



RUBBER MANUFACTURERS ASSOCIATION

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VC-3

May 8, 1974

TO: Manufacturers and Users of Vinyl Chloride/Polyvinyl Chloride
SUBJECT: OSHA Program Directive #200-29

Gentlemen:

Enclosed for your information is the subject document which provides the guidelines to be followed by OSHA Compliance Officers in inspections regarding the standard on vinyl chloride published on April 5, 1974.

Also enclosed are the following:

1. OSHA Program Directive #200-18, "Revised Inspection Priorities," dated May 2, 1973.
2. Vinyl Chloride SIC Code Numbers
3. OSHA Questionnaire to be filled out by Compliance Officers when conducting VC inspections to provide OSHA with data to consider in developing a permanent standard.

These documents should provide a better understanding of the April 5th Emergency Temporary Standard as well as serving as a guide in achieving compliance.

Frank T. Ryan
Secretary
RMA Occupational Safety
& Health Committee

FTR:clc

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U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
WASHINGTON, D.C. 20210



APR 23 1974
April 23, 1974

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OSHA PROGRAM DIRECTIVE #200-29

To: Associate Assistant Secretaries and Assistant Regional Directors/OSH

Subject: Citations and Inspections Regarding 29 CFR 1910.93q, Emergency
Temporary Standard for Exposure to Vinyl Chloride

- Attachments: 1. Federal Register, Part 1910: 29 CFR 1910.93q, Subject: "Emergency Temporary Standard for Exposure to Vinyl Chloride," dated April 5, 1974.
2. OSHA Program Directive #200-18, Subject: "Revised Inspection Priorities," dated May 2, 1973.
3. Vinyl Chloride SIC Code Numbers.
4. Questionnaire, Subject: "Vinyl Chloride Facilities."

1. Purpose

This directive provides guidelines to be followed in inspections and in issuance of citations, where necessary, regarding the standard on vinyl chloride contained in 29 CFR 1910.93q.

2. Documentation Affected

This directive amends the instructions in the Field Operations Manual and supplements OSHA Program Directive #200-18.

3. Explanation (29 CFR 1910.93q)

- a. The following lettered, numbered paragraphs are subsections paraphrased from the standards.

(a)(1) Area or operation refers to, but is not limited to, activities or processes such as:

- o Manufacturing or processing of vinyl chloride (VC) or polyvinyl chloride (PVC).
- o Loading and unloading of VC and PVC (powder in bulk) relative to shipments.
- o Sampling and analysis of VC and PVC for quality control during their manufacturing processes.
- o Compounding PVC into powder or resin.

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- o Pouring PVC powder or resin from bags or containers.
- o Packaging PVC resin powder.
- o Maintenance and repair of vessels and/or reactors containing VC or PVC.
- o Maintenance and repair of storage silos for PVC.
- o Leakage of VC in any area, particularly in processing areas.

(b) Permissible exposure refers to a ceiling value of 50 parts per million (ppm) of VC. It does not mean a time-weighted-average (TWA) exposure of 50 ppm of VC with results which fluctuate above and below 50 ppm.

(c)(2) Frequency. Monitoring of a sufficient number of employees so that a representative sample may be determined means that the employer shall monitor at least 75 percent of the production, maintenance, sampling, laboratory and shipping employees on each shift. The employees monitored shall be representative of each operation performed where exposure is likely to occur. Initially, representative employees from every operation should be monitored. Afterwards, where it is established that there is no likelihood of exposure for employees in certain operations, such as those in offices, these employees may be exempted from monitoring requirements.

(c)(3) Method of monitoring. Personnel monitoring refers to measurements made by the employer of employee exposures. Samples should be taken at the breathing zone of the employee at the times when the highest exposures of VC are likely to occur. The standard (or this directive) does not specify the method of analyses that the employer must use; only that the procedure be sensitive to 50 ppm of VC in air with an accuracy of ± 20 percent for a 10-minute air sample.

b. Citations.

(1) Issuance.

Each provision of 29 CFR 1910.93q became effective April 5, 1974. This means that from April 5, 1974, citations may be issued for any failure to comply, except for monitoring, which is not required until after April 22, 1974.

(2) Categories.

In evaluating violations of the standards, the guidelines of the Compliance Operations Manual, January 1972, are to be followed regarding serious and nonserious and grouping.

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a. Imminent Danger.

