

MANUFACTURING CHEMISTS ASSOCIATION

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W. A. K.

MAY 13 1974

CONTACT:

For Immediate Release

Richard F. Blewitt
(202) 483-6126, ext 282

WASHINGTON, D C , May 7 -- Vinyl chloride workers have experienced overall death rates that compare favorably to those experienced by other U. S industrial populations, according to the findings of a just-completed survey.

Administered by the Manufacturing Chemists Association (MCA) on behalf of vinyl chloride and polyvinyl chloride producers, the survey was conducted by Tabershaw-Cooper Associates, Inc.

It identified 8,384 past and present employees of the VC/PVC industry and had determined the vital status of 7,128. Among these individuals, 352 deaths had occurred during the period under study and death certificates had been obtained on 328.

Initiated June 15, 1973, the survey showed that although the total number of such cases was small, there did appear to be suggestive dose-related increases in the incidence of cancers of the urinary organs and the brain in the longer-exposed workers, as compared with their counterparts who, at the time of death, had worked for shorter periods in jobs exposing them to vinyl chloride. The study showed, however, that statistically significant differences in mortality appeared only where reported death rates were lower than that of the general population.

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(more)

Dr. Irving R. Tabershaw, of Tabershaw-Cooper, is to report the results of the survey at a meeting to be held under the auspices of the New York Academy of Sciences May 10.

MCA announced on April 16 preliminary indications that vinyl chloride exposure produced liver angiosarcomas -- a rare cancer -- in mice at several exposure levels

Industrial Bio-Test Laboratories, Inc., which is conducting the MCA-administered vinyl chloride animal exposure study, informed MCA that their preliminary findings tend to confirm the findings of Professor Cesare Maltoni, an Italian scientist, who found that vinyl chloride exposure caused such cancer in rats

The animal exposure study is continuing and the producers are looking at other areas for further vinyl chloride testing.

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MANUFACTURING CHEMISTS ASSOCIATION

1825 CONNECTICUT AVENUE, N.W. WASHINGTON, D. C. 20009 (202) 483-6126

May 28, 1974

To: Management Contacts of Companies Supporting the
Vinyl Chloride Research Program
Technical Task Group on Vinyl Chloride Research

Subject Important Notices in Federal Registers re Vinyl Chloride

Gentlemen:

On May 10, 1974, the Occupational Safety and Health Administration (OSHA) proposed a permanent standard for occupational exposure to vinyl chloride. In response to several requests, OSHA has scheduled an informal Hearing to begin at 9:30 AM June 25, 1974, in the Departmental Auditorium, Washington, D. C. Notice of intention to appear at the Hearings to participate in the presentation of data must be filed no later than June 17 (Federal Register May 24, 1974).

Also, published in the Federal Register May 23, 1974 was a proposal of the Consumer Product Safety Commission to ban as a hazardous substance any self-pressurized product (aerosol product) for household use containing vinyl chloride.

Copies of notices, pertaining to these regulatory actions, as appearing in the Federal Registers, are enclosed.

Sincerely,

Kenneth D. Johnson

Kenneth D. Johnson, Ph.D.
Secretary
Technical Task Group on
Vinyl Chloride Research

KDJ/mw

Enclosure

cc: Mr. A. W. Barnes
Dr. D. P. Duffield
Dr. Tiziano Garlanda

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DEPARTMENT OF LABOR
Occupational Safety and Health
Administration

[29 CFR Part 1910]

[Docket OSH-36]

**VINYL CHLORIDE; OCCUPATIONAL
EXPOSURE STANDARD**

Hearing

On May 10, 1974, notice of proposed
rulemaking with regard to a permanent

standard for occupational exposure to vinyl chloride was published in the *FEDERAL REGISTER* (39 FR 16896). The notice provides an opportunity for public participation in the proceeding, by means of written submissions to be mailed to the given address, postmarked no later than June 10, 1974. The notice also permits interested persons to file objections to the proposed standard set out in the notice and request a hearing thereon. The objections must specify the provisions of the proposed standard to which objections are made, state the grounds for the objections, be accompanied by a summary of the evidence to be adduced at the requested hearing, and must be postmarked no later than June 10, 1974.

Informal contacts with Occupational Safety and Health Administration staff have disclosed widespread interest in the proceeding, a probability of requests for a hearing, and an alleged need for more time for the submission of written comments and the formulation of objections in accordance with the requirements of the notice.

Accordingly, it has been decided to waive the requirements for objections and request for a hearing thereon and instead to set for hearing the entire proposed standard, set forth in the May 10 notice. It is hoped that this decision will: (1) Eliminate the possible difficulty of formulating appropriate objections within the short period of time fixed in the notice; (2) permit full participation at the hearing, without limitation as to issues; and (3) expedite the proceeding, in view of the six-month provision in section 6(c) of the Williams-Steiger Occupational Safety and Health Act of 1970, and the expectation that a hearing would be requested and scheduled anyway.

