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STATEMENT OF JEROME H. HECKMAN  
KELLER AND HECKMAN  
GENERAL COUNSEL OF THE SOCIETY OF THE  
PLASTICS INDUSTRY, INC.  
PREPARED FOR PRESENTATION AT  
DEPARTMENT OF LABOR HEARINGS ON  
VINYL CHLORIDE;  
OCCUPATIONAL EXPOSURE STANDARD  
JUNE 25, 1974

JUDGE MYATT:

MY NAME IS JEROME H. HECKMAN. I AM A PARTNER IN THE WASHINGTON LAW FIRM OF KELLER AND HECKMAN AND HAVE SERVED AS COUNSEL TO THE SOCIETY OF THE PLASTICS INDUSTRY FOR THE PAST TWENTY YEARS. I AM HERE TODAY TO PROVIDE AN OVERVIEW OF THE PLASTICS INDUSTRY'S POSITION WITH RESPECT TO THE VINYL CHLORIDE PROBLEM AT HAND. SPEAKING FOR THE SOCIETY OF THE PLASTICS INDUSTRY, WE ARE ANXIOUS THAT THE TESTIMONY TO FOLLOW BE VIEWED IN ITS PROPER AND TOTAL PERSPECTIVE. THIS IS BECAUSE WE BELIEVE IT ESSENTIAL THAT ANY FINAL STANDARD ADOPTED BY THE GOVERNMENT TAKE INTO BALANCED ACCOUNT THE FULL SPECTRUM OF PUBLIC AND EMPLOYEE HEALTH CONSIDERATIONS, SOCIAL AND ECONOMIC IMPACT, AS WELL AS OTHER PUBLIC INTEREST FACTORS.

THE TASK OF THE DEPARTMENT IN THIS CASE IS ANYTHING BUT A SIMPLE ONE. IT MUST BALANCE THE INTERESTS INVOLVED AND REACH WELL-REASONED DECISIONS, BUT A MAJOR DIFFICULTY IS THAT MANY OF THESE DECISIONS WILL NECESSARILY HAVE TO BE BASED ON THE RULES OF PROBABILITY RATHER THAN IRREFUTABLE FACT. MUCH OF THE SCIENTIFIC DATA OBTAINED BY RESEARCHERS TO DATE IS QUITE INCONCLUSIVE. A GREAT DEAL OF ADDITIONAL DATA REMAINS TO BE ACQUIRED AND EVALUATED. AT THIS PRECARIOUS STATE OF OUR KNOWLEDGE WE BELIEVE THAT MISPLACED RELIANCE ON MERE SUSPICIONS RATHER THAN PROVEN DATA, OR PRECIPITOUS AND EMOTIONAL REACTION TO SUCH INCOMPLETE INFORMATION, TOGETHER WITH A NARROWLY CONSTRUED INTERPRETATION OF INTERESTS, COULD LEAD TO MAJOR ECONOMIC CONSEQUENCES. SUCH RESULTS FREQUENTLY FLOW FROM UNDULY HARSH MEASURES.

AS MR. HARDING HAS ALREADY NOTED, WE BELIEVE THAT THE PLASTICS INDUSTRY HAS MOVED RESPONSIBLY IN ALL RESPECTS TO OBTAIN HARD DATA AND TO PLAN TO DEAL PROMPTLY AND EFFECTIVELY WITH THE VINYL CHLORIDE QUESTION. WE INTEND TO SHOW, THROUGH THE WITNESSES WHO FOLLOW ME, THAT WE HAVE WITHIN THE TIME CONSTRAINTS PLACED UPON GOVERNMENT AND INDUSTRY ALIKE, ATTEMPTED TO MAKE THE RECORD HERE AS OBJECTIVE, COMPREHENSIVE AND COMPLETE AS IS POSSIBLE. YOU MAY ALSO RELY ON THIS INDUSTRY TO RECOGNIZE THAT SO LONG AS ANY DOUBT REMAINS AS TO

SAFETY LEVELS AND EMPLOYEE OR OTHER EXPOSURE, IT IS INCUMBENT UPON MANUFACTURERS TO MAKE THE WORKPLACE AND GENERAL ENVIRONMENT AS RISK-FREE AS FEASIBLE.

IT IS CLEAR THAT CONGRESS, IN ENACTING PUBLIC LAW 91-596, AND THE COURTS WHICH HAVE THUS FAR INTERPRETED IT AUTHORITATIVELY, RECOGNIZED THAT THE SECRETARY OF LABOR MUST, IN ESTABLISHING PROTECTIVE STANDARDS, CONSIDER THE FEASIBILITY OF MEETING THEM. THE TERM "FEASIBILITY" HERE ENCOMPASSES HEALTH, TECHNOLOGICAL, AND ECONOMIC CONSIDERATIONS. THE TASK OF THE SECRETARY HAS BEEN VERY APTLY STATED IN THE APRIL 15, 1974 DECISION OF THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT IN INDUSTRIAL UNION DEPARTMENT, AFL-CIO, ET AL. V. HODGSON (NO. 72-1713). ON PAGES 19 AND 20 OF THAT DECISION, THE FOLLOWING LANGUAGE PROVIDES A REASONABLE GUIDELINE FOR DECISION-MAKING IN CASES SUCH AS THE INSTANT ONE:

*There can be no question that OSHA represents a decision to require safeguards for the health of employees even if such measures substantially increase production costs. This is not, however, the same thing as saying that Congress intended to require immediate implementation of all protective measures technologically achievable without regard for their economic impact. To the contrary, it would comport with common usage to say that a standard that is prohibitively expensive is not 'feasible' (footnote omitted). Senator Javits, author of the amendment that added the phrase in question to the Act, explained it in these terms:*

As a result of this amendment the Secretary, in setting standards, is expressly required to consider feasibility of proposed standards. This is an improvement over the Daniels bill, which might be interpreted to require absolute health and safety in all cases, regardless of feasibility, and the Administration bill, which contains no criteria for standards at all.

