 15, 1974, the Industrial Union Department, AFL-CIO, and the United Rubber Workers International Union made a joint petition for an emergency temporary standard for VC (TR 141-148), which was also joined by the Oil, Chemical and Atomic Workers International Union (TR 37). At the same hearing, several participants urged, on the other hand, a regular rulemaking proceeding as the most suitable for the orderly development of relevant information (TR 112, 180).

The petitions for an emergency temporary standard specified in detail the contents of the standard requested. In substance, the request is to issue a comprehensive fully-developed standard based on the recommendations of the Standards Advisory Committee on Carcinogens submitted to the Assistant Secretary of Labor on or about August 27, 1973. The recommendations are far-ranging, and cover special categories of operations, signs and labels, medical surveillance, reporting, etc., including a permit system for the use of a carcinogen.

We agree that an emergency temporary standard is necessary; we cannot say on the basis of the information developed so far that a comprehensive standard, such as the one requested, is either necessary or even desirable. It has been decided to promulgate a standard containing only those essential provisions which are deemed necessary to provide protection to employees from grave danger until a regular rulemaking proceeding in accordance with sections 6 (b) and (c) of the Act can be concluded. The reasons for a decision to establish a ceiling value of 50 ppm have already been stated. A decision on other possible, appropriate provisions is best made after consideration of all relevant data and views that interested persons may submit during the proceeding soon to be initiated.

With respect to arguments in opposition to issuance of an emergency temporary standard, the concern and efforts of several companies participating at the hearing for the protection of their employees are recognized. It may also be that some employers in some plants have fully complied with the interim controls recommended by NIOSH on January 30, 1974. There is, however, reason to believe that employees are currently being exposed to VC at concentrations well above 50 ppm. This was asserted several times at the hearing, and not seriously questioned. Moreover, a report, dated March 1974, of a survey by the staff of the Office of Standards Development, OSHA, of several facilities manufacturing VC and polyvinyl chloride revealed concentrations for some job classifications as high as 229 ppm. Therefore, a regulation is considered necessary to provide, immediately, adequate protection to workers ex-

posed to VC. Also, the eight-hour, time-weighted average standard suggested by several participants at the hearing (see, for instance, TR 178), has been rejected. The March 1974 report of the survey revealed that several kinds of work or operations are of short duration. Loading or unloading of a tank car may require approximately 15 minutes. The cleaning of a reactor may require approximately half an hour. An eight-hour, time-weighted average standard would permit exposure to VC at concentrations of 400 ppm for one hour. Such upward excursions, several times the 50 ppm level, cannot be permitted to occur.

4. *The standard.* The standard set out below contains only the requirements deemed necessary to provide protection before the conclusion of the rulemaking proceeding to be commenced shortly.

Because exposure to VC is hazardous, and because such exposure can occur in the processes of synthesizing or polymerizing of VC or in the handling of VC polymers or copolymers which contain absorbed VC, this standard applies to all such processes and to the handling, reacting, manufacturing, processing, releasing, repackaging, or storage of any of these materials. The monitoring requirements serve two purposes, to trigger into operation a compliance program and to check the effectiveness of the program. Also, engineering controls are favored for compliance, and respirators are intended to provide protection until such controls can be installed or in cases where such controls are not feasible.

Accordingly, by reason of the foregoing and on the basis of the record of the hearing of February 15, 1974, with exhibits, the written submissions received before the hearing pursuant to the notice of the hearing, the post-hearing written submissions by the participants at the hearing, the March 1974 report of a fact-finding survey recommendations received from NIOSH, and the other data referred to herein, it is found (1) that VC at concentrations in excess of 50 ppm is physically harmful and carcinogenic; (2) that exposure to VC at concentrations in excess of a concentration of 50 ppm poses a grave danger to employees; (3) that employees are presently exposed to VC at concentrations in excess of 50 ppm; and (4) that the emergency temporary standard set out below is necessary to provide immediate protection to employees from such danger.

Pursuant to section 6(c) of the Occupational Safety and Health Act of 1970, a proceeding will commence shortly in accordance with section 6(b) of the Act, in which the emergency temporary standard will serve as a proposed rule, together with other subsidiary rules. As soon as possible a draft environmental impact statement will be filed with the President's Council on Environmental Quality, and copies will be provided to other appropriate Federal agencies for their comments.

Pursuant to sections 6(c) and 8(c)(3) of the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1596, 1599; (29 U.S.C. 655, 657)), and Secretary of Labor's Order No. 12-71 (36 FR 8754), 29 CFR Part 1910 is amended by adding thereto a new § 1910.93q to read as set forth below. In addition, pursuant to section 4(b)(2) of the Act (84 Stat. 1592; (29 U.S.C. 653)), the standard in the new § 1910.93q is determined to be more effective than the corresponding standards now in Subpart B of Part 1910, in Parts 1915, 1916, 1917, 1918, and 1926 of title 29, Code of Federal Regulations, and in Part 50-204 of Title 41 of the Code of Federal Regulations. Therefore, these corresponding standards are superseded by the new standard in § 1910.93q.

1. In 29 CFR Part 1910, § 1910.93 is amended by deleting from Table G-1 the line: "• • • C Vinyl chloride • • • 500 • • • 1300".