Therefore, pursuant to sections 6(b), 6(c), and 8(c) of the Occupational Safe-

ty 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, the notice of the proposed rulemaking on vinyl chloride published on May 10, 1974 at 39 FR 16896, is hereby amended in the following respects: (1) The part of the notice concerning the filing of objections and requests for hearing, in the third full paragraph of the middle column of page 16897 of the May 10 issue of the *FEDERAL REGISTER*, is withdrawn; and (2) in lieu thereof the following paragraphs are added:

Data, views, and arguments concerning the proposed standard will be received by an administrative law judge, to be appointed by the Chief Administrative Law Judge of the Department of Labor at an informal hearing to begin at 9:30 a.m. June 25, 1974 in the Departmental Auditorium on Constitution Avenue, between 12th & 14th Streets, NW., Washington, D.C.

The hearing shall be conducted in accordance with the rules of procedure in 29 CFR Part 1911. Any interested person desiring to participate at the hearing must file a notice of intention to appear with Ms. Joanne Goodell, Attn: Docket OSH-36, Occupational Safety and Health Administration, 1726 M Street, NW., Room 200, U.S. Department of Labor, Washington, D.C. 20210 no later than June 17, 1974. A notice must state the name and address of the person to appear, the capacity in which he will appear, and the approximate amount of time required for his presentation. In addition, to the extent practicable, the notice should contain a general statement of the position to be taken with respect to any provision of the proposed standard, and of the evidence to be adduced in support of the position.

In all other respects, the May 10, 1974 notice of proposed rulemaking remains unchanged.

Signed this 22d day of May 1974.

JOHN H. STENDER,
Assistant Secretary of Labor.

[FR Doc. 74-12188 Filed 5-23-74; 11:15 am]

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**CONSUMER PRODUCT SAFETY
COMMISSION**
[16 CFR Part 1500]
**SELF-PRESSURIZED HOUSEHOLD SUB-
STANCES CONTAINING VINYL CHLORIDE**
**Proposed Classification as a Banned
Hazardous Substance**

In response to recent information on the toxicity of vinyl chloride monomer and in response to a petition received on February 21, 1974, from the Health Research Group, Washington, D.C., the Consumer Product Safety Commission proposes to ban as a hazardous substance any self-pressurized product (aerosol product) for household use containing vinyl chloride monomer. By notice published May 9, 1974 (39 FR 16511), the Commission determined that consumer products containing vinyl chloride monomer as a propellant or ingredient are products which could create a substantial product hazard and required manufacturers of such products to submit certain information to CPSC.

Section 2(f)(1)(A) of the Federal Hazardous Substances Act (15 U.S.C. 1261(f)(1)(A)) defines "hazardous substance" as "any substance or mixture of substances which is toxic * * * if such substance or mixture of substances may cause substantial personal injury or substantial illness during or as a proximate result of any customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion by children." Section 2(g) of the act states that "the term toxic shall apply to any substance * * * which has the capacity to produce personal injury or illness to man through ingestion, inhalation, or absorption through any body surface." Section 2(q)(1)(B) of the act defines a "banned hazardous substance" as "any hazardous substance intended, or packaged in a form suitable, for use in the household, which the Secretary [now the Commission] by regulation classifies as a 'banned hazardous sub-

stance' on the basis of a finding that, notwithstanding such cautionary labeling as is or may be required under this Act for the substance, the degree or nature of hazard involved in the presence or use of such substance in households is such that the objective of the protection of the public health and safety can be adequately served only by keeping such substance, when so intended or packaged, out of the channels of interstate commerce."

The Commission has determined that reasonable grounds exist to propose the banning of self-pressurized products for household use containing vinyl chloride on the basis of toxicity. These grounds include the following:

(1) *Human data.* 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.

The employees of the B. F. Goodrich Chemical Company who died from angiosarcoma of the liver had an average exposure of approximately 19 years of vinyl chloride, at unknown concentrations, and variable exposures to other volatile chemicals. Some employees of Union Carbide Company and Goodyear Company are also reported 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 (see below).

(2) *Animal data.* 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 vinyl chloride at concentrations of 10,000; 6,000; 2,500; 500; 250; and 50 ppm for varying period of time. 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 vinyl chloride at concentrations as low as 250 ppm.

These data are contained in the transcript of an "Informal Fact Finding Hearing on Possible Hazards of Vinyl Chloride Manufacture and Use," U.S. Department of Labor, Occupational Safety and Health Administration, February 15, 1974. A copy of this document is available for public inspection at the Office of the Secretary, 1750 K Street NW., Washington, D.C. 20207.

The Commission is in receipt of a petition from the Health Research Group, set forth below, "to immediately prohibit the continued use of vinyl chloride as a propellant for aerosolized consumer products and to remove all products containing vinyl chloride as a propellant from the market because there is substantial evidence that vinyl chloride is

carcinogenic." The petitioner cites a 1964 report that estimates that use of self-pressurized products containing vinyl chloride could result in exposure to a concentration of over 250 ppm.

