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TO	FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.	DATE YOUR LETTER
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FROM	**FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.**	**DATE THIS LETTER**
G. D. Schaaf	Cleveland	April 11, 1974

SUBJECT

Personnel Monitoring

TO:

A. W. Clements	- Long Beach	J. J. Dunn	- Welland
F. C. Dilley	- Long Beach	J. Nagy	- Welland
C. L. Woods	- Calvert City	J. Brooks	- Shawinigan
R. A. Spurlock	- Calvert City	P. Plante	- Shawinigan
C. B. Cooper	- Henry	P. H. Lawrence	- Louisville
R. L. Ehnle	- Henry	M. D. Schrader	- Louisville
R. N. Rylands	- ALGC	A. R. Webber	- Pedricktown
W. T. Gunning	- ALGC	T. B. Johnson	- Pedricktown
R. M. Kreager	- ALTC	P. R. Schwaegerle	- Gloucester
S. C. Alten	- ALTC	K. W. Campbell	- Gloucester
R. A. Krueger	- ITC	J. M. Black	- Lansing
E. Tereck	- ITC	J. A. Good	- Lansing

The Temporary Emergency OSHA Standards issued April 5, 1974, specifies personnel monitoring to determine the vinyl chloride concentration by April 22, 1974. Mr. E. B. Katzenmeyer has done personnel monitoring at the Avon Lake General Chemical plant and is currently conducting a survey at the Louisville plant. His preliminary data indicates good correlation with Bendix and OVA residual vinyl chloride results. We shall consider our present OVA and Bendix monitoring to fulfill the OSHA requirements for personnel monitoring until suitable equipment and procedures are set up for personnel monitoring at each individual plant.

The Ambient Vinyl Chloride Standards Committee has agreed upon the following program. Each Plant Manager should select a man to coordinate personnel monitoring at his plant. A training program is being set up by Mr. Paul Zakriski to train your representative on the proper sampling and analytical procedures. This program is tentatively arranged for April 25th at the Avon Lake Technical Center. The arrangements for your people will be handled by Mr. Pete Dmyterko at the Avon Lake Technical Center. Please have your representative contact him for additional information.

Herm Waltemate has ordered personnel monitoring pumps for your plants. The following plants will receive four pumps each -- Avon Lake, Louisville, Henry, Pedricktown, Long Beach, and Calvert City. Two pumps are being sent to ITC, Lansing, Gloucester, Shawinigan, and Niagara Falls. Other equipment such as the type of carbon trap to be used, etc., will be explained at the training sessions.

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The temporary OSHA standard requires monitoring for three consecutive weeks in areas where vinyl chloride or PVC is manufactured and processed. This will initially be interpreted to mean all PVC and Process Buildings where we are currently monitoring for vinyl chloride concentrations. We propose to check three different job classifications in such areas on a weekly basis. Three different operators can be monitored at the same time. The pump and sampling will require a period of four hours for sample collection. At the end of this time the carbon trap will be removed and taken to the lab for analysis by gas chromatography. If after three successive weeks of monitoring we can show substantial agreement with our Bendix and OVA data, the frequency of monitoring can be reduced to once per month, providing the results do not show concentrations exceeding 50 parts per million.

Employees working in areas to be monitored should be given an opportunity to observe the monitoring procedures. Records of all data must be kept in writing for at least five years and must be available for OSHA and employee review. Each employee shall be notified if he is exposed to vinyl chloride concentrations of greater than 50 parts per million and what steps are being taken to lower these concentrations.

A copy of the Emergency Temporary OSHA Standards is attached for a more detailed explanation of these requirements.

Your cooperation in implementing this program is appreciated.

G. D. Schaaf

GDS/cls
Atts.

cc: H. Waltemate
E. B. Katzenmeyer, Jr.
E. W. Harrington
C. R. Flynn
L. B. Crider
J. W. Gressler
J. G. DiSalvo
D. A. Brooks
P. Dmyterko
E. G. Schwaegerle
J. L. Nelson
R. D. Scott
B. M. G. Zwicker
W. J. Wilcox
A. M. Fairlie

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CHAPTER XVII—OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Emergency Temporary Standard for Exposure to Vinyl Chloride

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 tissues, electrical insulation, pipe, conduit and a variety of other products. Vinyl chloride has been made commercially in this country since 1939 and present production is in excess of seven billion pounds per year.

