



CHEMICAL MANUFACTURERS ASSOCIATION

February 6, 1980

To: Vinyl Chloride Panel and Vinyl Chloride Research
Coordinators

Attached are two announcements received on February 4, 1980 from Dr. Bailus Walker, Director, Health Standards Programs, Occupational Safety and Health Administration. The first, concerns the "Request for Information on Vinyl Chloride and PolyVinyl Chloride" wherein the deadline for submitting written comments on vinyl chloride and polyvinyl chloride is extended to May 9, 1980.

The second pertains to the conference to be sponsored by OSHA, NIOSH and NIEHS on March 20, 21, 1980 and having as its theme "A Reevaluation of the Toxicity of Vinyl Chloride, Polyvinyl Chloride, and Structural Analogues". Please note that the conference announcement is to be supplemented at a later date with specific titles of the papers to be presented.

Sincerely,

J. T. Seawell
Project Administrator
Vinyl Chloride

JTS:das

Enclosures

CMA 004389

Formerly Manufacturing Chemists Association—Serving the Chemical Industry Since 1872.

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FEB 01 1980

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



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Mr. Joseph T. Seawell
Chemical Manufacturing Association
1825 Connecticut Avenue, N.W.
Washington, D.C. 20009

Gentlemen:

Enclosed is a copy of the December 18, 1979 "Request for Information on Vinyl Chloride and Polyvinyl Chloride", and a copy of the notice extending the deadline to May 9, 1980. Attached also is a preliminary agenda for the March 20 and 21, 1980, conference entitled "A Reevaluation of the Toxicity of Vinyl Chloride, Polyvinyl Chloride, and Structural Analogues."

We would appreciate your forwarding copies of this information to interested persons within your organization.

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Bailus Walker".

Bailus Walker, Ph.D. M.P.H.
Director
Health Standards Programs

Enclosures

CMA 004390

Notice of Meeting

OSHA, NIOSH, and NIEHS are jointly sponsoring a conference on March 20 and 21, 1980. The conference is titled "A Reevaluation of the Toxicity of Vinyl Chloride, Polyvinyl Chloride, and Structural Analogues." The location will be in the Masur Audit Bldg.10, Clement Center NIH Campus Bethesda, Maryland.

Topics will include:

- (1) Carcinogenesis Bioassays of Vinyl Chloride Monomer and PVC
- (2) Toxicology Studies of PVC;
- (3) Morbidity and Mortality Studies of Vinyl Chloride and PVC Workers;
- (4) Industrial Hygiene Measurements of VC and PVC in PVC operations;
- (5) Reproductive Effects of VC
- (6) Community Exposure to VC and PVC
- (7) Carcinogenicity of Some Structural Analogues of VC
- (8) Research Needs and Public Health Intervention

Program announcements and specific titles of presentations will be forthcoming. Further information may be obtained by contacting either Ms. Jolie Appel (202) 357-0325 or Dr. P. Landrigan's secretary (513) 684-2761.

any time after compliance with the Antitrust Procedures and Penalties Act. The proposed judgment provides that there has been no admission by anyone with respect to any issue of fact or law. Under the provisions of Section 2(a) of the Antitrust Procedures and Penalties Act, entry of the consent judgment by the court is conditioned upon a determination of the court that the proposed judgment is in the public interest.

The proposed judgment will prohibit the Jos. Schlitz Brewing Company from entering into any agreement or arrangement with any other person to fix, raise, or stabilize the issue of consumer prices of beer in Hawaii. The proposed judgment also enjoins the Jos. Schlitz Brewing Company from fixing, reducing or eliminating discounts on beer sold in Hawaii and from fixing the terms or conditions of sale of beer sold in Hawaii. The judgment also prohibits it from engaging in specified types of communications.

Section VI of the proposed judgment enjoins defendant from directly or indirectly recommending, suggesting, soliciting or directing any person to participate in any proscribed agreement as discussed in the preceding paragraph. Defendant Jos. Schlitz Brewing Company is further restrained from requiring, compelling or coercing any beer wholesaler to set or establish a specific price, discount or term of sale for beer in Hawaii. The judgment further prohibits defendant from communicating or exchanging information about the price of beer in Hawaii with any other brewer of beer.