The Commission is also aware that the Occupational Safety and Health Administration published in the *FEDERAL REGISTER* on April 5, 1974, an Emergency Temporary Standard for Exposure to Vinyl Chloride (39 FR 12342). This Emergency Standard sets an occupational exposure limit of 50 ppm of vinyl chloride in air. Further, the Occupational Safety and Health Administration on May 10, 1974 (39 FR 16896), proposed a standard for employee exposure at no detectable level. In addition, the Food and Drug Administration on April 22, 1974 (39 FR 14215), published a notice of proposed rule making for vinyl chloride as an ingredient of drug and cosmetic aerosol products. The Commissioner of FDA determined: (1) That vinyl chloride presents an unnecessary hazard to the public health when it is used as an ingredient in cosmetic aerosol products and that such use should be banned and (2) vinyl chloride, when used as an ingredient in drug aerosol products, is not generally recognized as safe and effective, and requires an approved new drug application as a condition of marketing. In the same notice, FDA requested a recall of all drug and cosmetic aerosol products containing vinyl chloride.

Further, on April 26, 1974 (39 FR 14753), the Environmental Protection Agency published an emergency suspension order concerning registration for pesticide spray products containing vinyl chloride and an intent to cancel registrations. In the publication, EPA announced preliminary results of experiments at Industrial Bio-Test Laboratories which indicate that angiosarcoma was observed in mice exposed to vinyl chloride concentrations as low as 50 ppm. EPA also announced an agency calculation showing that under reasonable conditions of use of self-pressurized products, the level of exposure might be as high as 400 ppm.

On the basis of the information referred to above, the Commission has determined that inhalation of vinyl chloride may be hazardous and that any use of a self-pressurized product exposes the consumer to inhalation of some of its contents. Therefore, the Commission has reason to believe that precautionary labeling would be insufficient to protect the public health and safety if self-pressurized household products containing vinyl chloride entered the channels of interstate commerce.

Therefore, pursuant to provisions of the Federal Hazardous Substances Act (secs. 2 (f) (1) (A), (q), (3) (a), 74 Stat. 372, 374, as amended 80 Stat. 1304-05; 15 U.S.C. 1261 (f) (1) (A), (q), 1262(a)) and the Federal Food, Drug, and Cosmetic Act (sec. 701 (e), (f), (g), 52 Stat. 1055-56, as amended 70 Stat. 919, 72 Stat. 948; 21 U.S.C. 371 (e), (f), (g), and under authority vested in the Commis-

sion by the Consumer Product Safety Act (sec. 30(a), 86 Stat. 1231; 15 U.S.C. 2079(a)), the Commission proposes to amend 16 CFR Part 1500 by adding a new paragraph (a) (10) to sec. 1500.17 as follows:

§ 1500.17 Banned hazardous substances.

(a) Under the authority of section 2(q) (1) (B) of the act, the Commission declares as banned hazardous substances the following articles because they possess such a degree or nature of hazard that adequate cautionary labeling cannot be written and the public health and safety can be served only by keeping such articles out of interstate commerce:

(10) Self-pressurized products intended or suitable for household use that contain vinyl chloride monomer.

Interested persons are invited to submit, on or before June 24, 1974, written comments regarding this proposal. Comments and any accompanying material should be submitted, preferably in 5 copies, addressed to the Secretary, Consumer Product Safety Commission, Washington, D.C. 20207. Comments may be accompanied by a memorandum or brief in support thereof. Received comments may be seen in the Office of the Secretary, tenth floor, 1750 K Street NW., Washington, D.C., during working hours Monday through Friday.

Dated: May 20, 1974.

SADYE DUNN,
Secretary, Consumer
Product Safety Commission.

The Health Research Group petition reads as follows:

BEFORE THE CONSUMER PRODUCT SAFETY COMMISSION

HEALTH RESEARCH GROUP, PETITIONER

To: Richard Simpson, Chairman, Consumer Product Safety Commission.

Petition To Immediately Prohibit the Continued use of Vinyl Chloride as a Propellant for Aerosolized Consumer Products and To Remove all Products Containing Vinyl Chloride as a Propellant From the Market Because There Is Substantial Evidence That Vinyl Chloride Is Carcinogenic

I. Petitioner. Petitioner Health Research Group is a non-profit organization engaged in public interest research on health issues, including consumer product safety. It is funded by Public Citizen, many of whose members use aerosolized consumer products.

II. Authority for Petition and Regulation. Petitioner's authority to petition for rule-making is the Administrative Procedure Act, 5 U.S.C. 553(e). The authority of the Consumer Product Safety Commission to promulgate this rule is 15 U.S.C. (The Federal Hazardous Substances Act), § 1261(q) (2), 1262, 1263, and 1265.

III. Summary of Reasons for This Petition. Vinyl chloride is a toxic substance known to be commonly used as a propellant in aerosolized products. No regulations currently prohibit such use of vinyl chloride.

Vinyl chloride monomer is a colorless gas which can cause acute toxicity manifested by dizziness, headache, disorientation, and

unconsciousness at high concentrations. It has been linked to osteolytic (bone destructive) lesions of the hands, liver disease, and liver cancer in workers engaged in the polymerization of polyvinyl chloride from vinyl chloride monomer. In one study of industrial workers exposed to vinyl chloride 30% were found to have liver enlargement.