2. Part 1910 of Title 29 of the Code of Federal Regulations is amended by adding thereto a new § 1910.93q to read as follows:

§ 1910.93q Vinyl chloride.

(a) *Scope and application.* (1) This section applies to any area or operation in which vinyl chloride (chloroethene), Chemical Abstracts Service Registry Number 75015, is manufactured, reacted, handled, processed, released, repacked, or stored.

(2) This section does not apply to the handling, storage, or other use of vinyl chloride polymers and copolymers in the form of fabricated products.

(b) *Permissible exposure.* The occupational environment shall be controlled so that no employee is exposed to vinyl chloride at a concentration in excess of 50 parts per million (ppm) (127.0 mg/cum).

(c) *Monitoring*—(1) *Initial monitoring.* As soon as possible but not later than April 22, 1974, every employer of an employee working in an area or operation in which vinyl chloride is manufactured, reacted, handled, processed, released, repacked, or stored shall begin monitoring the ambient air of the area to determine whether it contains vinyl chloride in concentrations in excess of 50 ppm.

(2) *Frequency.* Monitoring of a sufficient number of employees so that a representative sample of exposures to vinyl chloride may be determined shall be accomplished not less frequently than weekly until all results for three consecutive weeks are at or below 50 ppm. Thereafter, monitoring shall be conducted not less frequently than monthly so long as the concentrations of vinyl chloride do not exceed 50 ppm. If a monitoring sample reveals vinyl chloride in concentrations in excess of 50 ppm, weekly monitoring shall be resumed until all results for three consecutive weeks are at or below 50 ppm.

(3) *Method of monitoring.* Personnel monitoring shall be accomplished by collecting samples by suitable devices worn by the employee. The samples shall be analyzed by gas chromatography or by any other method which is of equivalent sensitivity. The analytical procedure shall be sensitive to 5 ppm of vinyl chloride in air with an accuracy of ±20 percent for a ten-minute air sample.

(4) *Employee observation of monitoring.* Employees working in an area or operation whose ambient air is monitored, or their representatives, shall be given a reasonable opportunity to observe the personnel monitoring required by this section.

(5) *Recordkeeping.* The results of all monitoring shall be recorded in writing. The records shall be retained for at least 5 years and shall be made available for inspection and copying by representatives of the Assistant Secretary of Labor for Occupational Safety and Health and the Director of the National Institute for Occupational Safety and Health (NIOSH).

(6) *Employee access.* Each employee and former employee shall have access to such records of the results of monitoring required by this section as will indicate his own exposure to airborne concentrations of vinyl chloride.

(7) *Employee notification.* Each employer shall promptly notify any employee who has been or is being exposed to vinyl chloride in concentrations in excess of 50 ppm, and shall inform him of the corrective action being taken.

(d) *Compliance.* (1) Whenever any monitoring sample reveals vinyl chloride at a concentration in excess of 50 ppm, or whenever any accident, such as rupture of equipment or spillage, indicates the likelihood of a greater than usual release of vinyl chloride into the ambient air, all employees exposed to such concentrations shall be withdrawn to a safe area and shall not be permitted to reenter the work area unless they wear either Type C continuous flow or pressure demand air supplied respirators or self-contained breathing apparatus.

(2) Work which may reasonably be expected to release vinyl chloride in concentrations in excess of 50 ppm, such as repair, maintenance or cleaning of reactors or other equipment containing vinyl chloride, shall be accomplished only by employees wearing Type C continuous flow or pressure demand air supplied respirators or self-contained breathing apparatus.

(3) In any case covered by paragraphs (d)(1) or (d)(2) of this section, in addition to providing the required respirators, the employer shall examine and analyze the source of the excessive concentrations of vinyl chloride in order to determine feasible engineering or operational controls appropriate to reduce the airborne concentrations to the permissable level. Such controls shall be implemented as quickly as possible.

(4) Periodic tests shall be conducted for equipment leaks and for emissions of vinyl chloride which may result from work practices.

3. In 29 CFR Part 1910, § 1910.19 is revised to read as follows:

§ 1910.19 *Special provisions for air contaminants.*

(a) *Asbestos dust.* Section 1910.93a shall apply to the exposure of every employee to asbestos dust in every employment and place of employment covered by § 1910.12, § 1910.13, § 1910.14, § 1910.15, or § 1910.16, in lieu of any dif-

ferent standard on exposure to asbestos dust which would otherwise be applicable by virtue of any of those sections.

(b) *Vinyl chloride.* Section 1910.93q shall apply to the exposure of every employee to vinyl chloride in every employment and place of employment covered by § 1910.12, § 1910.13, § 1910.14, § 1910.15, or § 1910.16, in lieu of any different standard on exposure to vinyl chloride which would otherwise be applicable by virtue of any of those sections.

Effective date. These amendments shall become effective on April 5, 1974.

(Secs. 4, 6, and 8, 84 Stat. 1592, 1596, 1599 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71, 36 FR 8754.)

Signed at Washington, DC., this 2d day of April 1974.

JOHN STENDER,
Assistant Secretary of Labor.

[FR Doc.74–7890 Filed 4–4–74;8:45 am]

(c) The Deputy Administrator, Veterinary Services, upon request to him, may approve other identification systems in specific cases and under such conditions as he may prescribe if he determines that such systems provide the necessary information to allow for traceback of the swine to their herd of origin.