- (1) Violation of 2(b) and 2(d) of 29 CFR 1910.93q exposes employees to the recognized hazard of VC in excess of 50 ppm. Therefore, such a violation may be considered for possible issuance of a Notice of Alleged Imminent Danger, depending on the facts and circumstances in each case. Circumstances permitting the issuance of a Notice of Alleged Imminent Danger would be where it is determined that employees at their breathing zones are exposed in excess of 50 ppm to VC and are not wearing the required respiratory protection. Supplied air respirators, either in continuous flow or pressure demand or self-contained breathing apparatus (SCBA) (MESA or NIOSH-approved) are required when concentrations of VC are in excess of 50 ppm.
- (2) Alleged violations will be supported by compound label information, employee statements, photographs, ventilation measurements, other observed facts, measurements and samples taken.
- (3) No Notice of Alleged Imminent Danger will be posted where the employer voluntarily eliminates direct internal contact with VC substance(s) by removing the employees or by providing interim measures for their protection until permanent correction of the dangerous condition can be accomplished. In the citation(s) that is(are) issued later, the interim protective measures will be required until the date set for permanent correction of the danger.
- (4) Where the employer refuses to eliminate the recognized hazard, citations will be issued only after initial court proceedings have been concluded regarding the imminent danger.
- (5) If, on an inspection for any reason after April 22, 1974, it is learned that the employer has not monitored the ambient air and/or the employees, a citation will be issued. It seems most likely that the violation would be nonserious; however, each case must be evaluated on its own merits and becomes a matter of judgment for the CSHO.

4. Action (29 CFR 1910.93q)

a. Inspections.

- (1) Any establishment covered by the Act likely to have VC, may be inspected regardless of lists (including attachment 3) issued by the Office of Federal and State Programs or Regional Programs. The guidelines of the OSHA Program Directive #200-18 are to be followed regarding inspection priorities. VC shall be included in Special Programs and will precede the Target Health Hazard Program (THHP).

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- (2) Inspections will be conducted by only an OSHA or State Agreement industrial hygienist (CSHO).

b. Protective Equipment for the CSHO.

- (1) After April 22, 1974, when the CSHO goes to a VC or PVC plant to make an inspection, the monitoring records should be checked before beginning the inspection or touring the facilities to ascertain the necessary protective equipment.
- (2) The CSHO is required to utilize the principle of safe distance or the organic vapor respirator as protection in areas where it appears from the monitoring records that the exposure to VC is 50 ppm or less. It must be remembered that each cartridge of the respirator is not to be worn longer than 30 minutes.
- (3) If, from the monitoring records, it appears that there are areas in which the exposures to VC are in excess of 50 ppm, the CSHO shall wear either Type C continuous flow or pressure demand air supplied respirator or SCBA in these areas.
- (4) Normally, the CSHO would not enter areas where the employer has not monitored. However, if the CSHO must go in for a reason, such as a fatality, and the employer has not monitored, it will be assumed that the level of VC is above 50 ppm. Therefore, the CSHO will wear either Type C continuous flow or pressure demand air supplied respirator or SCBA in these areas.
- (5) In performing any inspection, the CSHO must exercise good judgment and make the appropriate evaluation as to the protection necessary for himself. Oftentimes a factor such as distance, in lieu of respiratory protection, can be useful as a protective measure.

c. Decontamination.

When appropriate, the instructions from the manufacturer may be used as guidelines for decontamination or deactivation of VC.

d. Monitoring for VC by the CSHO.

- (1) Personal breathing zone samples should be collected from employees where exposure to VC is likely. A Model SP-1 Sipsin personal sampling pump shall be used to collect the sample on NIOSH-approved charcoal tubes. The flow rate of the pump shall be no more than 50 ml/minute and the total sample size approximately 1 liter(1), and/or a sampling time of 20 minutes where a concentration of approximately 50 ppm is suspected. Where concentrations may be greater than 50 ppm, but less than 100 ppm, the sampling time should be 10 minutes; for concentrations greater than

100 ppm, but less than 200 ppm, the sampling time should be 5 minutes. All measurements should represent the time when exposures are likely to be the greatest, rather than random exposure throughout the workday. Generally, no more than eight tubes per worker, per day, should be submitted for analysis. One or two tubes may suffice if they represent the maximum exposures.

- (2) It is requested that the charcoal tubes with the vinyl chloride samples be forwarded to the OSHA/NIOSH Laboratory, Salt Lake City (SLC) on the same day that the samples are taken. For shipment of samples to the laboratory, the sample(s) must be placed in a double mailing container and the inner part of the container marked, "Cancer Causing Substance: Vinyl Chloride."

e. Completion of OSHA-35 Form.