At exposure levels as low as 250 ppm, vinyl chloride has produced liver cancer in rats. Of greatest significance, since 1964 five workers engaged in making polyvinyl chloride from vinyl monomer at one plant have died from a rare and invariably fatal form of cancer of the liver. The most recent death was December 19, 1973. This cancer has recently been diagnosed in a sixth worker in the same plant.

IV. The Use or Presence of Vinyl Chloride in Consumer Products. Vinyl chloride is among the most often-used propellants in aerosols. (*Postgraduate Medicine*, p. 65; *Report of the Committee on Aerosol Toxicity*, p. 19; *Aerosol Age*, p. 47.) A 1964 report estimated that an aerosol product sprayed in a tiny room of 282.5 cubic feet for 30 seconds would result in 0.025% vinyl chloride by volume. (*Aerosol Age*, p. 47.) This level would correspond to over 250 ppm vinyl chloride in the air of a room that size,¹ not unlike the size of many bathrooms in small apartments.

V. Prior Regulatory Actions on Vinyl Chloride—1971. In 1971 under Section 6(a) of the Occupational Safety and Health Act of 1970, the Department of Labor adopted as a Federal standard a ceiling level of 500 ppm (1300 mg/m³) for occupational exposure to vinyl chloride, based on the recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH), (*FEDERAL REGISTER* of May 29, 1971). The ACGIH has since recommended 200 parts per million as a revised voluntary ceiling value for occupational exposure to the chemical. (*Documentation of Threshold Limit Values*, p. 477).

1973. On May 15, 1973, the Food and Drug Administration published a notice of proposed rule-making for the "prior-sanctioned polyvinyl chloride resin." The notice proposed that the resin not be used as a component of food packaging material for use in contact with alcoholic foods, since both industry and FDA laboratory analyses had found that the vinyl chloride monomer migrates to alcohol from PVC bottles used to package distilled spirits and wine. Analytical results from industry confirmed that levels of up to 20 ppm of vinyl chloride were found to have migrated to the alcohol from the container after it had been stored for up to one year. The FDA concluded: "Vinyl chloride monomer as such is a poisonous and deleterious substance. FDA knows of no studies which establish a safe level of consumption when this monomer is leached from containers into alcoholic foods." (*FEDERAL REGISTER* of May 15, 1973).

1973. A July 13, 1973, FDA notice in the *FEDERAL REGISTER* extended the time for filing comments on the FDA proposal for restrictions on polyvinyl chloride packaging, at the request of the plastics industry. The notice stated that the Bureau of Alcohol, Tobacco and Firearms of the Treasury Department (which had first authorized experimental use of PVC bottles for liquor in November, 1968) had terminated the use of PVC containers for alcoholic beverages pending final action by the FDA on the proposal. As of this date (2/21/74) the Food and Drug Administration has not finalized its proposal of May 17, 1973.

1974. In direct response to the deaths from a rare form of liver cancer of four workers at

¹ Using *Aerosol Age's* reference that 16.5% by volume corresponds to 460 g. vinyl chloride/M³, and a conversion factor of 500 ppm=1300 mg/M³ (ACGIH.)

one polyvinyl chloride plant, the Department of Labor published on January 30, 1974, a request for information and a notice of a fact-finding hearing on the possible hazards associated with the manufacture and/or use of vinyl chloride (FEDERAL REGISTER January 30, 1974). At the hearing held on February 15, 1974, the Industrial Union Department of the AFL-CIO petitioned for an emergency temporary standard to prevent any worker exposure to vinyl chloride.

VI. The Grave Danger Resulting from Exposure to Vinyl Chloride—A. Acute Effects. Vinyl chloride is a gas which can cause unconsciousness at extremely high concentrations. Inhalation of a 2.5% concentration of vinyl chloride can cause dizziness, disorientation and headache (ILO, p. 1466). At an 8-12% concentration cardiac arrhythmias have been observed in experimental dogs (ACGIH, p. 477). The Committee on Aerosol Toxicity has voiced concern over the use of certain gases—including vinyl chloride—as components of propellant/solvent systems in aerosols because they are capable of producing "cardiac sensitization" (Committee Report, p. 19).

B. Evidence of Carcinogenicity. On January 22, 1974, the B. F. Goodrich Company announced that three—and it is now known five—of its Louisville, Kentucky, vinyl-chloride workers had died of angiosarcoma (or hemangioendothelioma) of the liver, an exceedingly rare form of liver cancer. The five deaths occurred between 1964 and 1973, with the time of development of liver cancer after the onset of exposure to vinyl chloride in the four workers for whom this information is known from 14 to 27 years.

The National Institute for Occupational Safety and Health, estimating that only twenty to thirty people die in the United States every year from this particular type of cancer, has announced the discovery of a new occupational cancer associated with the polymerization of polyvinyl chloride from vinyl chloride, with vinyl chloride as the chief causative suspect (Statement of Dr. Marcus Key, February 1, 1974). The disease is invariably fatal, once cancer has been initiated (Statement of Dr. Irving Selikoff, February 15, 1974).