By the terms of the proposed judgment, defendant agrees that if, during the ten-year period of the decree, it should sell all or substantially all of the assets of its beer operations in Hawaii, the purchaser will agree to be bound by the provisions of this judgment. The judgment further provides that, should defendant sell its Hawaiian assets and yet continue to distribute its beer products in Hawaii, the terms of the judgment shall continue to be applicable to defendant Jos. Schlitz Brewing Company.

The proposed judgment is designed to prevent any recurrence of the activities alleged in the complaint. The prohibitions in the judgment are intended to ensure that future price actions of the defendant will be independently determined without the restraining and artificial influences which result from communication and agreements among competitors.

The judgment provides methods for determining the defendant's compliance with the terms of the judgment. Officers, employees, and agents of the defendant may be interviewed by fully authorized representatives of the Department of Justice regarding the defendant's compliance with the judgment. The Government, on reasonable notice, is entitled to examine the records of the defendant for possible violations of the judgment. In addition, upon written request, the Government may require the defendant to submit reports on matters contained in the judgment. Finally, the defendant is required to serve a copy of the judgment upon successors of the officers, directors, and employees of defendant who have responsibility for making beer pricing decisions.

IV.

Exemptions or Modifications in the Decree

Section VIII provides that the prohibitions in the proposed judgment do not apply to relations between defendant Jos. Schlitz Brewing Company and its parent or subsidiary which are under common control. The Government did not object to this provision because the decree is not intended to limit communications between a parent and its subsidiary concerning prices to be charged by the parent or subsidiary but rather to limit communications among competitors concerning the prices to be charged for beer in Hawaii.

V.

Remedies Available to Potential Private Litigants

Section 4 of the Clayton Act (15 U.S.C. § 15) provides that any person who has been injured as a result of conduct prohibited by the antitrust laws may bring suit in federal court to recover three times the damage such person has suffered, as well as costs and reasonable attorney fees. Entry of the proposed consent judgment in this proceeding will neither impair nor assist bringing of any such private antitrust action. Under the provisions of Section 3(a) (15 U.S.C. § 16(a)), this consent judgment has no *prima facie* effect in the lawsuits which have been or may be brought against these defendants.

VI.

Procedures Available for Modification of the Proposed Judgment

As provided by the Antitrust Procedures and Penalties Act, any person believing that the proposed consent judgment should be modified may send written comments to Anthony E. Desmond, Department of Justice, Antitrust Division, 450 Golden Gate Avenue, Box 36043, San Francisco, California 94102, within sixty days. These comments and responses to them will be filed with the court and published in the Federal Register. All comments will be given due consideration by the Department of Justice which remains free to withdraw its consent to the proposed consent judgment at any time prior to entry if it should determine that some modification is necessary. The proposed judgment provides that the court retains jurisdiction. The parties may apply to the court for such orders as may be necessary or appropriate for modification of the judgment.

VII.

Alternatives to the Proposed Consent Judgment: Considered by the United States

An alternative to the proposed judgment considered by the Department of Justice was a full trial on the merits. It was determined that such a trial involved substantial expense to the United States and was not warranted since the equitable remedies set forth in the proposed consent judgment will restore competition in the beer industry in Hawaii.

VIII.

Determinative Documents

There are no materials or documents which were determinative in formulating the proposal

for a consent judgment and, therefore, none are being filed by the Government pursuant to Section 2(b) of the Antitrust Procedures and Penalties Act (15 U.S.C. § 16(b)).

Dated: January 21, 1980.

Christopher S. Crook,

Gary R. Sprattling,

Attorneys, Department of Justice.

(FR Doc. 80-2514 Filed 1-22-80; 8:15 am)

BILLING CODE 4410-01-M

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

Occupational Exposure to Vinyl Chloride and Polyvinyl Chloride

AGENCY: Occupational Safety and Health Administration, Department of Labor.

ACTION: Extension of time for written comments.