Any person who wishes to submit written data, views or arguments concerning the proposed amendment may do so by filing them with Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Hyattsville, Maryland 20782 before August 12, 1974.

All written submissions made pursuant to this notice will be made available for public inspection at the Federal Building, 6505 Belcrest Road, Room 870, Hyattsville, Maryland 20782, during regular hours of business (8 a.m. to 4:30 p.m., Monday to Friday, except holidays) in a manner convenient to the public business (7 CFR 1.27(b)).

Comments submitted should bear a reference to the date and page number of this issue in the FEDERAL REGISTER.

Done at Washington, D.C., this 7th day of MAY 1974.

PIERRE A. CHALOUX,
Acting Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service.

[FR Doc.74-10882 Filed 5-9-74;8:45 am]

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

[29 CFR Part 1910]

[Docket OSH-36]

VINYL CHLORIDE

Proposed Standard

1. *Background.* Vinyl chloride (chloroethene) Chemical Abstracts Service Registry No. 75015, is a synthetic chemical made by oxychlorination of ethylene or by hydrochlorination of acetylene. It is the parent compound of a series of thermoplastic resin polymers and copolymers which are widely used for containers, wrapping film, electrical insulation, pipe, conduit, and a variety of other products. Vinyl chloride has been made commercially in this country since 1939 and present production is in excess of seven billion pounds per year.

Vinyl chloride (VC) is a gas at ambient temperature and pressure and is a chlorinated hydrocarbon which has moderate liver toxicity. The previous standard set a ceiling value of 500 parts per million (ppm) (29 CFR 1910.93, Table G-1).

On January 22, 1974, the Occupational Safety and Health Administration (OSHA) was informed by the National Institute for Occupational Safety and Health (NIOSH) that the B. F. Goodrich Chemical Company reported that deaths of several of its employees from a rare liver cancer (angiosarcoma) may have been occupationally related. As a result of this notification and after consultation with the National Institute for Occupational Safety and Health (NIOSH), and a joint inspection of the plant by OSHA, NIOSH, and the Kentucky Department of Labor, a fact-finding hearing on possible hazards involved with the manufacture and use of VC was announced on January 30, 1974 (39 FR 3874) and held on February 15, 1974.

2. *Carcinogenicity of VC.* Information produced at this hearing demonstrated that exposure of laboratory animals (mostly Sprague-Dawley rats) to VC by inhalation at and below the then current OSHA standard of 500 ppm induced tumors, including angiosarcomas of the liver. Professor Cesare Maltoni, of the Instituto di Oncologia, Bologna, Italy, reported on a series of experiments on the effect of exposure of rats, mice, and hamsters to VC at concentrations of 10,000; 6,000; 2,500; 500; 250; and 50 ppm for varying periods of time (TR-43-63). Some of the experiments have been concluded, and others are still ongoing. The experimental results reported were that tumors have been observed in groups of animals exposed to VC at concentrations as low as 250 ppm. No tumors were observed in the group of animals exposed to VC at a concentration of 50 ppm. It also appears that the total number of tumors, as well as the numbers of angiosarcomas of the liver, decreased as the concentrations of VC were reduced to 250 ppm. Another experiment by Professor Maltoni was reported underway involving the exposure of 300 animals to VC at concentrations of 50 ppm, in order to assess in a more definitive way whether that level of exposure produces tumors in animals. Data reported by Torkelson, Oyen and Rowe (American Industrial Hygiene Association J 22: 254-361 (1961)) indicate that exposure to VC at concentrations of 50 ppm failed to induce tumors in rats, hamsters, rabbits, and dogs.

The employees of the B. F. Goodrich Chemical Company who died from angiosarcoma of the liver had an average exposure of approximately 19 years to vinyl chloride, at unknown concentrations, and variable exposures to other volatile chemicals. (TR 93). Some employees of Union Carbide, Firestone Tire and Rubber, and Goodyear were also reported in post-hearing comments to have had exposure to vinyl chloride and to have died from angiosarcoma of the liver. Finally, autopsies of four deceased employees revealed their liver angiosarcoma tumors were histologically indistinguishable from the angiosarcoma tumors observed in Professor Maltoni's experimental animals.

3. *The Emergency Temporary Standard.* On the basis of all information available at that time, and the fact that employees were being exposed at levels around the experimentally observed effect level of 250 ppm, an Emergency Temporary Standard (ETS) was promulgated on April 5, 1974 (39 FR 12342) as 29 CFR 1910.93q. This standard reduced the level from a ceiling of 500 ppm to 50 ppm ceiling. It was expressly recognized that this standard limiting exposures to a 50 ppm level was intended to be a tentative, interim standard, to be in effect no longer than six months, during which time the whole question of possible safe exposure to VC would be reconsidered more fully and in the light of more information, especially results of experiments which were known to be underway at that time.

4. *Additional information.* On April 15, 1974, information and data were presented to representatives of OSHA, NIOSH and the EPA by the Industrial Bio-Test Laboratories, Northbrook, Illinois, concerning results of animal exposure studies with VC, sponsored by the Manufacturing Chemists Association (MCA). Although only preliminary in nature, these results revealed that 2 out of 200 mice exposed to VC concentrations of 50 ppm for 7 hours a day, five days a week, for approximately 7 months, developed angiosarcomas of the liver.