The carcinogenic effects of exposure to vinyl chloride have been demonstrated by Viola and Maltoni, in separate experiments. Viola produced angiosarcomas of the liver in rats when exposed to 30,000 ppm for 4 hours/day, 5 days/week, for 12 months (Viola, p. 20). Maltoni has produced the same type of cancers when exposing rats to much lower doses (Statement of Prof. Cesare Maltoni, February 15, 1974). After 127 weeks of exposure to vinyl chloride (4 hours/day; 5 days a week, by inhalation), Maltoni reported liver tumors in Sprague-Dawley rats at exposures as low as 250 ppm. (See table below).

RESULTS OF MALTONI'S EXPERIMENTAL STUDY

Exposure level— vinyl chloride, by inhalation	Number of animals exposed	Number of animals developing liver angiosarcomas
10,000 ppm	69	6
6,000 ppm	72	11
2,500 ppm	74	9
500 ppm	67	7
250 ppm	67	2
50 ppm	64	0

Dr. Maltoni reported that he is currently conducting an experiment using 300 rats exposed to 50 ppm, since the failure of the low dose of vinyl chloride to induce cancer may be a function of the small number of animals tested.

In addition, Maltoni has observed two fibrosing angiosarcomas in the offspring of pregnant rats exposed to vinyl chloride. He stated that such fibrosing angiosarcomas have never been observed as occurring spontaneously in Sprague-Dawley rats.

C. Other Evidence of Liver Disease. As early as 1961 Torkelson et al. reported that abnormal histologic changes were noted in the livers of rabbits after repeated exposures to 200 ppm of vinyl chloride. Slight liver enlargement was noted at doses as low as 100 ppm (Torkelson et al.).

A 1967 French study of 168 workers engaged in the production of PVC found liver enlargement in 30% of the cases studied (Suci et al.).

A later report of the health experience of Dow Chemical's vinyl chloride workers revealed no overt illness, but did determine that certain blood tests of liver function (e.g. beta lipoprotein, the icterus index, and bromosulfalein retention time) were abnormally altered. On the basis of their findings, the authors concluded that some degree of liver dysfunction might result from a TLV for vinyl chloride of 300 ppm (Mutchler et al.).

Marsteller et al. reported within the past few months that 19 out of 20 workers who had been exposed to vinyl chloride for 1½ to 21 years at a PVC producing plant in Germany had some type of liver disease, including gross changes of the liver and spleen. Direct inspection of the liver and spleen (by surgical operation) showed disease to be present in 14 out of the 20 workers (Marsteller et al.).

D. Evidence of Other Chronic Effects. In October 1963 osteolytic lesions were first observed in two Belgian plastics workers who were also suffering from Raynaud's phenomenon due to constriction of the local blood vessels in their hands (ILO, p. 1466). This hand syndrome—termed acroosteolysis—has since been observed in over 30 workers in the United States employed in the manufacture of PVC resins (Wilson et al.).

VII. Relief Requested. We request that the Chairman of the Consumer Product Safety Commission declare aerosolized consumer products containing vinyl chloride to be "banned hazardous substances," under the definition of 15 U.S.C. § 1261(q)(1) and under the authority granted the Chairman in § 1262. Moreover, under the authority of § 1265, the Chairman is requested to remove from sale such consumer products containing vinyl chloride as propellants and to prohibit the introduction of such aerosolized products containing vinyl chloride into interstate commerce.

The chronic toxicity and evidence of carcinogenicity of vinyl chloride monomer for humans has been documented by scientific studies and clinical reports. Further use of vinyl chloride monomer as a propellant for aerosolized consumer products must be prohibited since there is no evidence that human beings can safely be exposed to the chemical.

Dated: Washington, D.C., February 21, 1974.

Respectfully submitted,
ANDREA M. HRICKO.

SIDNEY M. WOLFE, M.D.,
2000 P. Street, N.W. #708
Washington, D.C. 20036.

REFERENCES

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- Federal Register*, Vol. 38, No. 95, May 15, 1973, p. 12931.
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[FR Doc.74-11936 Filed 5-22-74; 8:45 am]

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MANUFACTURING CHEMISTS ASSOCIATION

1825 CONNECTICUT AVENUE, N.W. WASHINGTON, D.C. 20009 (202) 483-6126

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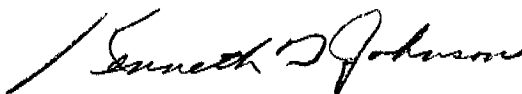
To the Management Contacts of Companies Supporting
the Vinyl Chloride Research Program
and the
Technical Task Group on Vinyl Chloride Research

Subject: Proposed Permanent Standards
for Vinyl Chloride

Gentlemen:

Distributed herewith are copies of the OSHA proposal in the Federal Register for Friday, May 10, with respect to permanent occupational health standards for vinyl chloride. Please note that comments and/or requests for a public hearing should be submitted to the Docket Officer, Docket OSH-36, Room 230, 1726 M Street, N.W., Occupational Safety and Health Administration, Washington, D. C. 20210, post-marked not later than June 10.

Sincerely,



Kenneth D. Johnson, Ph.D.
Secretary - Technical Task
Group on Vinyl Chloride Research

KDJ:mb

Attachment

cc : Mr. A. W. Barnes
D. P. Duffield, M.D.
Dr. Tiziano Garlanda

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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 $\pm$ 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 unforeseen 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

PROPOSED RULES

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

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

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.