SUMMARY: This notice extends the time period for submission of written comments in response to a request for information on vinyl chloride and polyvinyl chloride which was published on December 12, 1979 (44 FR 74923). The December 12 notice had requested the submission of written comments not later than February 10, 1980.

Subsequently, several interested parties requested extension of the deadline by which their comments should be submitted. These requests were based on the need for additional time to coordinate efforts within the industrial groups to collect and collate the information requested in a manner that would be most beneficial to all parties concerned. OSHA finds validity in these requests and has granted an extension of time to submit written comments. Written submissions should be received by the OSHA Docket Officer, no later than May 9, 1980.

DATE: The period for submitting written comments is extended to May 9, 1980.

ADDRESS: The information requested on December 12, 1979 (44 FR 74923) should be submitted to the Docket Officer, Docket No. H-034, Room S6212, U.S. Department of Labor, OSHA, 200 Constitution Ave., N.W., Washington, D.C. 20210. (202) 523-7894.

FOR FURTHER INFORMATION CONTACT: Dr. Peter Infante, Office of Carcinogen Identification and Classification, Directorate of Health Standards Programs, Room N3713, U.S. Department of Labor, OSHA, 200 Constitution Ave., N.W., Washington, D.C. 20210, Telephone (202) 357-0325.

Signed at Washington, D.C. this 22nd day of January 1980.

Edin Stigum,

Assistant Secretary, Occupational Safety and Health

(S) (P) (U) (C) (D) (S) (H) (A)

SHOULD CODE 4310-25-43

Approved State Plans for Enforcement of State Standards; Approval of Utah Plan Supplement

Agency: Occupational Safety and Health Administration.

ACTION: OSHA assumes authority for enforcement of standards at Hill Air Force Base in the State of Utah.

SUMMARY: This document approves a State-initiated change supplement which reflects the Utah State Attorney General's opinion that Utah does not have authority to enter Hill Air Force Base for the purpose of making general inspections under the Utah Occupational Safety and Health Act. The Occupational Safety and Health Administration assumed full authority for making inspections at the Hill Air Force Base on February 1, 1979.

EFFECTIVE DATE: January 29, 1980.

FOR FURTHER INFORMATION CONTACT: Charles Boyd, Project Officer, Office of State Programs, Occupational Safety and Health Administration, U.S. Department of Labor, 200 Constitution Avenue NW., Room N-3613, Washington, D.C. 20210, (202) 522-6081.

SUPPLEMENTARY INFORMATION: By letter dated March 26, 1979, the State submitted a State-initiated plan change to OSHA's Denver Regional Office. The letter provided notice that the State does not have authority to enter the Hill Air Force Base for the purpose of making general inspections under the Utah Occupational Safety and Health Act, and that Federal OSHA will assume authority for the enforcement of standards at the base. This action was taken as a result of OSHA Instruction STP 2.14 which asked regional administrators to determine the application of State safety and health provisions to private employers in areas of "exclusive Federal jurisdiction". The Directive also requested States with approved State plans to provide a State attorney general's ruling as to the status of Federal enclaves within the State and the intentions of the State to seek entry for the purpose of enforcing State occupational safety and health laws.

Description of the Supplement

Pursuant to Subpart E of 29 CFR Part 1953, the State submitted a State-initiated plan change which provides for

Federal OSHA to assume full authority for the enforcement of safety and health standards at the Hill Air Force Base, effective February 1, 1979.

Location of the Plan and its Supplement for Inspection and Copying

A copy of the State's plan and its supplement may be inspected and copied during normal business hours at the following locations: Office of State Programs, Occupational Safety and Health Administration, U.S. Department of Labor, Room N-3613, 200 Constitution Avenue NW., Washington, D.C. 20210; Office of the Regional Administrator, Occupational Safety and Health Administration, Room 1534, Federal Office Building, 1961 Stout Street, Denver, Colorado 80204; and the Utah Industrial Commission, UOIA Offices at 448 South 400 East, Salt Lake City, Utah 84111.