S. Rep. No. 91-1282, 91st Cong., 2d Sess., p. 58;  
Legis. Hist. at 197.

The thrust of these remarks would seem to be that practical considerations can temper protective requirements. Congress does not appear to have intended to protect employees by putting their employers out of business--either by requiring protective devices unavailable under existing technology or by making financial viability generally impossible. (Emphasis supplied.)

MANY OTHER PARTS OF THIS DECISION ARE ALSO DIRECTLY IN POINT. THUS, ON PAGES 12 AND 13 OF THE COURT'S OPINION, IT IS NOTED THAT WHERE EXPLICIT FACT-FINDING IS IMPOSSIBLE, AND DETERMINATIONS MUST BE MADE "ON THE FRONTIERS OF SCIENTIFIC KNOWLEDGE," POLICY JUDGMENTS MUST BE MADE AND ESOTERIC ABSOLUTISM FORSAKEN. LIKEWISE, ON PAGE 23 OF THE OPINION IT IS WELL NOTED THAT, ALTHOUGH EMPLOYEES OBVIOUSLY SHOULD NOT BE NEEDLESSLY EXPOSED TO RISK, WHERE THE DEGREE OF RISK IS INDETERMINATE, SOME ELEMENT OF IT MAY HAVE TO BE COUNTENANCED FOR A TIME WHEN IT IS INFEASIBLE TO ELIMINATE IT TOTALLY, AND A TRANSITION PERIOD IS REQUIRED FOR STUDY AND IMPROVEMENTS.

IT IS OUR POSITION THAT THE RECOMMENDATIONS TO BE MADE HEREAFTER RECOGNIZE THESE CRITERIA, BUT ALSO BESPEAK A TOTAL INDUSTRY COMMITMENT TO INSTITUTE APPROPRIATE SAFEGUARDS WHILE CONCURRENTLY MOVING FORWARD TO DETERMINE WHAT DATA IS ADDITIONALLY REQUIRED TO MAKE EVEN SOUNDER JUDGMENTS. THE INDUSTRY IS MOVING DECISIVELY TO PROVIDE IMMEDIATE PROTECTIVE ACTION. FURTHER, SCIENTIFIC STUDIES YET TO BE COMPLETED MAY WELL PROVE THAT THE HAZARD HAS BEEN OVERESTIMATED. NEVERTHELESS, WHILE DOUBTS REMAIN, OUR AIM IS TO ASSURE THE PUBLIC AT LARGE, THE INDUSTRY'S EMPLOYEES, AND THE GOVERNMENT THAT THE PLASTICS INDUSTRY HAS BEEN AND WILL CONTINUE TO BE DILIGENT IN TAKING PROMPT AND FEASIBLE STEPS TO MINIMIZE ANY POTENTIAL HEALTH HAZARD.

THE WITNESSES TO FOLLOW WILL DISCUSS IN DETAIL THE FEASIBILITY OF MEETING REASONABLE VINYL MONOMER EXPOSURE LIMITATIONS; HOW PROTECTION CAN BE AND WILL BE AFFORDED EMPLOYEES WHERE SHORT-TERM EXCURSIONS OCCUR ABOVE THE LIMITATIONS WE WILL RECOMMEND; WHY THE EXPOSURE LIMITATIONS IN THE PROPOSED PERMANENT STANDARD PUBLISHED ON MAY 10 ARE NOT REASONABLE, WOULD LIKELY ELIMINATE THE INDUSTRY TO THE GREAT DETRIMENT OF THE COUNTRY, AND SHOULD NOT BE IMPOSED ON THE BASIS OF THE TOXICOLOGICAL DATA PRESENTLY AT HAND; AND WHY THE BREADTH OF COVERAGE OF THE PROPOSED STANDARD MAY SAFELY

BE REDUCED SO AS TO ELIMINATE APPLICATION OF MANY OF THE BURDENSOME REQUIREMENTS IN THE DRAFT STANDARD TO CERTAIN MANUFACTURERS AT THE END OF THE PROCESSING LINE. THESE FIRMS, IT WILL BE SHOWN, HAVE NO REAL VINYL MONOMER EXPOSURE PROBLEM, EVEN THOUGH THEY MANUFACTURE PRODUCTS THEORETICALLY "CAPABLE OF RELEASING DETECTABLE LEVELS" OF MONOMER.

IN TESTIMONY TO BE PRESENTED NEXT BY MR. ANTON VITTON OF B. F. GOODRICH HE WILL FULLY COVER THE CURRENT STATE OF THE ART AND THE CAPABILITY OF THE INDUSTRY TO MEET AND ULTIMATELY IMPROVE UPON THE EXPOSURE LIMITATIONS WE RECOMMEND. IT SHOULD BE NOTED THAT THE SOCIETY IS AWARE OF ADDED TESTIMONY THAT WILL BE PRESENTED ON THIS SUBJECT IN THE CASES PREPARED BY VARIOUS INDIVIDUAL COMPANIES WHICH ARE APPEARING HERE.

IT WILL SUBSEQUENTLY BE DEMONSTRATED BY OUR SUCCEEDING WITNESSES THAT THE EXPOSURE LIMITATIONS, TIMETABLE FOR REDUCTIONS, AND REVISED WORK PRACTICE RULES WHICH WE ADVOCATE WILL PREVENT THE VIRTUAL ECONOMIC CHAOS THAT COULD RESULT IF THE PRESENTLY PROPOSED STANDARD WERE ADOPTED. WE SUBMIT THAT OUR ALTERNATIVE PROPOSALS CAN BE ACHIEVED WITH REASONABLE ASSURANCE THAT NO UNDUE HAZARD WILL ARISE OR BE ALLOWED TO CONTINUE WITH REGARD TO EMPLOYEE SAFETY. OUR MEDICAL EXPERTS WILL URGE UPON THE DEPARTMENT THAT THE HUMAN

EXPERIENCE DATA WE HAVE ASSEMBLED--AND WHICH WE BELIEVE IS ENTITLED ON TOXICOLOGICAL GROUNDS TO GREATER WEIGHT THAN INCONCLUSIVE ANIMAL TEST DATA IN CIRCUMSTANCES LIKE THOSE PRESENTED HERE--JUSTIFIES THOSE EXPOSURE LIMITATIONS THE INDUSTRY CONSIDERS FEASIBLE NOW AND IN THE FUTURE. AGAIN, WE RESPECTFULLY SUBMIT THAT THIS EVIDENCE, TAKEN IN CONTEXT, MUST OVERRIDE AND OBTIATE THE IMPOSITION OF EXCESSIVELY RESTRICTIVE EXPOSURE LIMITS OR WORK PRACTICES (SUCH AS A REQUIREMENT FOR FULL-TIME USE OF RESPIRATORS) WHICH WOULD LIKELY SHUT THE INDUSTRY DOWN WITH THE RESULTANT DISRUPTIVE CONSEQUENCES WHICH WILL BE PROJECTED AND EXPLAINED BY MR. VINCENT FICCAGLIA OF ARTHUR D. LITTLE COMPANY.