(1) *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 the 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, calendaring 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 biochemical 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 glutamyl 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 (c) (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 re-screening, serum testing shall be repeated in three months.

(8) If abnormalities persist upon re-screening, 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.

PROPOSED RULES

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 in 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:

PROPOSED RULES

(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 access 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]

ASI 000017907

Category	Twelve-month level of restraint
224	8,589,744 pounds (of which not more than 200,000 pounds shall be in T.S.U.S.A. Nos. 380.0420 and 380.8143, and not more than 600,000 pounds shall be in T.S.U.S.A. Nos. 360.0402 and 380.8103)*

*The amended submittals have not been adjusted to reflect any entries made on or after October 1, 1973.

The actions taken with respect to the Government of the Republic of China and with respect to imports of man-made fiber textile products from the Republic of China have been determined by the Committee for the Implementation of Textile Agreements to involve foreign affairs functions of the United States. Therefore, the directions to the Commissioner of Customs, being necessary to the implementation of such actions, fall within the foreign affairs exception to the rule-making provisions of 5 U.S.C. 553. This letter will be published in the FEDERAL REGISTER.

Sincerely,

SETH M. BODNER,
Chairman, Committee for the Implementation of Textile Agreements, and Deputy Assistant Secretary for Resources and Trade Assistance.

[FR Doc.74-10794 Filed 5-8-74;8:45 am]

CONSUMER PRODUCT SAFETY COMMISSION

CYANOACRYLATE-BASED ADHESIVES

Commission Decision Regarding Cyanoacrylate-Based Adhesives

The purpose of this notice is to announce the Commission's decision in regard to the action it will take concerning cyanoacrylate based adhesives used in or around the household. In response to a letter dated September 19, 1973, from Consumers Union, the Consumer Product Safety Commission began an investigation into the safety aspects of cyanoacrylate based adhesives.

Staff information based on testing indicated that cyanoacrylate glues are "hazardous substances" within the meaning of that term under the Federal Hazardous Substances Act because they are eye irritants. As such, these glues are deemed "misbranded" under the Act unless properly labeled. As a result of the Commission's investigation, the Commission staff discovered that several cyanoacrylate adhesive products were "misbranded" under the Federal Hazardous Substances Act because they were not properly labeled in regard to eye irritation. The Commission has taken appropriate measures pursuant to the Federal Hazardous Substances Act to ensure compliance with the Federal Hazardous Substances Act in this regard.

On February 27, 1974, the Commission held a hearing to obtain information and views on other safety aspects of cyanoacrylate adhesives, particularly the characteristic of this product to almost

instantaneously bond skin to skin. As a result of these hearings, investigation by the Commission staff, laboratory data, and literature relating to the safety and use of cyanoacrylate adhesives, the Commission concludes that, at this time, the consumer is not subject to an unreasonable risk of injury from the fast-bonding characteristic of cyanoacrylate adhesives.

In the event that a consumer accidentally (or intentionally) bonds skin to skin, simple procedures such as peeling (rolling) apart the bonded parts rather than pulling apart with a direct opposing action will provide relief. Accordingly, other than insuring compliance with the labeling provision of the Federal Hazardous Substances Act, the Commission does not intend to take further action with regard to cyanoacrylate adhesives at this time.

This decision does not, however, preclude the Commission from reconsidering its position if the receipt of additional data or information should so warrant.

Dated: May 6, 1974.

SADYE E. DUNN,
Secretary, Consumer Product Safety Commission.

[FR Doc.74-10746 Filed 5-8-74;8:45 am]

VINYL CHLORIDE-CONTAINING SELF-PRESSURIZED PRODUCTS

Requirement for Notification as a Potential Substantial Product Hazard

The purpose of this publication is to give notice that the Consumer Product Safety Commission has determined that self-pressurized consumer products containing vinyl chloride as a propellant or ingredient are products with a defect which could create a substantial product hazard. Therefore, anyone who is manufacturing, or has manufactured, such products is required to submit certain information (specified below) to this Commission.

Section 15(b) of the Consumer Product Safety Act (15 U.S.C. 2064(b)) requires every manufacturer of a consumer product distributed in commerce, and every distributor and retailer of such product, who obtains information which reasonably supports the conclusion that such product contains a defect which could create a substantial product hazard, to immediately inform the Commission of such defect, unless such manufacturer, distributor, or retailer has actual knowledge that the Commission has been adequately informed of such defect. Failure to furnish information required by section 15(b) is unlawful under section 19(a) (4) of the act (15 U.S.C. 2068(a) (4)) and may subject a person who so fails to civil and/or criminal penalties.