The Industrial Bio-Test Lab data indicate that exposure to VC at 50 ppm may well constitute a serious health hazard to employees. Also, the question of a safe level of exposure for humans cannot be determined at this time, and may continue as a matter for scientific deliberation for many years. We therefore conclude that it is now necessary to propose to change the 50 ppm level established in the ETS to as low a level as can be detected using methodologies outlined in this proposal.

(5) *The proposed permanent standard.* The requirements for a complete standard under section 6(b) of the Occupational Safety and Health Act of 1970 are much more comprehensive than the provisions of the ETS promulgated on April 5. The following proposals are responsive to the additional information on the carcinogenicity of VC, and the requirements of the Act.

A. *Level of exposure.* The proposed standard for employee exposure is set at no detectable level, as determined by a sampling and analytical method capable of detecting vinyl chloride at concentrations of 1 ppm with an accuracy of 1 ppm±50 percent. Although more sensitive methods may be available now or in the future, the methodological sensitivity proposed appears to be the most feasible and generally available. A method of 1 ppm sensitivity has been recommended to OSHA by NIOSH. To minimize the number of persons at risk, a requirement would be established for regulating areas where vinyl chloride is manufactured, reacted, stored, handled, released, repackaged, or used, including operations with polyvinyl chloride containing detectable levels of vinyl chloride. Access to the areas would be limited to authorized employees.

B. *Monitoring.* A program of monitoring would be required to establish whether there are detectable levels in regulated areas and to permit determination of employee exposures on an individual basis. Provision would also be

made for an opportunity to observe monitoring by employees or their designated representatives, as required by section 8(c)(3) of the Act.

C. Control methods. Where detectable levels of VC are monitored, two programs would be triggered; an engineering and work practice program to reduce levels below detectability; and while this is on-going, a respiratory protection program for employees in the regulated area.

Engineering controls and work practices are favored methods of compliance because they tend to avoid contamination of the ambient air in the workplace. Accordingly, it is proposed to require the institution of engineering controls and of workpractice methods as soon as feasible, and to require the use of respirators pending the institution of such controls, to supplement such controls where they are insufficient to reduce concentrations of vinyl chloride below the detectable level, in specified work situations, and in cases of emergency. The proposal for continuous flow and pressure demand types of respirators is based on the recommendations of NIOSH, which has observed leakage through chemical cartridge respirators at high concentrations of VC.

A requirement would also be established for the provision and use of protective clothing for employees in the regulated areas. The protective clothing would minimize skin contact with VC vapor, and would provide some measure of protection from splash of liquid in the event of a spill or rupture of equipment. Food, beverages, and like products would be prohibited in the regulated area.

Written operational and emergency plans would be required, along with employee training in routine and emergency duties. Specific requirements would be established for emergency actions and for routine maintenance and decontamination operations, including vessel entry, which are known to present particular hazards.

The purposes of operational and emergency plans and training are to apprise employees of the hazards to which they may be exposed, of the precautions they must take to avoid such hazards, and to rehearse employees in the procedures they must follow in emergencies.

D. *Medical surveillance.* Comprehensive requirements for employee medical examinations are proposed, including necessary tests. Some additional guidance is included for the convenience of physicians. The proposed requirements have been recommended to OSHA by NIOSH as reasonably appropriate to detect liver dysfunction which may be indicative of, or predisposing to, the development of liver angiosarcomas.

E. *Records and reports.* Records of monitoring, medical examinations, and entry to regulated areas are proposed, with provision for access by appropriate OSHA and NIOSH officials. Specific provisions for employee access to monitoring records are included, as well as the requirement to furnish a copy of a medical record to an employee's physician on the employee's request. Establishments conducting VC operations would be required to identify themselves to OSHA, and to report incidents (accidents) resulting in the release of vinyl chloride.

Accordingly, pursuant to sections 6(b), 6(c), and 8(c) of the Occupational Safety and Health Act of 1970 (84 Stat. 1593, 1596, 1599; 29 U.S.C. 655, 657), Secretary of Labor's Order No. 12–71 (36 FR 8754) and 29 CFR Part 1911, it is hereby proposed to amend 29 CFR Part 1910 by revising § 1910.93q as set forth below.

Written data, views, and arguments concerning the proposals may be mailed to the Docket Officer, Docket OSH–36, Room 230, 1726 M Street, N.W., Occupational Safety and Health Administration, Washington, D.C. 20210, postmarked not later than June 10, 1974.

Pursuant to 29 CFR 1911.11 (b) and (c), interested persons may file objections to the proposals, requesting an informal hearing with respect thereto, in accordance with the following conditions:

(1) The objections must include the name and address of the objector;

(2) The objections must be postmarked on or before June 10, 1974;

(3) The objections must specify the provisions of the proposed rule to which objection is taken, and must state the grounds therefor;

(4) Each objection must be separately stated and numbered; and

(5) The objections must be accompanied by a summary of the evidence proposed to be adduced at the requested hearing.

As revised, § 1910.93q would read as follows:

§ 1910.93q Vinyl Chloride.