After each inspection of an area where VC and PVC are manufactured, processed, used, repackaged, released, handled, or stored, the Area Director shall promptly forward to the Office of Management Data Systems a completed copy of OSHA Test Sample Log, OSHA-35 Form, giving the identification number of the vinyl chloride, 2580. This is mandatory--whether or not samples are taken.

f. Questionnaire.

The questionnaire (attachment 3) is for the purpose of obtaining information to assist in the preparation of a permanent standard on VC. The CSHO is requested to complete this questionnaire within 5 days after making an inspection of a VC facility. The questionnaire shall be submitted with a completed copy of the OSHA-1 Form to:

U.S. Department of Labor
Occupational Safety and Health Administration
Division of Occupational Health Programing
1726 M Street, N.W., Room 760
Washington, D.C. 20210

As soon as the results of analyses from samples taken on the inspection are received, an OSHA-35 Form should be prepared and submitted. These forms, OSHA-1 and OSHA-35, are in addition to, not in lieu of, those required by the Office of Management Data Systems.

g. Special Problems.

Special problems presented during inspections will require interpretation of the standard in light of the specific situation found. The National Office, Division of Occupational Health Programing, should be consulted on such interpretative problems.

5. Effective Date

This directive is effective immediately and shall be retained until further notice.

Barry J. White

Barry J. White
Associate Assistant Secretary
for Regional Programs

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U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
WASHINGTON, D.C. 20210



CPL

May 2, 1973

OSHA PROGRAM DIRECTIVE #200-18

To: National Office Directors and Regional Administrators

Subject: Revised Inspection Priorities

1. Purpose

The purpose of this directive is to describe a revised system of inspection priorities and to provide instructions for implementation. This constitutes the first formal revision of the Occupational Safety and Health Administration (OSHA) original inspection priorities and is necessitated by the changing requirements of the compliance program. Recently established program elements, (Special Emphasis Program, "Regional Selection"), have been incorporated in the revised system and needed new categories, such as Temporary Emergency Standards, have been formally recognized. Implementation instructions include specific instructions provided in the various categories and general instructions pertaining to the system of inspection priorities.

2. Documentation Affected

This directive revises the instructions given in the Compliance Operations Manual, Chapter IV, Sections A and B and supplements Program Directives, #200-13 and #200-14.

3. Background

In the course of the last 6 months the Office of Federal and State Operations has reviewed the recommendations submitted by a number of task forces. Some of these recommendations have been circulated for internal review and were discussed at periodic meetings. The comments and suggestions of Regional Office and National Office officials have been taken into consideration. The revised system described here is the result of these deliberations and reflects the consensus of the thinking involved.

4. Action

a. OSHA Inspection Priorities.

- (1) Investigation of Evidence of Imminent Danger.
- (2) Catastrophe and Fatality Investigations.

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- (3) Investigation of Valid Complaints.
- (4) Special Programs.

- o Regional Selection
- o Special Emphasis Programs (Such as Trenching and Excavation Cave-ins)
- o Temporary Emergency Standards
- o Target Health Hazard Program (THHP)
- o Target Industry Program (TIP)

NOTE: The Special Programs listed shall be given equal priority.

- (5) Random Selection.

b. Specific Instructions for Implementation.

- (1) The following guidelines shall be utilized in the investigation of catastrophes and fatalities. An investigation should be scheduled if any of the following conditions exist.
 - (a) Total combination of five or more fatalities or five or more employees hospitalized, or
 - (b) Those involving significant publicity, or
 - (c) Frequently recurring incidents of like nature, or
 - (d) Specific instructions issued for fatality and catastrophe investigations in connection with any Special Program.
- (2) The Deputy Assistant Secretary shall be notified prior to undertaking any major activity in "Regional Selection". Semiannual reports (due December 31 and June 30 of each year) shall be forwarded to the Office of Federal and State Operations. Include the following information:
 - (a) Brief, narrative description of the activity.
 - (b) Brief description of significant problems.
 - (c) Possible suggestions (optional) which may be useful in similar industries or operations.

c. General Instructions for Implementation.

- (1) Percentage guidance for the five categories is not given at this time. Regional Administrators should make the necessary arrangements for adequate servicing of all priority categories.

- (2) The policy concerning reinspection and followup inspections is currently under study. Instructions appearing in Program Directives, #200-13 and #200-14, should be considered as guidance pending revision.
- (3) The following priorities shall be utilized for industrial hygienist personnel.
 - (a) Respond to complaints.
 - (b) Respond to critical CSHO and NIOSH referrals.
 - (c) Special Programs inspections.
 - (d) Respond to referrals of noncritical nature.
 - (e) Random selection.
- (4) In the event special data reports are needed for such program categories as "Regional Selection", Regional Administrators should contact the Office of Management Data Systems and request a compilation of the data reports needed.