To implement section 15(b) of the act, the Commission, on February 19, 1974, published regulations (16 CFR Part 1115) in the FEDERAL REGISTER (39 FR 6061), effective March 21, 1974, setting forth the time, manner, and content of noti-

fications necessary to adequately inform the Commission of consumer product defects which could create a substantial risk of injury. The preamble of this Part 1115 indicates that the notification requirements under section 15(b) of the act are applicable to products subject to regulation under authority of the acts transferred to the Commission by section 30 of the Consumer Product Safety Act (15 U.S.C. 2079). These transferred acts include the Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.), the Poison Prevention Packaging Act of 1970 (15 U.S.C. 1471 et seq.), the Flammable Fabrics Act (15 U.S.C. 1191 et seq.), and the Refrigerator Safety Act (15 U.S.C. 1211 et seq.). The aforementioned transferred acts have been brought under the notification requirements of section 15(b) of the Consumer Product Safety Act because, as stated in the preamble to Part 1115: "Upon considering the numerous possibilities of risk to the consuming public by products falling within the authority of these acts, the Commission finds under section 30(d) of the [Consumer Product Safety] Act that such risks can neither be eliminated nor reduced to a sufficient extent in a timely fashion unless the Commission is notified under section 15(b) of the act. This finding by the Commission is based on the fact that none of the provisions of the transferred acts require notification to be made to the Commission upon the obtaining of information which reasonably supports the existence of a substantial product hazard. The Commission has determined this type of notification to be essential for the purpose of protecting the consuming public against unreasonable risks of injury associated with consumer products . . ."

Therefore, the Commission has determined that notifications must be made for vinyl chloride-containing products irrespective of the fact that such products are subject to regulation under the Federal Hazardous Substances Act. This determination, however, does not mean that such products will necessarily be regulated under the Consumer Product Safety Act. Since a notification under section 15(b) does not signify automatic regulation of the product under the Consumer Product Safety Act, the Commission intends to regulate vinyl chloride-containing products under provisions of the Federal Hazardous Substances Act.

Additionally, the Commission notes that manufacturers of vinyl chloride-containing consumer products in general form must provide the information specified below even though the particular product may not have been distributed in commerce after May 14, 1973 (the date of establishment of the Consumer Product Safety Commission). As stated in the preamble to 16 CFR Part 1115, manufacturers who obtain information after May 14, 1973, that one of their products contains a defect which could create a substantial product hazard, are required to comply with the notification requirements of section 15(b) of the act even though the product was distributed in commerce prior to May 14, 1973.

ASI 000017908

The determination that self-pressurized consumer products containing vinyl chloride contain a defect which could create a substantial product hazard is based on recent information on the possible toxicity of vinyl chloride monomer as a propellant or ingredient in the propellant-solvent system of self-pressurized consumer products. The grounds for this determination are as follows:

(1) Human data showing production of angiosarcomas in certain individuals who have worked in plants manufacturing polyvinyl chloride polymers and/or vinyl chloride monomer; and

(2) Animal data showing production of various tumors, including angiosarcomas, in rats exposed to inhalation of vinyl chloride monomer (Professor Cesare Maltoni, Istituto di Oncologica, Bologna, Italy).

These data are contained in the transcript of an "Informal Fact Finding Hearing on Possible Hazards of Vinyl Chloride Manufacture and Use", U.S. Department of Labor, Occupational Safety and Health Administration, February 15, 1974. A copy of this document is available for public inspection at the Office of the Secretary, Consumer Product Safety Commission, 1750 K Street NW., Washington, D.C. 20207.

The Commission has received a petition from the Health Research Group "to immediately prohibit the continued use of vinyl chloride as a propellant for aerosolized consumer products and to remove all products containing vinyl chloride as a propellant from the market because there is substantial evidence that vinyl chloride is carcinogenic." A notice proposing a ban under the Federal Hazardous Substances Act will be published in the near future and will include a copy of the petition.

Accordingly, the Consumer Product Safety Commission, pursuant to section 6(c) of the Consumer Product Safety Act (15 U.S.C. 2055(c)), hereby informs manufacturers of self-pressurized consumer products containing vinyl chloride monomer as a propellant or ingredient in their propellant-solvent system that the Commission considers such products to contain a defect which could create a substantial product hazard.

Although 16 CFR 1115.7(a) sets forth 23 specific items of information to be submitted in writing to the Commission, this notice, pursuant to § 1115.7(d), requires that information submitted to the Commission in this instance include only the 7 items listed below. Additional information may, of course, also be submitted. Therefore, manufacturers of consumer products (as that term is defined in section 3(a)(1) of the Consumer Product Safety Act (15 U.S.C. 2052(a)(1))) in self-pressurized form that contain vinyl chloride monomer as a propellant or ingredient in their propellant-solvent system are required, under section 15(b) of the Consumer Product Safety Act (15 U.S.C. 2064(b)) and regulations issued thereunder (16 CFR Part 1115), to provide the following information in writing to Dr. Alan Ehrlich, Of-

fice of Standards Coordination and Appraisal, Consumer Product Safety Commission, Washington, D.C. 20207 (301 496-7698) on or before May 20, 1974.