(a) *Scope and application.* (1) This section applies to any area or operation in which vinyl chloride (chloroethene), Chemical Abstracts Service Registry No. 75015, is manufactured, reacted, released, repackaged, stored, or used, including areas and operations involving polyvinyl chloride where detectable levels of vinyl chloride are released.

(2) This section does not apply to the handling or use of fabricated products made entirely or in part of polyvinyl chloride.

(b) *Definitions.* (1) "Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor or his designee.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer; and any employee who enters such an area as a designated representative of employees to exercise an opportunity to observe monitoring and measuring of vinyl chloride.

(3) "Closed container" means any container which prevents the release of vinyl chloride to the environment.

(4) "Contaminated" means capable of releasing a detectable level of vinyl chloride.

(5) "Decontamination" means reduction of vinyl chloride concentrations to less than detectable levels.

(6) "Detectable level" means an airborne concentration of vinyl chloride measurable by a sampling and analytical method capable of measuring concentrations of 1 ppm, with an accuracy of 1 ppm±50 percent.

(7) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(8) "Emergency" means an unforseen circumstance or set of circumstances, resulting in the release of vinyl chloride into areas occupied by employees.

(9) "Exposure" means actual contact with vinyl chloride when unprotected by required personal protective equipment and clothing.

(10) "Fabricated product" means a finished product or part of such product, made of polyvinyl chloride, entirely or in part, including semifinished products such as film, sheet, block, bar, or extrusion stock.

(11) "OSHA Area Director" means the Director for the Occupational Safety and Health Administration Area Office having jurisdiction over the geographic area in which the establishment is located.

(12) "Polyvinyl chloride" means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product.

(13) "Protective clothing" means clothing protective against vinyl chloride.

(14) "Vinyl chloride" means vinyl chloride monomer.

(15) "Waste resin" means any resin or other reaction products removed in the cleaning of equipment, such as vessels and piping.

(c) *Reference.* College of American Pathologists, 230 N. Michigan Ave., Chicago, Illinois 60601.

(4) *Regulated areas.* (1) A regulated area shall be established where (i) vinyl chloride is manufactured, reacted, released, repackaged, stored, or used; or (ii) polyvinyl chloride capable of releasing detectable levels of vinyl chloride is manufactured, reacted, released, repackaged, stored, or used.

(2) Access to regulated areas shall be limited to authorized employees.

(3) A daily roster of employees entering regulated areas shall be made and maintained. The rosters, or summaries thereof, shall be kept for at least 20 years.

(e) *Monitoring.* (1) Every regulated area shall be monitored for detectable levels of vinyl chloride.

(2) The monitoring shall assure that any exposure may be determined for each authorized employee with a confidence level of 95 percent.

(3) Employees or their designated representatives shall be afforded an opportunity to observe monitoring and measuring required by this paragraph.

(i) Where exercise of an opportunity requires entry to an area where the use

of protective clothing, equipment, facilities, or procedures is required, such clothing, equipment, facilities, and procedures shall be provided to all persons entitled to exercise the opportunity, at no cost to any of them.

(ii) Persons exercising the opportunity shall be instructed regarding:

(A) The toxicity and fire hazard of vinyl chloride; and

(B) The protective steps and measures necessary for their protection.

(iii) Observers shall be permitted, without interference to the persons performing the monitoring and measuring, to:

(A) Observe all steps and procedures related to the collecting, processing, and evaluation of particular monitoring and measurement samples;

(B) Record quantities and results obtained;

(C) Observe the condition of monitoring and measuring equipment;

(D) Receive a demonstration of the calibration and function tests of the monitoring and measuring equipment performed on site; and

(E) Examine instructions and documents related to the procedures and equipment for monitoring and measuring.

(4) Accurate and complete records of all required monitoring shall be made and maintained for not less than 20 years. Such a record shall (i) state the date of such monitoring and the levels determined; and (ii) identify the instruments and methods used.

(f) *Engineering controls and workpractice methods.* (1) Where detectable levels of vinyl chloride are measured, immediate protection shall be provided against exposure to vinyl chloride by the use of engineering controls, workpractice methods, and respirators as follows:

(i) Feasible engineering controls and workpractice methods shall immediately be used to reduce airborne concentrations of vinyl chloride below the detectable level;

(ii) Wherever feasible engineering controls and workpractice methods which can be instituted immediately are not sufficient to reduce concentrations of vinyl chloride below the detectable level, they shall nonetheless be used to reduce the concentrations to the lowest practicable level, and shall be supplemented by means of respirators in accordance with paragraph (g) of this section;

(iii) Wherever no feasible engineering control or workpractice method can be instituted immediately, immediate respiratory protection shall be provided in accordance with paragraph (g) of this section; and

(iv) In any case covered by paragraph (f)(1) (ii) or (iii) of this section, the employer shall also undertake as soon as practicable a program to reduce airborne concentrations of vinyl chloride below the detectable level, or to the greatest extent feasible, solely by means of engineering controls and workpractice methods and as soon as feasible.

(2) There shall be tests made for process or equipment leaks and for emission of vinyl chloride which may result from workpractices. The frequency of these tests shall be such as to insure the integrity of equipment and adherence to proper workpractices.

(g) *Respiratory protection.* (1) A respiratory protection program in accordance with § 1910.134 shall be established and implemented where respirators are required to be used by this section.