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

On January 22, 1974, the Occupational Safety and Health Administration was informed by the National Institute for Occupational Safety and Health (NIOSH) that the B. F. Goodrich Chemical Company reported that deaths of several of its employees from a rare form of liver cancer may have been occupationally related. As a result of this notification, and after consultation with NIOSH and a joint inspection of the plant by OSHA, NIOSH, and the Kentucky Department of Labor, a fact-finding hearing on possible hazards involved with the manufacture and use of both VC and polyvinyl chloride was announced on January 30, 1974 (39 FR 3674), and held on February 15, 1974.

2. *Carcinogenicity of VC.* Information produced at the hearing demonstrated that exposure of laboratory animals (mostly Sprague-Dawley rats) to VC by inhalation at and below the current OSHA standard of 500 ppm induced tumors, including angiosarcomas of the liver. Professor Cesare Maltoni, of the Instituto di Oncologia, Bologna, Italy, reported on a series of experiments on the effect of exposure of rats, mice, and hamsters to VC at concentrations of 10,000; 6,000; 2,500; 500; 250; and 50 ppm for varying periods of time (TR 42–53). Some of the experiments have been concluded, and others are still ongoing. The experimental results so far reported are that tumors have been observed in groups of animals exposed to VC at concentrations as low as 250 ppm. No tumors have been observed in the group of animals exposed to VC at a concentration of 50 ppm. It also appears so far that the total number of tumors, as well as the numbers of angiosarcomas of the liver, decrease as the concentrations of VC are reduced to 250 ppm. Finally, another experiment by Professor Maltoni is underway involving the exposure of 300 animals to VC at concentrations of 50 ppm, in order to assess in a more definitive way whether that level of exposure produces tumors in animals. Data reported by Torkelson, Oyen and Rowe (American Industrial Hygiene Association J 22:351–361 (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 10 years to vinyl chloride, at unknown concentrations, and variable exposures to other volatile chemicals. (TR 93). Some employees of Union Carbide Company and Goodyear Company are also reported in a post-hearing comment from NIOSH dated March 11, 1974, to have had exposure to vinyl chloride and to have died from angiosarcoma of the liver. Finally, autopsies of four deceased employees revealed that liver angiosarcoma tumors were histologically indistinguishable from the angiosarcoma tumors observed in Professor Maltoni's experimental animals. It is concluded therefore, that vinyl chloride is carcinogenic for humans.

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

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

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

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

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

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

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

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

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

With respect to arguments in opposition to issuance of an emergency temporary standard, the concern and efforts of several companies participating at the hearing for the protection of their employees are recognized. It may also be that some employers in some plants have fully complied with the interim controls recommended by NIOSH on January 30, 1974. There is, however, reason to believe that employees are currently being exposed to VC at concentrations well above 50 ppm. This was asserted several times at the hearing, and not seriously questioned. Moreover, a report, dated March 1974, of a survey by the staff of the Office of Standards Development, OSHA, of several facilities manufacturing VC and polyvinyl chloride revealed concentrations for some job classifications as high as 220 ppm. Therefore, a regulation is considered necessary to provide, immediately, adequate protection to workers ex-

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

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

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

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

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

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

1. In 29 CFR Part 1910, § 1910.93 is amended by deleting from Table G–1 the line: "* * * C Vinyl chloride * * * 500 * * * 1309".

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

§ 1910.93q Vinyl chloride.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 1910.19 Special provisions for air contaminants.

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

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

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

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

(Secs. 4, 6, and 8, 84 Stat. 1592, 1600, 1609 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71, 36 FR 8754.)

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

JOHN STENDER,
Assistant Secretary of Labor.

[FR Doc.74–7690 Filed 4–4–74;8:45 am]

Federal mandatory crude allocation program in its present form. The Federal Energy Office has now proposed changes to this program. For these reasons it has been decided to retain the historical basis for making allocations of Canadian imports into Districts I–IV. The major change is a provision that requires that a person having an allocation of Canadian imports must process the entire volume of Canadian imports in his own facility.