TESTIMONY AS TO APPROPRIATE MEASUREMENT TECHNIQUES AND POLICIES WILL BE SUPPLIED BY DR. RUDOLPH STEHL OF THE DOW CHEMICAL COMPANY AND WILL LEAD TO OUR MAKING SPECIFIC RECOMMENDATIONS IN THIS AREA. THE PURPOSE HERE WILL BE TO ADD CLARITY AND SPECIFICITY TO THE FINAL STANDARD. SIMILARLY, DRs. JOSEPH TOMASHEFSKI AND ROBERT SOULE WILL EXPLAIN WHY FULL-TIME USE OF RESPIRATORS WOULD BE LIKELY TO HAVE BOTH SIGNIFICANT AND IMMEDIATE ADVERSE IMPACT ON WORKER HEALTH AND SAFETY. DR. ROGER STRASSBURG WILL INFORM YOU AS TO HOW SO-CALLED CANISTER-TYPE RESPIRATORS CAN BE EMPLOYED AND RELIED UPON FOR SHORT PERIODS OF TIME UNDER THE TYPE OF PERMANENT STANDARD THE INDUSTRY CAN SUPPORT.

OTHER TESTIMONY FROM A SERIES OF WITNESSES WHO HAVE BOTH OBJECTIVE TEST DATA AND PERSONAL EXPERTISE PERTAINING TO THE HANDLING AND USE OF PVC FOR FABRICATION WILL, WE BELIEVE, CONVINCE THE DEPARTMENT OF THE ADVISABILITY AND REASONABLENESS OF MAKING CLARIFYING CHANGES IN THE STANDARD SO THAT ITS APPLICATION WILL, WITH PERHAPS MINOR EXCEPTIONS, BE LIMITED TO THOSE WHO MAKE AND SELL ONLY MONOMER AND POLYMERS.

THIS WILL BE THE THRUST OF OUR CASE. IT IS ONE IN WHICH WE HAVE FAITH; ONE THAT WE BELIEVE THE INDUSTRY'S WORKERS SHOULD SUPPORT; AND ONE THAT, IF APPROPRIATELY REFLECTED IN THE STANDARD ADOPTED, WOULD ALLOW THE INDUSTRY TO CONTINUE TO SERVE THE PUBLIC INTEREST.

WHILE OUR MAJOR PLEA IS FOR A CHANGE IN THE "NO DETECTABLE LIMITS" CONCEPT IN FAVOR OF WHAT IS TRULY FEASIBLE AND, THEREFORE, TECHNICALLY AND LEGALLY SOUND, WE ALSO STRONGLY URGE THAT CERTAIN OTHER ELEMENTS IN THE STANDARD BE CHANGED. SOME OF THESE CHANGES WE BELIEVE ARE NECESSARY TO AID IN SIMPLE UNDERSTANDING OF WHAT IS REQUIRED; OTHERS ARE URGED TO ALLOW A MORE REASONABLE HANDLING OF DAY-TO-DAY PROBLEMS IN A WAY THAT IS CONSISTENT WITH PRACTICABILITY, AND CONTINUED INDUSTRY VIABILITY.

THE CHANGES RECOMMENDED ARE IN ALL CASES SUBSTANTIVE AND NECESSARY AS WE SEE THEM. AS TO ALL OF THESE, I WOULD ASK YOUR HONOR TO RECEIVE FOR THE RECORD THE SET OF STANDARD REVISION RECOMMENDATIONS ATTACHED TO MY STATEMENT. OUR HOPE IS THAT THIS WRITTEN TABULATION WILL FACILITATE RECOGNITION OF SUCH LANGUAGE IN THE PROPOSED STANDARD WHICH WE DEEM UNDULY BURDENSOME, UNNECESSARY, OR UNCLEAR, AND WILL AID THE DEPARTMENT IN CONSIDERING OUR SPECIFIC RECOMMENDATIONS FOR CHANGES.

FOR THE MOST PART, THE RECOMMENDED REVISIONS WILL BE SELF-EXPLANATORY IN LIGHT OF THE EVIDENCE TO BE PRESENTED VERY SHORTLY. HOWEVER, THERE ARE A FEW AREAS WHICH I WILL DISCUSS NOW SINCE THEY ARE IMPORTANT TO THE INDUSTRY AND ARE NOT BEING DEALT WITH DIRECTLY IN THE STATEMENTS OF OUR OTHER WITNESSES. I BELIEVE I CAN SUMMARILY ALLUDE TO THESE SITUATIONS AND ASK THAT YOU BEAR WITH ME WHILE I ATTEMPT TO DO SO:

1. WITH RESPECT TO THE PROPOSED PARAGRAPH 1910.93q(a)(1), DEALING WITH THE SCOPE OF THE STANDARD, SUBSEQUENT TESTIMONY WILL INDICATE WHY IT IS BELIEVED EXCESSIVELY AND INFEASIBLY BROAD. IT SHOULD ENCOMPASS ONLY THOSE AREAS AND

OPERATIONS THAT POSE OR MAY REASONABLY BE EXPECTED TO POSE PROBLEMS, AND BE MADE INAPPLICABLE TO CERTAIN TYPES OF OPERATIONS, PRIMARILY PROCESSING AND FABRICATION PLANTS.