(2) Respirators shall be used only in cases of emergency and where required by any other provision of this section. Respirators may not be used in lieu of feasible engineering controls or workpractice methods.

(3) Respirators or combinations of respirators for protection against vinyl chloride shall be selected from among the following:

(i) A positive pressure full facepiece self-contained breathing apparatus;

(ii) A pressure-demand full facepiece self-contained breathing apparatus operating in the pressure-demand mode;

(iii) A combination type "C" pressure-demand full facepiece respirator operating in the pressure-demand mode and a pressure-demand self-contained breathing apparatus operating in the pressure-demand mode; or

(iv) A combination type "C" continuous flow respirator and a pressure-demand self-contained breathing apparatus operating in the pressure-demand mode.

(h) *Protective clothing.* (1) Employees entering regulated areas shall be provided full-body protective clothing, footwear or shoe covers, and gloves, at no cost to them, and required to wear it while in the regulated area.

(2) Where polyvinyl chloride powder containing detectable levels of vinyl chloride is handled, employees shall also be:

(i) Provided and required to wear headcoverings;

(ii) Required to remove all protective clothing at each exit from the regulated area; and

(iii) Required to shower after the last exit of the day.

(3) Clean protective clothing shall be provided whenever contaminated or soiled, but not less frequently than weekly. Contaminated clothing shall be decontaminated before reuse by removal for laundering or disposal.

(i) *Hygiene facilities and practices.* (1) Where employees are required by this section to wear protective clothing and equipment, change rooms shall be provided in accordance with § 1910.141(e).

(2) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141(d)(3).

(3) Storage or consumption of food or beverages, storage or use of smoking or non-food chewing products, and the storage or application of cosmetics are prohibited in regulated areas.

(j) *Emergency situations.* (1) A written operational plan for emergency situations shall be developed for each regulated area.

(2) In the event of an emergency, appropriate portions of the plan shall be put into operation.

(i) Hazardous conditions created by the emergency shall be eliminated and the affected area shall be decontaminated prior to the resumption of normal operations.

(ii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the affected area at the time of the emergency.

(iii) Where an employee has a known contact with liquid vinyl chloride such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(iv) An incident report on the emergency shall be reported as required by paragraph (q)(2) of this section.

(3) Each authorized employee shall be trained in a program relating to the hazards of vinyl chloride and the precautions for safe use.

(i) The program shall include:

(A) The nature of the fire hazard, and the necessary protective steps;

(B) The nature of the toxic hazard, including local and systemic effects, acute and chronic effects including specifically the carcinogenic hazard;

(C) The specific nature of operations which could result in exposure to vinyl chloride, and necessary protective steps;

(D) The purpose for and application of the medical surveillance program;

(E) The purpose for and application of decontamination practices;

(F) The purpose for and significance of emergency practices and procedures;

(G) The employee's specific role under normal operating or emergency conditions;

(H) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of vinyl chloride;

(I) The purpose for and application of specific first aid procedures and practices;

(J) A review of this standard at the employee's first training and indoctrination program and annually thereafter.

(ii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(k) *Signs and labels.* (1) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT AREA
AUTHORIZED PERSONNEL ONLY

(2) Areas containing operations covered in paragraph (k)(1)(4) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT IN THIS AREA
FULL IMPERVIOUS AIR-SUPPLIED EQUIPMENT REQUIRED
AUTHORIZED PERSONNEL ONLY

(3) Containers of waste or other materials contaminated with vinyl chloride shall be labeled:

VINYL CHLORIDE CONTAMINATED MATERIAL
CANCER-SUSPECT AGENT
DISPOSE OF OR DECONTAMINATE USING AUTHORIZED PROCEDURES

(4) Containers of polyvinyl chloride containing detectable levels of vinyl chloride shall be labeled:

POLYVINYL CHLORIDE
CONTAINS VINYL CHLORIDE
VINYL CHLORIDE IS A
CANCER-SUSPECT AGENT
ABSORBED BY BREATHING AND
THROUGH SKIN

(5) Containers of vinyl chloride shall be labeled:

VINYL CHLORIDE
DANGER
EXTREMELY FLAMMABLE GAS
UNDER PRESSURE
MAY POLYMERIZE WITH
EXPLOSIVE FORCE
POISON
CANCER SUSPECT AGENT AND
ANESTHETIC
ABSORBED BY BREATHING
AND THROUGH SKIN

(6) No statement shall appear on or near any required sign, label or instruction, which contradicts or detracts from the effect of any required warning, information or instruction.

(l) *Maintenance and decontamination.* (1) Emphasis shall be placed upon immediate clean up of spills, periodic inspection, prompt repair of equipment and leaks, and proper handling, storage and disposal or decontamination of materials to prevent airborne contamination and accidental skin contact with vinyl chloride. Waste materials, equipment, and other sources of vinyl chloride in closed containers, may not be placed in areas of excessive temperature or sunlight since build-up of internal pressure may result in rupture of the container, fire or explosion.

(2) Waste resins or other materials contaminated with vinyl chloride shall be placed in closed containers pending disposal or decontamination.

(3) Appropriate procedures shall be developed and implemented for the decontamination or disposal of all such waste material.