(1) Identification of specific self-pressurized products by type and brand, in which vinyl chloride monomer is now, or has been, used as a propellant or ingredient of the propellant-solvent system;

(2) Production and sales history including inventory turnover rates through the entire chain of distribution of vinyl chloride monomer as a propellant or ingredient of the propellant-solvent system of self-pressurized products;

(3) Identifying features, such as use of package designs or production codes that will identify the self-pressurized products containing vinyl chloride monomer as a propellant or ingredient in the propellant-solvent system;

(4) Patterns of consumer usage for self-pressurized products containing vinyl chloride monomer as a propellant or ingredient in the propellant-solvent system, including frequency and duration of exposure, and place and purpose of use;

(5) If available, acute and chronic toxicity data relative to vinyl chloride and products containing vinyl chloride;

(6) If available, human experience data relative to vinyl chloride and products containing vinyl chloride, including adverse effects and associated disease entities believed to be relevant;

(7) If available, special studies, such as metabolic, mutagenic and teratologic studies involving vinyl chloride.

In accordance with 16 CFR 1115.9, information submitted to the Commission in response to this notice shall be signed either by the chief executive officer of the notifying company or by the person to whom the responsibility has been delegated in writing.

Dated: May 6, 1974.

SADYE E. DUNN,
Secretary, Consumer Product
Safety Commission.

[FR Doc. 74-10732 Filed 5-8-74; 8:45 am]

ENVIRONMENTAL PROTECTION AGENCY

[OPP-32000/55]

NOTICE OF RECEIPT OF APPLICATIONS FOR PESTICIDE REGISTRATION DATA TO BE CONSIDERED IN SUPPORT OF APPLICATIONS

On November 19, 1973, the Environmental Protection Agency published in the Federal Register (38 FR 31862) its interim policy with respect to the administration of section 3(c)(1)(D) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended (86 Stat. 979), and its procedures for implementation. This policy provides that EPA will, upon receipt of every application, publish in the Federal Register a notice containing the information shown below. The labeling furnished by the appli-

cant will be available for examination at the Environmental Protection Agency, Room EB 37, Post Tower, 401 M Street SW., Washington, D.C. 20460.

On or before July 8, 1974, any person who (a) is or has been an applicant (b) desires to assert a claim for compensation under section 3(c)(1)(D) against another applicant proposing to use supportive data previously submitted and approved, and (c) wishes to present his opportunity for determination of reasonable compensation by the Administrator must notify the Administrator and the applicant named in the Federal Register of his claim by certified mail. Every such claimant must include, at a minimum, the information listed in this interim policy published on November 19, 1973.

Applications submitted under 2(a) or 2(b) of the interim policy in regard to usage of existing supportive data for registration will be processed in accordance with existing procedures. Applications submitted under 2(c) will be held for the 60-day period before commencing processing. If claims are not received, the application will be processed in normal procedure. However, if claims are received within 60 days, the applicants against whom the particular claims are asserted will be advised of the alternatives available under the Act. No claims will be accepted for possible EPA adjudication which are received after the July 8, 1974.

APPLICATIONS RECEIVED

EPA File Symbol 33761-E, AGRI-future Company, 15708 Loop Road, Burnsville, Minnesota 55337, "Sennatic" I Seed Box Seed Protectant. Active Ingredients: Manel (Manganese ethylenebisdithiocarbamate) 40.0%; HCB (Hexachlorobenzene) 10.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 33761-R, AGRI-future Company, 15708 Loop Road, Burnsville, Minnesota 55337, "Sennatic" II Seed Box Seed Protectant. Active Ingredients: Captan N (trichloromethylthio)-1-cyclohexene-1,2-dicarboximide 20.0%; Manel (Manganese ethylenebisdithiocarbamate) 20.0%; Lindane (Gamma Isomer of Benzene Hexachloride) 18.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA Reg. No. 274-277, Amchem Products, Inc., Brookside Avenue, Ambler, Pennsylvania 19003, Amchem Ethrel Plant Regulator. Active Ingredients: Ethrelon [(2-chloroethyl) phosphonic acid] 21.3%. Method of Support: Application proceeds under 2(a) of interim policy.

EPA File Symbol 33761-RNO, Fats Entec, Inc., 4636 Somerset Road, Trossen, Pennsylvania 19047, Fats Entec 341. Active Ingredients: Sodium dimethyl dithiocarbamate 16.0%; Nabam (disodium ethylene bisdithiocarbamate) 15.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 33760-R, Miss Rose Caputo, 229 Park Avenue South, New York, New York 10003, Authorized agent for I.P.L.C.I.—Industria Prodotti Chimici S.p.A. NOVATE MULATRE-LEALE, Atrazine Technical. Active Ingredients: 2-chloro-4-ethylamino-6-isopropylpyrimidin-3-ylamine 96%. Method of Support: Application proceeds under 2(c) of interim policy.

(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 trace-back 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 exposure 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 $\pm$ 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 work practice 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 unforeseen 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.

(4) 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 in 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 (f) (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.

(1) *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 biochemical 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 glutamyl 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 (c) (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 re-screening, serum testing shall be repeated in three months.

(8) If abnormalities persist upon re-screening, 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.

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(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 access 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 8764))

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 exits 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. McLENNAN, Jr.,
Acting Director,
Flight Standards Service.

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

[14 CFR Part 39]

[Docket No. 74-177-4-AD]

AIRWORTHINESS DIRECTIVES

Boeing Model 737-100/200 Series
Airplanes

The Federal Aviation Administration is considering amending Part 39 of the