The changes to section 33 are strictly technical in nature with the exception of the licensing periods referred to above.

This amendment also amends section 3 to provide that entries for consumption of Canadian imports by pipeline under a license issued pursuant to these regulations may be made until midnight of May 15, following the end of the allocation period in which the license authorizing such imports from Canada was issued. This fifteen day overlap is necessary to prevent disruption of pipeline operations at the end of each allocation period.

This amendment 65 becomes effective on April 5, 1974.

WILLIAM A. VOGELY,
Acting Deputy Assistant Secretary of the Interior.

Approved

WILLIAM E. SIMON,
Deputy Secretary of the Treasury.

A new paragraph (f) is added to section 3 to read as follows:

Sec. 3. Allocation periods.

* * * * *

(f) Notwithstanding the provisions of paragraphs (a) and (c) of this section entries for consumption of Canadian imports by pipeline may be made until midnight of May 15 following expiration of the allocation period in which a license authorizing such imports from Canada was issued.

Section 29 is amended in its entirety to read as follows:

Sec. 29. Canadian Imports—Districts I–IV.

(a) As used in this section, the term "Canadian imports" means imports from Canada of crude oil which has been produced in Canada and unfinished oils which have been derived from crude oil or natural gas produced in Canada and which have been transported into the United States by overland means or over waterways other than ocean waterways.

(b) To be eligible for an allocation of imports under this section, a person must have in Districts I–IV a facility capable of processing Canadian imports.

(c) The Director shall, in accordance with the terms of paragraph (d)(1) of this section, make allocations for the allocation period May 1, 1974 through April 30, 1975 of not to exceed 762,000 average barrels daily of Canadian imports into Districts I–IV.

(d)(1) The Director shall make allocations not subject to license fees of Canadian imports to eligible applicants who received allocations of such imports for the period January 1, 1973 through December 31, 1973, pursuant to section 23 or from the Oil Import Appeals Board under section 21, or from both. Each such applicant shall be entitled to an allocation of Canadian imports calculated in accordance with the following formula:

$$\frac{\text{Sum of each eligible applicant's allocation of Canadian imports in 1973 pursuant to section 23 and section 21-expressed in barrels per day}}{\text{Sum of all allocations of Canadian imports in 1973 pursuant to section 23 and section 21-expressed in barrels per day}} \times 762{,}000 \text{ barrels/day}$$

(2) The Director shall issue before May 1, 1974 to each eligible applicant a license equal to one half of the allocation calculated pursuant to subparagraph (1) of this paragraph. Such licenses shall expire on October 31, 1974 unless extended by the Director. The Director shall issue before November 1, 1974 a second license to each eligible applicant equal to the remainder of the allocation calculated pursuant to subparagraph (1) of this paragraph. Such licenses shall expire on April 30, 1975.

(e)(1) Except as provided for in subparagraph (2) of this paragraph a person who imports Canadian imports must process all such imports in his own facility. For the purpose of this paragraph, blending by mechanical means does not constitute processing.

(2)(i) Canadian imports may be exchanged on a barrel for barrel basis for other Canadian imports but each person receiving crude oil or unfinished oils in the exchange must process the crude oil or unfinished oil received in his own facilities. Settlements, credits, monetary or accounting adjustments reflecting the relative values of the oils involved in the exchange are permissible.

(ii) Canadian imports which are sold to meet the requirements of regulations published by the Federal Energy Office shall not be subject to the provisions of paragraph (e) of this section.

(f) If a person who receives an allocation of Canadian imports under this section fails to import the total quantity of imports specified in the allocation, or if he fails to process all such imports (or Canadian imports received in exchange for such imports) in his facilities before July 1, 1975, or if he fails to meet the requirement of paragraph (e) of this section, then any allocation of Canadian imports for Districts I–IV to which such person may otherwise be entitled for the first allocation period beginning after April 30, 1975 shall be reduced by the Director by the amount of Canadian

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