Public Participation

Under § 1953.2(c) of this chapter the Assistant Secretary of Labor for Occupational Safety and Health (hereinafter called the Assistant Secretary) may prescribe alternative procedures to expedite the review process or for any other good cause which may be consistent with applicable law. The Assistant Secretary finds that the Utah supplement described above is consistent with the provisions in OSHA Instruction STP 2.14. Application of State Safety and Health Provisions to private Employers in Areas of "Exclusive Federal Jurisdiction". Accordingly, it is found that further public comment is unnecessary.

Decision

After careful consideration, the Utah plan supplement described above is hereby approved under Subpart E of 29 CFR Part 1953 of this Chapter. This decision incorporates the requirements of the Act and implementing regulations applicable to State plans generally.

Signed at Washington, D.C. this 22nd day of January 1980.

Edin Stigum,

Assistant Secretary of Labor

(S) (P) (U) (C) (D) (S) (H) (A)

SHOULD CODE 4310-25-43

(V-30-1)

General Electric Co.; Application for Variance and Denial of Interim Order

AGENCY: Occupational Safety and Health Administration, Department of Labor.

ACTIONS: (1) Notice of application for variance and interim order; (2) Denial of interim order.

SUMMARY: This notice announces the application of General Electric Company for a variance and interim order pending a decision on the application for variance from the standard prescribed in 29 CFR 1910.22(c) concerning covers and/or guardrails for open pits. It also announces the denial of the interim order.

DATES: The last day for interested persons to submit comments is February 28, 1980. The last date for affected employers and employees to request a hearing on the application is February 28, 1980.

ADDRESSES: Send comments or requests for hearing to: Office of Variance Determination, Occupational Safety and Health Administration, U.S. Department of Labor, Third Street and Constitution Avenue NW., Room N3682, Washington, D.C. 20210.

FOR FURTHER INFORMATION CONTACT:

Mr. James J. Concannon, Director, Office of Variance Determination, at the above address, telephone: (202) 522-7144.

or the following Regional and Area Offices: U.S. Department of Labor, Occupational Safety and Health Administration, Gateway Building, Suite 2100, 3333 Market Street, Philadelphia, Pa. 19104.

U.S. Department of Labor, Occupational Safety and Health Administration, 147 W. 18th Street, Erie, Pa. 16501.

Notice of Application

Notice is hereby given that General Electric Company, Transportation Systems Business Division, 2901 East Lake Road, Erie, Pa. 16531 has made application pursuant to section 6(d) of the Occupational Safety and Health Act of 1970 (84 Stat. 1596; 29 U.S.C. 635) and 29 CFR 1903.11 for a variance, and an interim order pending a decision on the application for a variance, from the standards prescribed in 29 CFR 1910.22(c) which state that covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

The address of the place of employment that will be affected by the application is as follows: General Electric Company, Transportation Systems Business Division, 2901 East Lake Road, Erie, Pa. 16531.

The applicant certifies that employees who would be affected by the variance have been notified of the application by giving a copy of it to their authorized employee representative, and by posting a copy at all places where notices to employees are normally posted. Employees have also been informed of

Dated: December 10, 1979.

Frank H. Madden,

*AID Advisory Committee Representative,
Joint Committee on Agricultural
Development, Board for International Food
and Agricultural Development.*

(FR Doc. 79-3585 Filed 12-17-79; 8:43 am)

BILLING CODE 4710-02-48

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

Occupational Exposure to Vinyl Chloride and Polyvinyl Chloride

AGENCY: Occupational Safety and Health
Administration, Department of Labor.

ACTION: Request for information on vinyl
chloride and polyvinyl chloride.

SUMMARY: This notice requests information on vinyl chloride (CAS No. 75-01-4) and on polyvinyl chloride (CAS No. 9002-88-2). Vinyl chloride (VC), a synthetic chemical, was once synthesized by the addition of hydrogen chloride to acetylene. Currently, the most common route of production is by the halogenation of ethylene. In this latter process, ethylene is reacted with hydrogen chloride and oxygen to give ethylene dichloride, which is subsequently cracked thermally to produce vinyl chloride and hydrogen chloride. Vinyl chloride is used primarily to produce polyvinyl chloride (PVC), a plastic resin, through conversion of the VC monomer into a polymer or copolymer form. Vinyl chloride is also used in the production of methyl chloroform and in the production of resins as a comonomer with vinylidene chloride. PVC is used in the manufacture of a variety of industrial and consumer products, such as containers, wrapping film, electrical insulation, and pipes.