5. Effective Date

This directive is effective July 1, 1973 and shall be retained until further notice. The information contained in this directive will be incorporated into the next scheduled revision of the Compliance Operations Manual.

Chain Robbins

Chain Robbins
Deputy Assistant Secretary

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VINYL CHLORIDE SIC CODE NUMBERS

This list is not all inclusive, or restrictive. It gives some preliminary indication of where vinyl chloride (VC) monomer can be found. Many other locations will have vinyl chloride or polyvinyl chloride (PVC) powder or substances containing free vinyl chloride gas.

Vinyl chloride is shipped as a gas in tank car lots. Polyvinyl chloride is shipped as a dry powder in bags, barrels, and in bulk which may give off some vinyl chloride gas. Polyvinyl chloride is also shipped as a slurry or suspension, but this does not likely pose a vinyl chloride gas problem.

Many firms will be using polyvinyl chloride powders which release the gas (VC) when the bag or container is opened and the powder is poured. Vinyl chloride gas may also be released during the mixing and blending operations. After molding, it is believed that there is no problem with vinyl chloride gas in the finished product.

<u>SIC Number</u>	<u>Industry</u>
2821	Polyvinyl chloride and vinyl resins
5029	Gases, compressed and liquified
2851	Plastic base paints
3292	Vinyl asbestos tile
3079	Polyvinyl film, pipe; molding plastics
2818	Industrial organic chemicals
2813	Industrial gases
3357	Insulated wire

ADVANCE COPY**QUESTIONNAIRE: VINYL CHLORIDE (VC) AND POLYVINYL CHLORIDE (PVC) FACILITIES****1. General Plant Layout:**

- a. Is it an outdoor facility? _____
- b. How long has the plant been in operation? _____
- c. Is the equipment corroded? _____

- d. Is the equipment in need of maintenance? _____ Specify: _____

- e. Is the housekeeping good? _____ Poor? _____ In which
aspects? _____

- f. Where is the control room located? _____

- g. Other pertinent details re general plant layout: _____

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2. Raw Materials

- a. Indicate the raw materials: _____

- b. How are these handled? _____

- c. What provisions is made for their storage? _____
Silo? _____ Tank? _____ Car? _____
Bags? _____ Pressure area? _____ Other? _____

- d. What controls are enforced while these materials are in storage?

- e. Is entry to storage facilities accomplished with an air supplied mask? _____

If not, how? _____

- f. How are withdrawals of raw materials controlled? _____
Closed system? _____ Exhaust system? _____
Out of doors? _____ Other? _____

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3. Manufacturing Process

a. What process is used? _____

VC: Direct chlorination? _____

Oxychlorination? _____

Other? _____

PVC: Polymerization? _____

Wet? _____

Dry? _____

Other? _____

b. What is the method of recycle for the unreacted vinyl chloride? _____

c. In what form is the finished product? _____

Powder? _____

Pellets? _____

Gas? _____

Other? _____

d. How is it shipped? _____

e. What are the container sizes? _____

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4. Controls for the Containment of VC and/or Control of Reaction

a. What controls are utilized? _____

Describe: _____

Are the controls arranged to fail-safe? _____

b. Are two sources of supply provided for? _____

Cooling water? _____

Electricity? _____

Compressed air? _____

Refrigeration? _____

Are they automatic? _____

c. Where is the control room/area located? _____

Is it at positive pressure with respect to contaminated areas?

Is it at least 200 feet from major VC storage or processing? _____

d. Are written control/startup/shutdown procedures available to
operating personnel? _____

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5. Ventilation

a. What is the type of ventilation system? _____

Is it adequate? _____

b. Where is the air exhausted? _____

Is the air treated before exhaustion? _____ How? _____

c. Is makeup air introduced in sufficient volume to maintain correct operation? _____

Where does the makeup air come from? _____

Is it treated? _____ How? _____

Is it heated in the winter? _____

d. Is the entry air to the control room treated? _____

How? _____

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6. Waste Materials

a. What is the disposition of waste materials? _____

Buried? _____ Burned? _____

Where? _____ How? _____

City dump? _____ Other? _____

Describe: _____

Treated? _____ How? _____

Specify: _____

b. Other pertinent specifics relative waste materials: _____

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7. Sanitation

a. What sanitation facilities are provided? _____

Shower? _____ Washroom? _____

Change room? _____ Individual lockers? _____

Lunchroom? _____

Drinking fountains? _____

Toilets? _____

b. Comment on location, accessibility, adequacy, utilization,
condition, etc. of pertinent sanitation facilities: _____