2. WITH RESPECT TO PARAGRAPH (B)(2), IT SHOULD BE REVISED TO ALLOW FOR THE RELATIVELY INFREQUENT BUT NECESSARY ENTRY OF CONTRACTORS, TRUCK DRIVERS AND SERVICE PERSONNEL, WHOSE SERVICES ARE REQUIRED FROM TIME TO TIME IN NORMAL OPERATIONS.

3. PARAGRAPH (B)(4) CONTAINS PARTICULARLY VEXATIOUS LANGUAGE AND WHAT AMOUNTS TO A WHOLLY AMBIGUOUS AND UNWORKABLE DEFINITION OF "CONTAMINATED" BY EMPLOYING THE OPEN-ENDED CONCEPT THAT AN AREA OR PRODUCT COULD BE CONSIDERED CONTAMINATED IF IT IS "CAPABLE OF RELEASING A DETECTABLE LEVEL OF VINYL CHLORIDE." THIS NOTION IS INCONSISTENT WITH OTHER OSHA STANDARDS IN ITS LACK OF FINITENESS.

THERE ARE SITUATIONS WHERE SUBSTANCES BELIEVED TO BE 100 TO 1000 TIMES

AS CARCINOGENIC AS VINYL CHLORIDE MAY ULTIMATELY BE SHOWN TO BE ARE TREATED MUCH MORE SENSIBLY. FOR THIS REASON, WE URGE THAT THIS DEFINITION BE ALTERED SO THAT IT REFLECTS THE AVERAGE EXPOSURE LIMIT TO BE ADVANCED BY MR. VITTONI AS TO VINYL MONOMER, AND THAT NO AREA BE CONSIDERED CONTAMINATED WHERE THE POLYVINYL CHLORIDE RECEIVED OR USED THEREIN CONTAINS LESS THAN 0.1% RESIDUAL MONOMER NOW, OR LESS THAN 0.01% RESIDUAL MONOMER BY OCTOBER 5, 1977. THE LIMITATIONS SUGGESTED BY THIS TYPE OF DEFINITION WOULD BE AS STRINGENT IMMEDIATELY AS THOSE IMPOSED ON SUCH KNOWN CARCINOGENS AS 4-AMINODIPHENYL--"THE MOST HAZARDOUS AROMATIC AMINE REGARDING CARCINOGENIC POTENTIAL," (SEE SECTION 1910.93(k)) AND BIS-CHLOROMETHYL ETHER, (SEE SECTION 1910.93(h)). BY 1977 IT WOULD BE TEN TIMES MORE STRINGENT BARRING THE ACQUISITION OF NEW DATA WHICH MAY WELL PROVE THAT THE 0.1% LIMITATION IS UNDULY HARSH.

4. THE DEFINITION OF "EMERGENCY" IN PARAGRAPH (B)(8) SHOULD BE ALTERED FURTHER,

EVEN ASSUMING THAT OTHER PROVISIONS IN THE STANDARD ARE CHANGED SO AS TO REFLECT FEASIBLE EXPOSURE LIMITS INSTEAD OF THE "NO DETECTABLE" CONCEPT PRESENTLY CONTEMPLATED. AS THE DEFINITION NOW READS, A MINOR SPILL OR LEAK WOULD CONSTITUTE AN "EMERGENCY" AND COULD TRIGGER MAJOR ACTION UNNECESSARILY. IN LIEU OF THIS DEFINITION, IT IS RESPECTFULLY URGED THAT THE STANDARD BE CHANGED SO THAT IT WILL FOLLOW THE NIOSH RECOMMENDATIONS OF MARCH 11, 1974 WHEREIN AN EMERGENCY WAS DEFINED AS "... AN UNFORESEEN CIRCUMSTANCE OR SET OF CIRCUMSTANCES, SUCH AS A RUPTURED TRANSFER LINE, RESULTING IN THE RELEASE OF VINYL CHLORIDE SUFFICIENT TO PRODUCE ACUTE SYMPTOMS AMONG WORKERS EXPOSED OR HAVING CONTACT WITH VINYL CHLORIDE."

5. WITH RESPECT TO PARAGRAPH (B)(10), AN IMPORTANT CLARIFICATION SHOULD BE MADE TO REFLECT ACTUAL INDUSTRY PRACTICES. THE DEFINITION AS WRITTEN WOULD DEFINE AS FABRICATED PRODUCTS "FILM, SHEET, BLOCK, BAR, OR EXTRUSION STOCK." SO THAT THIS DEFINITION

WILL COMPORT WITH INDUSTRY TERMINOLOGY, AND THEREBY AVOID UNINTENTIONAL CONFUSION, THE SECTION SHOULD BE REVISED IN PERTINENT PART TO COVER AS FABRICATED PRODUCTS "FILM, SHEET, BLOCK, BAR, EXTRUDED STOCK, AND DICED OR PELLETIZED COMPOUNDS."

6. REGARDING ALL OF SECTION (E), THE TABLE ATTACHED TO THIS TESTIMONY REFLECTS RECOMMENDED CHANGES DEEMED ESSENTIAL, AS WILL BE INDICATED BY DR. STEHL OF THE DOW CHEMICAL COMPANY, THIS BEING THE THRUST OF HIS PRESENTATION. IN ADDITION, OF COURSE, THE RECOMMENDATION SET FORTH IN THE ATTACHMENT TO MY TESTIMONY REFLECTS THE INDUSTRY POSITION FAVORING CONSTANT SEQUENTIAL MONITORING, WITH SPECIFIED PROCEDURES, IN LIEU OF THE PRESENTLY PROPOSED 95% CONFIDENCE LEVEL REQUIREMENT WHICH WE CONSIDER TO BE VAGUE AND, PRACTICALLY SPEAKING, MEANINGLESS.