In 1975, OSHA regulated vinyl chloride as a carcinogen, based primarily on evidence of excess liver angiosarcoma incidence following VC exposure (29 CFR 1910.1017). OSHA did not regulate exposure to PVC dust in the same standard. Therefore, it continues to be regulated as an inert or nuisance air contaminant (29 CFR 1910.1000, Table Z-3).

Research since 1975 has provided considerably more information concerning the carcinogenic and other toxic effects of VC and PVC exposure. OSHA is currently in the process of evaluating the available evidence pertaining to the potential occupational health hazards of VC and of PVC and, by this notice, is requesting information related to several important issues.

DATE: The information requested in this notice must be submitted in quadruplicate on or before February 10, 1980.

ADDRESS: The information requested in this notice should be submitted to the Docket Officer, Docket No. H-034, Room S6212, U.S. Department of Labor, OSHA, 200 Constitution Avenue, N.W., Washington, D.C. 20210, (202-523-7894).

FOR FURTHER INFORMATION CONTACT: Dr. Peter Infante, Office of Carcinogen Identification and Classification, Directorate of Health Standards Programs, Room N3718, U.S. Department of Labor, OSHA, 200 Constitution Avenue, N.W., Washington, D.C. 20210, (202-357-0325).

SUPPLEMENTARY INFORMATION:

Background

Vinyl chloride (C_2H_3Cl ; CAS No. 75-01-4; chloroethene) is a colorless gas at room temperature and pressure. After synthesis from VC monomer, polyvinyl chloride ($(C_2H_3Cl)_n$; CAS No. 9002-88-2; chloroethene homopolymer) is in the form of white or colorless granules. Residual vinyl chloride monomer can become trapped in the PVC particles. However, recent processing methods can reduce considerably the amount of residual VC trapped in the polymer resins.

The vinyl chloride industry can be divided into three major components: VC synthesis, VC polymerization, and PVC fabrication. It has been estimated that in the U.S., 15 plants manufacture vinyl chloride, 43 plants polymerize polyvinyl chloride, and at least 7,500 plants are engaged in the fabrication of PVC. During 1978, 3.47 million tons of VC and 2.94 million tons of PVC were produced.

The present permissible limit for occupational exposure to vinyl chloride is 1.0 ppm averaged over any 8-hour period, and 5.0 ppm averaged over any period not exceeding 15 minutes (29 CFR 1910.1017). For polyvinyl chloride dust, the standard is 15 mg/m³ averaged over any 8-hour period (29 CFR 1919.1000).

Laboratory Studies

Experimental bioassays have demonstrated the induction of cancer by VC at levels of exposure lower than those previously reported. In VC inhalation studies of rats, Maltoni (1) has induced liver angiosarcomas at 25 ppm and mammary carcinomas at one ppm. In addition, several different test systems have provided evidence for the mutagenic potential of VC, i.e., *E. coli*, *S. typhimurium*, *S. pombe*, insects, plants, and cultured mammalian cells (2). VC also has been demonstrated to have a

transplacental effect in rats. Inhalation exposure of pregnant rats to VC concentrations of 6,000 and 10,000 ppm have resulted in VC-dependent tumors in their offspring (1).

There is also evidence from animal studies that PVC may induce non-malignant respiratory disease. It has been reported that after seven months of exposure, rats and guinea pigs caged in work areas where sacks were being filled with PVC powder developed pulmonary pathological changes and granulomatous lesions containing foreign particles thought to be PVC dust (3).

Epidemiologic Studies

Several investigations of employee populations have indicated that VC/PVC exposure is associated with an increased carcinogenic risk to several organ sites in addition to the liver. A NIOSH retrospective cohort study of workers from four VC polymerization plant showed an excess number of deaths due to cancer of the liver, lung, lympho-hematopoietic system, and central nervous system (4).