(4) In maintenance or repair operations on contaminated—systems or equipment, including vessel entry, employees engaged in such operations shall be (i) provided with and required to wear and use a whole-body air-supplied suit impervious to vinyl chloride, and a respirator in accordance with paragraph (g) of this section; and (ii) required to shower after removing protective equipment.

(5) Protective clothing and equipment shall be clean and dry for each use.

(6) When vessels or piping systems are opened local exhaust ventilation shall be provided to remove the escaping vapor from all occupied areas.

(7) (i) Vessels to be entered shall first be ventilated and monitored so that the concentration of vinyl chloride is reduced to a level within the protection factor capability of the protective equipment.

(ii) When vessels are to be entered, all piping to such vessel shall be:

(A) Opened, blanked and tagged; or

(B) Where welded piping is in use, not less than 2 valves in series, which isolate the vessel from any other connection to such line, must be closed and secured.

(iii) No employee shall enter a vessel, except when another employee properly trained and equipped for entry is present and is observing the employee in the vessel. The observer shall have means for signalling for help in the event the employee experiences problems. Under such conditions, the observer shall signal for help, and shall not enter to assist the employee until another person is present to observe.

(m) *Transportation loading and unloading.* (1) Facilities for the loading and unloading of vinyl chloride to and from containers shall have each transfer line and vapor-equalizing line equipped with vent connections, and shall have an inert gas purging system. Vent and purge effluent shall be returned to a process stream or flared in a safe location.

(2) Procedures shall be developed and implemented for the transfer of vinyl chloride. Written copies of such procedures shall be provided employees engaged in such operations, and such employees shall be fully trained and rehearsed in all procedures.

(3) Employees engaged in transfer operations shall be provided with and required to wear respirators in accordance with paragraph (g) of this section.

(n) *Polymer handling operations.* (1) Containers of polyvinyl chloride releasing detectable levels of vinyl chloride shall be opened and transferred only under local exhaust ventilation which reduces the concentration of vinyl chloride below the detectable level.

(2) Hot operations, such as but not limited to milling, calendering and extruding, which release detectable levels of vinyl chloride, shall be carried on only under local exhaust ventilation which reduces the concentration of vinyl chloride below the detectable level.

(o) *Medical surveillance.* Not later than ---------- 1974, a program of medical surveillance shall be instituted, and shall provide each authorized employee with an opportunity for examinations in accordance with this paragraph. All medical examinations and procedures shall be performed by or under the supervision of a licensed Doctor of Medicine (MD) or Doctor of Osteopathy (DO). All medical examinations and tests shall be provided without cost to the employee.

(1) At the time of initial employment, or upon institution of screening, a physical examination shall be performed with specific attention to detecting enlargement of liver or spleen by abdominal palpation.

(2) At the time of initial employment or upon institution of screening, and annually thereafter, a medical history checklist shall be completed by the employee. This list shall include questions concerning:

(i) Alcohol intake;

(ii) Past history of hepatitis;

(iii) Past exposure to potential hepatotoxic agents, including drugs and chemicals;

(iv) Past history of blood transfusions; and

(v) Past history of hospitalizations.

(3) At the time of initial employment, or upon institution of screening, a serum specimen shall be obtained for screening with respect to the following bio-chemical determinations of liver function:

(i) Total bilirubin;

(ii) Alkaline phosphatase;

(iii) Serum glutamic oxalacetic transaminase (SGOT);

(iv) Serum glutamic pyruvic transaminase (SGPT); and

(v) Gamma glustamyl transpeptidase (GGTP).

(4) Additional tests that may optionally be considered for use in screening include:

(i) Lactic dehydrogenase;

(ii) Serum protein determinations;

(iii) Serum protein electrophoresis; and

(iv) Platelet count.

(5) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories accredited by the College of American Pathologists or licensed under 43 CFR Part 74.

(6) If the results of screening required in paragraph (o)(3) of this section are normal, screening shall be repeated:

(i) Every six months for employees who have been employed in vinyl chloride related operations for 10 years or more; and

(ii) Annually for all other employees entering regulated areas.

(7) If one or more liver function tests performed are abnormal, serum testing shall be repeated as soon as possible, preferably within two to four weeks. If no abnormalities are present upon rescreening, serum testing shall be repeated in three months.

(8) If abnormalities persist upon rescreening, the employee shall be withdrawn from areas where contact with vinyl chloride is possible, and an individualized medical workshop shall be instituted. Suggested as initial steps are a complete physical examination and various special procedures such as hepatitis B antigen determination and liver scanning. If liver function abnormalities are determined to be unrelated to liver disease, the employee may be permitted to return to vinyl chloride-related employment, subject to individual medical evaluation.

(9) A complete and accurate record of the results of medical examinations shall be made and maintained for the duration of employment plus five years, or for 20 years, whichever is longer.

(p) *Records.* (1) Records of monitoring and measuring, medical records, and regulated area entry rosters and summaries, shall be made available for examination and copying upon request to authorized representatives of the Assistant Secretary and the Director.

(2) In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to the Director, and each employee individually notified in writing of this transfer.

(3) Employees and their designated representatives shall be provided access to examine and copy records of monitoring and measuring.

(4) Former employees shall be provided acces to examine and copy records reflecting their own exposures.

(5) Upon written request of any employee, a copy of the medical record of such employee shall be furnished to a physician designated by the employee in such request.