7. PARTICULAR MENTION MUST BE MADE HERE RELATIVE TO THE SUBJECT OF EMPLOYEE OBSERVATION OF MONITORING AND MEASURING. CERTAINLY THE INDUSTRY DOES NOT TAKE ISSUE

WITH THE STATUTORY RIGHT OF EMPLOYEES TO BE ADEQUATELY ASSURED ABOUT MONITORING PROCEDURES USED FOR THEIR PROTECTION, AND TO OBSERVE THE SAME IN A REASONABLE FASHION. IT IS INTERESTING TO NOTE, HOWEVER, THAT THE PROPOSED STANDARD HERE DOES NOT EVEN INCLUDE THE WORD "REASONABLE" IN CONNECTION WITH THE PHRASE "OPPORTUNITY TO OBSERVE" EVEN THOUGH ONE OF THE MOST IMMEDIATE PRECEDENTS FOR THIS STANDARD--THE ASBESTOS STANDARD--DOES USE THE WORD.

IN LIGHT OF THE INDUSTRY'S PROPOSAL FOR A COMPLETELY DIFFERENT AND MORE DEFINITIVE MONITORING AND MEASURING SYSTEM, AND SO AS TO AVOID UNNECESSARILY DISRUPTIVE ABUSES WHICH COULD EASILY OCCUR IF THE PRESENT LANGUAGE IS LEFT UNCHANGED, THE SECRETARY IS URGED TO REVISE PARAGRAPH (E) (3) SO THAT THE OBSERVATION OF THE MONITORING WILL BE HANDLED BY AN ELECTED EMPLOYEE. IN OTHER RESPECTS, IT IS SUBMITTED THAT THE LANGUAGE SUGGESTED IN THE ATTACHED TABLE WILL BE MORE APPROPRIATE AND SUFFICE FOR EMPLOYEE PROTECTION WITHIN THE CONTEMPLATION OF THE STATUTE AND APPLICABLE REGULATIONS.

8. THE MATTER OF SIGNS AND LABELS COVERED IN SECTION (K) OF THE PROPOSED PERMANENT STANDARD IS OF ENORMOUS CONCERN TO THE INDUSTRY. IN AN ERA WHEN THE PUBLIC, INCLUDING THE WORK POPULATION, HAS BEEN SO BOMBARDED BY PEREMPTORY WARNINGS AND CAUTIONARY LABELS TO THE POINT WHERE ALL CHARACTERIZING LANGUAGE TENDS TO BECOME MEANINGLESS (EXCEPT TO REGULATORS IN OTHER FIELDS AND TO PRODUCT LIABILITY ATTORNEYS), WE ARE UNABLE TO SEE HOW THE PUBLIC INTEREST WOULD BE SERVED BY THE TYPE OF SIGN AND LABELING LANGUAGE THUS FAR RECOMMENDED.

WHILE THIS LANGUAGE MAY BE DEEMED CONSISTENT WITH REQUIREMENTS FOR PROVEN AND HIGHLY POTENT CARCINOGENS, IT IS CERTAINLY NOT CONSISTENT WITH THE TYPE OF SIGN AND LABELING REQUIREMENTS DEEMED ACCEPTABLE BY OSHA IN CASES WHERE LESS INFORMED PARTIES ARE APT TO BE VIEWING SUCH SIGNS AND LABELS REGULARLY. THUS, FOR EXAMPLE, IN THE CASE OF ASBESTOS WHERE IT WAS RECOGNIZED THAT CONTAINERS, SHIPPING VEHICLES, AND OTHER MEDIA WITH PUBLIC

VISIBILITY WOULD BE INVOLVED, THE DEPARTMENT ACCEPTED AND THE U. S. COURT OF APPEALS APPROVED LANGUAGE WHERE THE EMPHASIS WAS UPON THE PRECAUTIONARY STEPS TO BE TAKEN, NOT THE NATURE OF THE SUBSTANCE. COMMON SENSE WOULD APPEAR TO DICTATE THAT EXPLICIT INSTRUCTIONS ON HOW TO DEAL WITH A SUBSTANCE OR PRODUCT WILL BE MORE HELPFUL TO THOSE WHO MIGHT BE EXPOSED THAN WILL SCARE LABELS WHICH INDICATE ONLY THAT SOMETHING IS TO BE FEARED, RATHER THAN DEALT WITH REASONABLY.

FOR THIS REASON, AND ON THE BASIS OF THE PRACTICES WHICH EXIST WHERE OTHER HAZARDOUS SUBSTANCES MAY HAVE TO BE ENCOUNTERED BY EMPLOYEES OF VARYING DEGREES OF TECHNICAL EXPERTISE, AND SUSCEPTIBILITY TO ANXIETY, IT IS RECOMMENDED THAT THE CONCEPT OF EMPHASIZING THE IDEA OF "CANCER SUSPECT AGENT" BE REPLACED SO THAT ANY REGULATED AREA SIGNS REQUIRED BY THE STANDARDS WOULD READ:

Vinyl Chloride Vapor Hazard.  
Carry Respirator And Wear Assigned Protective Equipment  
When Alarm Signal Is Activated.  
When Signal Is Activated, Do Not Remain In Alarm Area  
Unless Your Work Requires It.  
Breathing Excessive Quantities of Vinyl Chloride Vapor  
May Be Hazardous To Your Health.

WITH RESPECT TO WARNING LABELS OR  
SIGNS TO BE PLACED ON SHIPPING CONTAINERS  
OF ANY TYPE FOR VINYL CHLORIDE MONOMER, THE  
FOLLOWING LANGUAGE IS SUGGESTED:

Vinyl Chloride  
Danger  
Extremely Flammable Gas Under Pressure  
May Polymerize with Explosive Force  
Poison  
Avoid Contact With Liquid Or Vapor Unless Fully  
Protected By Authorized Equipment.  
In The Event Of Acute Exposure Seek Medical  
Assistance Immediately.

WITH RESPECT TO WARNING LABELS OR  
SIGNS TO BE PLACED ON SHIPPING CONTAINERS  
OF ANY TYPE FOR POLYVINYL CHLORIDE, THE  
FOLLOWING LANGUAGE IS SUGGESTED:

Caution  
Polyvinyl Chloride  
Contains Vinyl Chloride  
Avoid Breathing Vapor Or Dust  
Closed Containers Of Polyvinyl Chloride May Contain  
Vapor Levels Of Vinyl Chloride Which May  
Be Hazardous To Your Health.  
Open Only In Well-Ventilated Areas Or Wear Respiratory  
Protection.