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8. Exposure to VC

a. In which activities is there a potential for exposure to VC? _____

How many employees are involved in each activity? _____

What is the length of the potential exposure time? _____

b. Are the activity areas regulated? _____

Indicate which: _____

Give the rationale for establishing these: _____

c. Are all employees generally aware of the hazards presented by
VC or PVC? _____

To what extent is labeling or posting of signs used to appropriately
inform or warn employees? _____

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9. Protective Clothing and Equipment*

a. What articles of protective clothing and equipment are the employees provided? _____

Are they required to wear or use these? _____

Do they wear or use these? Specify _____

b. Do employees change into work clothes upon arrival at the plant and back into street clothes before departing? _____

c. Do they shower at the end of the day? _____

d. Do they wash hands and face before eating lunch? _____

Where do they eat lunch? _____

f. How are clothing and equipment articles cared for? _____

(1) How often cleaned? _____

How? _____

Where? _____

(2) Are they decontaminated after use? _____

Which use? _____

When? _____

Where? _____

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9. Protective Clothing and Equipment*--Continued

g. How often are the articles replaced? _____

What determines replacement? _____

* Respiratory protection devices are covered in question 10--omit here.

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10. Respiratory Protection

a. What kind of respiratory protection devices are provided? _____

Are the respirators provided specific for protection from VC or
PVC? _____

Explain: _____

What respirators are utilized by the employees? _____

b. Is there a training program for employees which includes the
proper wearing of respiratory protection devices? _____

c. How often are the respiratory protection devices checked for
efficiency and effectiveness? _____

If applicable, how often are cartridges or cannisters replaced?

d. Other comments: _____

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II. Maintenance and Decontamination Activities

a. What procedures are established for maintenance and decontamination?

Are there periodic inspections for the:

Ventilation system? _____

Process equipment? _____

Piping and fittings? _____

Other? _____

b. What transpires when leakage occurs? _____

c. What provisions are there for the protection of employees in cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment? _____

What protective clothing and equipment are utilized? _____

Air supplied suits? _____ Gloves? _____

Respirators? _____ Others? _____

d. How are employees decontaminated after work is completed? _____

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11. Maintenance and Decontamination Activities--Continued

e. Are maintenance repair cleanup crews available during all shifts?

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12. Fire Protection

a. What provisions are made for fire protection? _____

Who approves the fire protection plan? _____

b. Who conducts fire inspections? _____

What is the frequency of the inspections? _____

c. Are there fire insurance engineers? _____

Give particulars: _____

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13. Employer Monitoring

a. What is the method of sampling? _____

Are grab samples taken? _____ How? _____

Are continuous samples taken? _____ How? _____

If sensors are used, where are they located? _____

b. Are personal samples taken? _____

How? _____ For how long? _____

What is the sampling rate? _____

What areas of activity are the employees in when monitored? _____

What percentage of employees are monitored in each area? _____

What is the frequency of monitoring? _____

c. What method is used to analyze the samples collected in the
monitoring program? _____

What is the sensitivity? _____

What is the accuracy? _____

d. What is the disposition of the results of sample analyses? _____

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13. Employer Monitoring--Continued

Are the employees informed? _____

Are the results recorded? _____

Where are the records kept? _____

How long are records of the results maintained? _____

Are the results available at all times to the employees? _____

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14. Medical Program

a. What does the in-house medical program consist of? _____

Are physical examinations of employees required? _____

Preplacement? _____

Periodical? _____

What does the physical examination include? _____

Is there a medical surveillance program in effect? _____

What does it consist of? _____

Does the employee have access to his medical records? _____

Is there a physician and nurse on duty at all times? _____

If not, when? _____

How many employees are trained in first aid? _____

b. What satellite-support medical facilities are readily available? _____

What is the distance to the nearest hospital which would be readily available at any time? _____

Would adequate, appropriate, medical services be available there? _____

Is there a contract or working agreement in force with this facility? _____

Other comments: _____

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15. Emergency

In the event an emergency should occur for any reason within the operation whereby employees are involved, what plan would be implemented? _____

- a. Is there an evacuation plan? _____
- b. Are there definite emergency procedures established to include authorization for individual control of assigned personnel? _____

- c. Is there a mutual support plan for outside assistance in the event of a catastrophic incident such as fire, explosion, massive spill? _____

Explain: _____