Of further concern is the finding that the carcinogenic risk may extend to industries fabricating polyvinyl chloride. A proportionate mortality study of plastic workers in Great Britain, which included PVC fabricators, demonstrated a statistically significant excess of stomach cancer (5). Also, an excess of mortality from digestive system cancer among PVC fabricators of both sexes was found by Chiaze et al. in the U.S. (6). Among white females in the study, observed deaths from breast and urinary tract cancers were also greater than expected. Waxweiler et al. performed a detailed study of the excess lung cancer risk previously observed at a synthetic plastics and rubber plant (7). Analysis of lung cancer cases by cell type demonstrated a greater frequency of adenocarcinomas (Type 3) and large cell undifferentiated (Type 4) cancer. Neither cell type is believed to be strongly associated with cigarette smoking. Of 12 chemicals analyzed, only PVC dust exposure proved to be statistically significant. The authors suggested that the excess of Type 3 and 4 lung cancer cases in this plant was related to PVC dust exposure.

A recent epidemiologic study suggests that PVC may be related to pneumoconiosis (8). Employees of a polyvinyl chloride production factory in Italy were submitted to chest X-ray examination. Twenty subjects were diagnosed as having pneumoconiosis. All of these cases had worked five or more years in departments with demonstrated PVC dust pollution. No

pneumoconiosis was observed in subjects who worked in areas free of PVC dust. These findings are consistent with earlier case reports of pneumoconiosis among workers exposed to PVC dust (9,10). The Institute of Oncology and Tumor Center in Bologna, Italy has demonstrated a higher frequency of cytologically abnormal sputum cells among the workers employed in the VC/PVC industry in contrast either to workers in the general chemical industry or to individuals who are heavy smokers (11).

Epidemiologic studies also exist which demonstrate the mutagenicity of VC in humans. Chromosomal aberrations in lymphocytes of male workers, in excess of the number observed in non-exposed workers, have been reported in several studies (2). Moreover, a study of miscarriages among the wives of men occupationally exposed to VC detected a significant excess in fetal mortality following the husband's exposure to VC (12).

Information requested on vinyl chloride and polyvinyl chloride

The data recently received by OSHA suggest that a reassessment of the known health effects of vinyl chloride and polyvinyl chloride is appropriate at this time. Additional information in several areas is needed before a reassessment can be completed. The requested information includes, but is not limited to, the following:

- (1) Experimental test results for carcinogenicity of vinyl chloride at atmospheric exposures of less than 50 ppm.
- (2) Studies of transplacental carcinogenic and teratogenic effects in humans or animals at any level of exposure to vinyl chloride.
- (3) Experimental studies of carcinogenicity and other toxic manifestations for any level of polyvinyl chloride exposure. These effects should include, but are not limited to, mutagenicity, teratogenicity, embryotoxicity, and other transplacental effects, as well as cytotoxic and cytogenetic effects on sperm cells. To the greatest extent possible, complete information concerning the industrial source of the polyvinyl chloride, the size and characteristics of the particles, and exposure levels or concentrations of PVC and residual VC should be included for each study.
- (4) Epidemiologic studies of either vinyl chloride or of polyvinyl chloride (i.e. cohort, cross-sectional, or case-control).
- (5) Case reports and case series of brain, lympho-hematopoietic, lung, and

liver cancers by facility and relevant demographic variables, such as age, sex, race, date of diagnosis, date of death, date of first exposure, and length of exposure for either vinyl chloride or polyvinyl chloride.

(6) Mutagenicity study results of vinyl chloride or polyvinyl chloride as measured by the analysis of human body fluids, e.g., direct mutagenic testing with peripheral blood lymphocytes, non-disjunction in humans with YFF sperm test, and *in vivo* cytogenetics.

(7) Body burden measurements of vinyl chloride in humans.

(8) For operations involving polyvinyl chloride, the types of resin in use, the concentration of vinyl chloride trapped in the resin, and the concentration of VC and PVC dust in the atmosphere where individuals are working. This information should include estimates of the particles sizes and concentrations of particles that fall within the respirable range.