THE IMPORTANCE OF THE LABELING REQUIREMENTS IS DIFFICULT TO OVER-EMPHASIZE FOR A VARIETY OF REASONS. CERTAINLY THE MOST IMPORTANT ONE HAS BEEN STATED ABOVE, I.E. LABELING SHOULD BE DESIGNED TO PROVIDE THOSE WHO NEED THE INFORMATION WITH METHODS FOR DEALING WITH THE PROBLEM, RATHER THAN A BASIS UPON WHICH TO PANIC BECAUSE OF A DISEASE CHARACTERIZATION.

IN LIGHT OF THE ECONOMIC IMPORTANCE OF ASSURING CONTINUED PRODUCTION AND SUPPLY OF POLYVINYL CHLORIDE RESINS WITHOUT ADDING UNNECESSARILY TO THE COSTS THEREOF, IT MUST ALSO BE BORNE IN MIND THAT CHARACTERIZING THE MATERIAL AS PRESENTLY PROPOSED COULD LEAD TO THE IMPOSITION OF TRANSPORTATION BANS BY SOME STATES--PROPOSALS TO DO PRECISELY THIS HAVING ALREADY BEEN ADVANCED IN THE STATE OF NEW JERSEY--AND WOULD UNDOUBTEDLY ARM THE OVERZEALOUS WITH WHAT THEY MIGHT CONSIDER A PRIMA FACIE CASE IN SOME SPECIOUS PRODUCTS LIABILITY PROCEEDINGS. IT IS IMPOSSIBLE FOR US TO SEE HOW THIS WOULD SERVE THE OBJECTIVES OF THE OCCUPATIONAL

- 19 -

SAFETY AND HEALTH ACT OR ANY ASPECT OF  
THE PUBLIC INTEREST.

WE NOW ASK THAT CAREFUL ATTENTION BE GIVEN TO THE  
PRESENTATIONS OF THE REMAINDER OF OUR PANEL AND URGE THAT  
ANY PERMANENT STANDARD ADOPTED TAKE INTO CAREFUL ACCOUNT ALL  
OF THE INFORMATION SO PROVIDED.

I  
Proposed Standard  
(Objections Underlined)

II  
Recommended Changes 1/

III  
Comments

§ 1910.93, 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. 75018, is manufactured, reacted, released, repackaged, stored, or used, including areas and operations involving polyvinyl chloride when detectable levels of vinyl chloride are present.

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

(a)(1)...which contains 0.1% or more of residual vinyl chloride on and after Oct. 5, 1974, and which contains 0.01% or more of residual vinyl chloride on and after Oct. 5, 1977.

(a)(2)...nor to the handling or use of polyvinyl chloride that complies with the residual vinyl chloride limitations set forth in paragraph (a)(1).

Add a new paragraph (b) to read as follows and reletter all succeeding paragraphs accordingly:

\* \* \*

(b) Permissible exposure to vinyl chloride.

(b)(1) For polyvinyl chloride production facilities.

(i) Standard effective Oct. 5, 1974. The maximum concentration of vinyl chloride to which any employee may be exposed shall not exceed 40 ppm nor shall the time-weighted average concentration exceed 25 ppm.

This will set forth the exposure limitations recommended by the various witnesses. It also reflects the recommendations of different standards for different manufacturing operations to set work place levels as low as feasible.

1/ The recommended changes are submitted as substituted language for that underlined in Column I unless it is indicated in Column I that language from Column II is submitted to be added to the proposed section as in the case of Section (a)(2).

(ii) Standard effective Oct. 5, 1975. The maximum concentration of vinyl chloride to which any employee may be exposed shall not exceed 25 ppm.

(iii) Standard effective Oct. 5, 1976. The maximum concentration of vinyl chloride to which any employee may be exposed shall not exceed 25 ppm nor shall the time-weighted average concentration exceed 10 ppm.

(b)(2) For vinyl chloride production facilities.

(i) Standard effective Oct. 5, 1974. The maximum concentration of vinyl chloride to which any employee may be exposed shall not exceed 25 ppm nor shall the time-weighted average concentration exceed 10 ppm.

(ii) Standard effective Oct. 5, 1977. The maximum concentration of vinyl chloride to which any employee may be exposed shall not exceed 10 ppm nor shall the time-weighted average concentration exceed 5 ppm.

(b)(3) For polyvinyl chloride fabricating facilities. No workplace concentrations of vinyl chloride in excess of 1 ppm in facilities falling within the scope of this standard.

(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 personnel" 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 in the performance of his duties to observe, record, or maintain the level 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 measured by a method of analytical method capable of measuring concentrations of 1 ppm, with a sensitivity of 1 ppm ± 10 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 accessible to personnel.

(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.

(c)(2) "Authorized personnel"...; and other personnel such as truck drivers, contractors, service personnel and others whose legitimate duties require their occasional presence in operating areas.

(c)(4)... means, a level of vinyl chloride in the workplace or materials that produce a level of vinyl chloride in the workplace in excess of the limitations set forth in paragraph (b).

(c)(5)... the levels set forth in paragraph (b).

(c)(6)... [Omit]

(c)(8)... such as a ruptured transfer line, resulting in the release of vinyl chloride sufficient to produce acute symptoms among workers exposed to or having contact with the vinyl chloride.

(c)(9)... liquid vinyl chloride or inhalation of vinyl chloride gas in excess of permissible levels set forth in paragraph (b).

(c)(10)... extruded stock, or diced or pelletized product made from the foregoing.

This entire subparagraph will not be required if the proposed limitations (paragraph(b)) are adopted.

This reflects the NIOSH March 11, 1974 definition of an emergency.

Personnel using protective equipment are not exposed to the vinyl chloride.

This corresponds to commercial practice and nomenclature.

(c) *Reference.* College of American Pathologists, 530 N. Michigan Ave., Chicago, Illinois 60611.

2/4: *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 personnel.

(3) A daily roster of persons entering regulated areas shall be kept and maintained. This roster, in summary format, shall be kept for at least 20 years.

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

(2) The monitoring shall assure that any exposure does not exceed the 8-hour time-weighted average limit of 1 ppm.