(q) *Reports.* (1) Not later than ------ ------ the following information shall be reported to the OSHA Area Director. Any change in such information shall be reported to the OSHA Area Director within 15 days of such change.

(i) The address and location of each establishment which has one or more regulated areas; and

(ii) The number of employees in each regulated area during normal operations, including maintenance.

(2) Incidents which result in the release of vinyl chloride into any area where employees may be exposed shall be reported in accordance with this paragraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the OSHA Area Director.

(ii) A written report shall be filed with the OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released;

(B) A description of the area involved and the extent of known and potential employee exposure and area affected;

(C) A report on any medical treatment of affected employees and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(3) Upon completion of any monitoring and measuring which discloses that any employee has actually been exposed to detectable levels of vinyl chloride, each such employee shall be individually notified in writing. The notice shall:

(i) Be delivered not later than 10 working days after completion of the monitoring and measuring;

(ii) State the actual exposure in terms of concentration and time; and

(iii) State the steps which have been taken, are being taken, and will be taken, with specific completion dates, to terminate the exposure and prevent a recurrence.

(Secs. 6(b), 6(c), and 8(c), 84 Stat. 1593, 1596, 1599 (29 U.S.C. 655, 657); Secretary of Labor's Order No. 12-71 (36 FR 8754))

Signed at Washington, D.C. this 6th day of May, 1974.

JOHN STENDER,
Assistant Secretary of Labor.

[FR Doc.74-10748 Filed 5-9-74;8:45 am]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

[14 CFR Part 25]

[Docket No. 13696; Notice 74-19]

TRANSPORT CATEGORY AIRPLANES

Type A Passenger Emergency Exit Capacity

The FAA is considering rule making to revise the passenger seating configuration limit that is applicable to Type A exits on transport category airplanes. Sections 25.807(c) (2) and (3) of the Federal Aviation Regulations (FARs) currently provide that for each pair of Type A exits (consisting of one on each side of the fuselage) the airplane may have a maximum passenger seating configuration of 100.

This advance notice of proposed rule making is being issued in accordance with the FAA's policy for early institution of public proceedings in actions related to rule making. An "advance" notice is issued to invite early public participation in the identification and selection of a course or alternate courses of action with respect to a particular rule making problem.

Interested persons are invited to participate in the rule making by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket, AGC-24, 800 Independence Avenue, SW., Washington, D.C. 20591. Communications should be received on or before July 9, 1974, to assure proper consideration. All comments submitted will be available, both before and after the closing date for comments, for examination by interested persons.

The regulatory provisions relating to Type A exits that are contained in § 25.807 of the Federal Aviation Regulations were adopted by Amendment 25-15, effective October 24, 1967. That amendment also established the provision, in § 25.803(c), that manufacturers show by demonstration that the maximum seating capacity of an airplane having a capacity of more than 44 passengers can be evacuated to the ground within 90 seconds, under conditions prescribed in the regulation. As discussed in the preamble to Amendment 25-15, the allowable passenger seating limit of 100 that was established for each pair of Type A exists was less than the evacuation capacity that had been demonstrated by test. As a result of receiving data and information tending to indicate that some of the considerations leading to the conservative limitation may no longer be applicable, the FAA has instituted a regulatory study project to reevaluate the limitation. The study will include the factors originally considered in establishing the limitation as well as any other factors found to be pertinent. Those factors originally considered include pertinent evacuation tests and demonstrations, exterior slides, the number, location, and size of aisles and passageways, and evacuation system reliability.

Data available to the FAA on in-service evacuations, slide deployments, and evacuation demonstrations indicate that more than 100 passengers have been evacuated through a Type A exit within 90 seconds. The data further indicate that Type A exit systems may have higher in-service reliability than was anticipated at the time the limitation was established in the regulations. However, the FAA believes it is important to review all relevant data on safety and cost considerations that may be applicable to any proposed change in the Type A exit passenger seating limitation. To this end, the FAA solicits data, views, and arguments from all interested persons on the questions set forth below. Data supporting an answer should be submitted or identified sufficiently that the FAA may obtain or develop it.

1. Do the data available on evacuation tests and in-service incidents that relate to the evacuation capacity of Type A exits under emergency conditions indicate that the 100 passenger limitations may safely be increased?

2. What reliability has been demonstrated for Type A exit systems by service experience and tests?

3. What relationships may be established between reliability and passenger emergency evacuation capability of Type A exits?

4. How would the emergency evacuation capability of Type A exits be affected by specific increases in passenger seating capacity and by specific passenger seating configuration considerations?

5. If there are other factors that should be considered, how should the relevant data be related to the emergency evacuation capability of Type A exits?

6. If the commentator recommends specific passenger capacities for consideration, what economic and safety benefits or penalties would be associated with them?

Issued in Washington, D.C., on May 2, 1974.

C. R. MELUGIN, Jr.,
Acting Director,
Flight Standards Service.

[FR Doc.74-10787 Filed 5-9-74;8:45 am]

[14 CFR Part 39]

[Docket No. 74-NW-4-AD]

AIRWORTHINESS DIRECTIVES

Boeing Model 737-100/200 Series Airplanes

The Federal Aviation Administration is considering amending Part 39 of the