(9) In PVC bagging and milling operations, atmospheric levels of PVC and VC, monitoring devices used to detect VC, and the type of respirator protection program for individuals working in these operations. This should include the sensitivity and validity of analytic techniques in use.

(10) Types of occupations, job classifications, and industries where exposure to either VC or PVC at any level may occur, and the numbers of employees involved in each vinyl chloride and polyvinyl chloride exposure situation, separated by sex and race.

(11) Appropriate engineering controls, work practices, and personal protective equipment available to reduce levels of exposure to VC or PVC below the current standards, or to the lowest levels feasible.

SUBMITTALS OF INFORMATION REQUESTED

Interested persons are invited to submit written data, views, and comments with respect to the issues described above. All communications should be submitted in quadruplicate, by February 10, 1980, to the Docket Officer, Docket H-034, Room S8212, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210 (202-523-7894).

References

The following documents, referred to in this notice, are available for inspection and copying at the OSHA Technical Data Center, Room S8212, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

1. Maltoni, C. Vinyl chloride carcinogenicity: An experimental model for carcinogenesis studies. *Origins of Human Cancer*, Cold Spring Harbor Laboratory, 1977, pp. 119-148.
2. Wagoner, J. K., and P. F. Infante. Vinyl chloride: A case for the use of laboratory bioassay in the regulatory control procedure. *Origins of Human Cancer*, Cold Spring Harbor Laboratory, 1977, pp. 1797-1803.
3. Frongia, N., A. Spinazzola, and A. Bucarelli. Lesioni polmonari sperimentali da inalazione prolungata di polveri di PVC in ambiente di lavoro: (Experimental lung damage from prolonged inhalation of airborne PVC dust). *La Medicina del Lavoro*, 65: 321-342, 1974.
4. Waxweiler, R. J., W. Stringer, J. K. Wagoner, J. Jones, H. Falk, and C. Carter. Neoplastic risk among workers exposed to vinyl chloride. *Annals of the New York Academy of Sciences*, 271: 40-48, 1978.
5. Baxter, P. J., and A. J. Fox. Angiosarcoma of the liver in PVC fabricators. *Lancet*, 1: 248-249, 1978.
6. Chiazze, L., W. E. Nichols, and O. Wang. Mortality among employees of PVC fabricators. *Journal of Occupational Medicine*, 19: 623-628, 1977.
7. Waxweiler, R. J., A. H. Smith, H. A. Tyroler, and H. Falk. An epidemiologic investigation of an excess lung cancer risk in a synthetic chemicals plant. Presented at the XIX International Congress on Occupational Health, Dubrovnik Yugoslavia, 25-30 September 1978.
8. Mastroangelo, C., M. Manno, G. Marier, G. B. Bartolucci, C. Gemignani, G. Saladino, L. Simonato, and B. Saia. Polyvinyl chloride pneumoconiosis: Epidemiological study of exposed workers. *Journal of Occupational Medicine*, 21: 540-542, 1979.
9. Szurda, B., K. Lajla, A. Nemes, and A. Pinter. Pneumoconiosis caused by the inhalation of polyvinyl chloride dust. *La Medicina del Lavoro*, 61: 423-428, 1970.
10. Amand, A., P. Pommier de Santi, L. Garbe, H. Payen, and J. Charpin. Polyvinyl chloride pneumoconiosis. *Thorax*, 33, 19-23, 1978.
11. Maltoni, C. Precursor lesions in exposed populations as indicators of occupational cancer risk. *Annals of the New York Academy of Sciences*, 271: 444-447, 1978.
12. Infante, P. F., J. K. Wagoner, A. J. McMichael, R. J. Waxweiler, and H. Falk. Genetic risks of vinyl chloride. *Lancet*, 1: 734-735, 1978.

Signed at Washington, D.C. this 12th day of December 1979.

Eula Bingham,
Assistant Secretary of Labor.

Pension and Welfare Benefit Programs
(Prohibited Transaction Exemption 79-79;
Exemption Application No. D-837)

Exemption from the Prohibitions for
Certain Transactions Involving Colleg
Retirement Equities Fund
AGENCY: Department of Labor.

CMA 004395