2/

(e) (1) (ii) ...containing levels of residual vinyl chloride in excess of the limits set forth in paragraph (a) (1)...

(e) (2) ...personnel.

(3) (3) ...personnel whose duties regularly require their entry into regulated areas shall be made and maintained... 30...

(f) (1) ...constantly sequentially monitored for levels of vinyl chloride at intervals not exceeding 10 minutes.

(f) (2) Delete, and add the following:

(f) (2) (i) Probes shall be so located in every regulated area as to provide a statistically valid sample of the workplace atmosphere. Analysis shall be conducted on samples obtained from each probe in a sequential manner so that the atmosphere at each site is analyzed.

(f) (2) (ii) The analytical instruments shall be periodically checked and re-calibrated to assure proper functioning in accordance with good analytical practices.

(f) (2) (iii) The monitoring equipment shall produce an audible and visible alarm in any plant area when the concentration of vinyl chloride in that area exceeds the limit set forth in paragraph (b).

2/ This paragraph in the proposed standard should be lettered "(d)"; it is shown as "(e)" in the "Recommended changes" because of the recommended inclusion of a new paragraph (b).

(f)(2)(iv) The monitoring equipment shall produce an audible and visible alarm, readily distinguishable from that required by (f)(2)(iii), in any plant area when the concentration of vinyl chloride in that area exceeds 100 ppm.

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

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

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

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

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

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

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

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

(B) Record quantities and results obtained;

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

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

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

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

(f)(3)...elected...a reasonable opportunity...

(f)(3)(i) through (f)(3)(iii) - [Delete]  
Replace by:

(f)(3)(i) Summaries of monitoring results including the daily maximum and average for each probe location shall be promptly and conspicuously posted. Employees or their elected representatives shall have reasonable opportunities to inspect the raw data from which the summaries have been prepared.

(f)(4)...30...

It is anticipated that the constant sequential monitoring envisioned here will result in instrument charts and/or computer print-outs. The only meaningful information generated would be the summaries referred to in the "recommended change". Since the probes will be in fixed locations, "observation" here would have no practical significance and the details set forth in the proposed standard have no applicability.

(f) Engineering controls and work-practice methods. (i) 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 (i) (i) (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.

(g) (1) ...levels of vinyl chloride in excess of the limits set forth in paragraph (b),...

(g) (1) (i) ...[Same as (g) (1)]

(g) (1) (ii) ...[Same as (g) (1)]...h...

(g) (1) iv) ...the limits set forth in paragraph (b),...

(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 work-practice 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. *(Add)*

Add the following new paragraph:

(h)(3)(v) A half-face, canister-type mask when the concentration of vinyl chloride is above the limit set forth in paragraph (b) but below 100 ppm.

Until a suitable indicator system has been developed to show when the canister is no longer effective, each regulated area shall develop a work-practice rule that provides for the replacement of used canisters when such canisters have consumed 50% of specified capacity but no less than daily replacement when such canisters have been used at all.

## I

## II

## III

(b) Protective clothing. (1) Employees entering regulated areas shall wear full-body protective clothing, hood, gaiters or shoe covers, and gloves as required in the ~~regulated area~~ while in the regulated area.

(2) Where polyvinyl chloride powder containing detectable levels of vinyl chloride is ~~present~~, employees shall wear:

(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.

(4) Hygiene facilities and practices. (i) Where employees are required by this section to wear protective clothing and equipment, change rooms shall be provided in accordance with § 1010.141(e).

(2) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1010.141(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.

(i)(1) This item should be deleted.

(i)(2)...levels of vinyl chloride in excess of the limit set forth in paragraph (a)...[delete "also"]

(i)(2)(ii)...any adhering polyvinyl chloride powder from clothing...

(i)(2)(iii) [Delete]

(i)(3)...headcoverings...

...headcoverings...

(j)(3) Storage or consumption of smoking products are prohibited in regulated areas.

Under general working circumstances special protective clothing is neither available nor necessary.

We see no useful purpose being served by this requirement.

We see no reason why chewing gum or the use of cosmetics should be barred.

(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 operation 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 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)(2)(iii)...an amount sufficient to create an emergency...

(k)(3) [This paragraph relates to a desirable general training program, not to emergencies. We recommend that it be placed in a separate lettered paragraph.]

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

~~CANCER SUSPECT AGENT AREA~~  
~~AVOID ENTRY WHEN SIGNAL IS ACTIVATED~~  
(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~~  
~~AVOID ENTRY WHEN SIGNAL IS ACTIVATED~~  
~~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 ADEQUATE VENTILATION~~

(L) (1) . . . :

VINYL CHLORIDE VAPOR HAZARD  
(CARRY RESPIRATOR AND) WEAR ASSIGNED PROTECTIVE EQUIPMENT  
WHEN ALARM SIGNAL IS ACTIVATED  
WHEN SIGNAL IS ACTIVATED, DO NOT REMAIN IN ALARM AREA  
UNLESS YOUR WORK REQUIRES IT  
BREATHING EXCESSIVE QUANTITIES OF VINYL CHLORIDE VAPOR  
MAY BE HAZARDOUS TO YOUR HEALTH  
AUTHORIZED PERSONNEL ONLY

(L) (2) . . . :

VINYL CHLORIDE VAPOR IN THIS AREA  
IMPERVIOUS PROTECTIVE CLOTHING AND  
RESPIRATORS REQUIRED  
AUTHORIZED PERSONNEL ONLY

(L) (3) . . . :

VINYL CHLORIDE CONTAMINATED MATERIAL  
MAY BE HAZARDOUS TO YOUR HEALTH  
DECONTAMINATE OR DISPOSE OF USING ADEQUATE  
VENTILATION OR PROTECTIVE EQUIPMENT

3/ It is assumed that the paragraph (k)(1)(4) to which reference is made in this paragraph should read paragraph (L) (4).

(L)(4)...levels of vinyl chloride in excess of the limits set forth in paragraph (a)....:

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

**POLYVINYL CHLORIDE**  
**CONTAINS VINYL CHLORIDE**  
**AVOID BREATHING VAPOR OR DUST**  
**CLOSED CONTAINERS OF POLYVINYL CHLORIDE MAY CONTAIN**  
**VAPOR LEVELS OF VINYL CHLORIDE WHICH MAY**  
**BE HAZARDOUS TO YOUR HEALTH**  
**OPEN ONLY IN WELL-VENTILATED AREAS OR WEAR RESPIRATORY**  
**PROTECTION**

(5) Containers of vinyl chloride shall be labeled:

**VINYL CHLORIDE**  
**DANGER**  
**EXTREMELY FLAMMABLE GAS UNDER PRESSURE**  
**MAY POLYMERIZE WITH EXPLOSIVE FORCE**  
**POISON**  
**AVOID CONTACT WITH LIQUID OR VAPOR UNLESS FULLY**  
**PROTECTED BY AUTHORIZED EQUIPMENT**  
**IN THE EVENT OF ACUTE EXPOSURE SEEK MEDICAL**  
**ASSISTANCE IMMEDIATELY**

(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.

#### CAUTION

**POLYVINYL CHLORIDE**  
**CONTAINS VINYL CHLORIDE**  
**AVOID BREATHING VAPOR OR DUST**  
**CLOSED CONTAINERS OF POLYVINYL CHLORIDE MAY CONTAIN**  
**VAPOR LEVELS OF VINYL CHLORIDE WHICH MAY**  
**BE HAZARDOUS TO YOUR HEALTH**  
**OPEN ONLY IN WELL-VENTILATED AREAS OR WEAR RESPIRATORY**  
**PROTECTION**

(L)(5)....:

**VINYL CHLORIDE**  
**DANGER**  
**EXTREMELY FLAMMABLE GAS UNDER PRESSURE**  
**MAY POLYMERIZE WITH EXPLOSIVE FORCE**  
**POISON**  
**AVOID CONTACT WITH LIQUID OR VAPOR UNLESS FULLY**  
**PROTECTED BY AUTHORIZED EQUIPMENT**  
**IN THE EVENT OF ACUTE EXPOSURE SEEK MEDICAL**  
**ASSISTANCE IMMEDIATELY**

*Is it Poem*

## I

(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 (1) 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 (2) required to shower after removing protective equipment.

## II

(m) (4) (i) ...a suit impervious to vinyl chloride, a respirator in accordance with paragraph (h) of this section, gloves, and protective footwear.

(m) (4) (ii) [Delete]

## III

Use of an air-supplied whole body impervious suit constitutes a major health and safety hazard. The recommended change permits an employee to be protected where he:

- (1) uses prescription glasses,
- (2) is in a vessel with a safety harness to permit his removal in case of accident,
- (3) needs to wear a hard hat.

Since no contact with vinyl chloride will occur, this provision is unnecessary.

(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 needed~~ ~~When~~ ~~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 stream 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, calendaring and extruding, which release detectable levels of vinyl chloride, shall be carried on only

(m) (7) (ii) (B) [Delete]

(m) (7) (iii) Insert the following:

..., or a mechanical standby is provided which requires acknowledgement from the man inside the vessel on a 2 1/2 minute time cycle and another man (observer) is in the area to assist the man in the vessel if he does not respond.

(n) (1) [Delete]

(o) (1)...levels of vinyl chloride above the limits set forth in paragraph (a)...the limits set forth in paragraph (b) (3).

(o) (2)...levels of vinyl chloride above the limits set forth in paragraph (b) (3)...the limits set forth in paragraph (b) (3).

Alternate B should be permitted for all piping.

An inert gas purge is neither necessary nor always practicable. Purging back to the process is feasible and provides equivalent protection.

(e) 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 or laboratory abnormality.

(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 oxaloacetic transaminase (SGOT);
- (iv) Serum glutamic pyruvic transaminase (SGPT); and
- (v) Gamma glutamyl transpeptidase (GGT).

(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.

(p) (1) [Delete]

(p) (2) [Delete]

(p) (3)...suitable samples shall be taken to permit the performance of all tests deemed necessary by the examining physician.

(p) (4) [Delete]

It is the consensus of medical opinion that there are no diagnostic or screening procedures that will detect sensitivity or predisposition to angiosarcoma of the liver. Consequently a standard should not specify what tests should be performed, but should leave medical examinations to the discretion and professional competence of the examining physician.

(8) 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 45 CFR Part 96.

(9) If the results of screening required in paragraph (e) (2) 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.

(10) If one or more liver function tests performed are abnormal, further testing shall be provided as soon as possible, preferably within one to two weeks. If no abnormalities are detected, the screening program testing shall be repeated in three months.

(11) If abnormalities persist upon re-screening, the employee shall be withdrawn from areas where contact with vinyl chloride is possible and an individualized medical evaluation shall be initiated. Employees with initial signs of a possible adverse reaction and various other symptoms, such as neuropathy, dizziness, and headache, shall be referred to a physician for further evaluation. If liver function abnormalities are determined to be indicative of liver disease, the employee may be permitted to return to vinyl chloride related employment subject to individual medical evaluation.

(12) 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.

(p) (7) [Delete]

(p) (8) [Delete]

Decisions as to the significance of tests, and recommended procedures should be made by the physician.

(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 specific completion for release.

(q) (3) ...reasonable access...

(q) (4) ...reasonable access...

(r) (2) (i) ...emergency...

(r) (2) (ii) (D) ...emergency...

(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 15 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.

(Sec. 6(b), 6(c), and 6(e), 94 Stat. 1303, 1980, 1980 (29 U.S.C. 655, 657); Secretary of Labor's Order No. 13-71 (29 FR 6984))

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

JOHN STEINER,  
Assistant Secretary of Labor.

(FWS Dec.74-10748 FWSd 5-6-74; 9:45 am)

(r)(3)...levels of vinyl chloride in excess of the limits set forth in paragraph (b)...The employee shall:

(r)(3)(i) [Delete, and replace by the following]:

Be notified of the exposure as soon as practicable, but not later than five working days after the finding; and,

(r)(3)(ii) Be informed of...

(r)(3)(iii) [Delete, and replace by the following]:

Be notified in a timely fashion of the corrective action being taken.