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February 23, 1976

Emission Standards and Engineering Division
Environmental Protection Agency
Research Triangle Park, North Carolina 27711

Attention: Mr. Don R. Goodwin

Re: Proposed Standard for Vinyl Chloride

Dear Mr. Goodwin:

Air Products and Chemicals, Inc. submits herewith its comments and views on the Proposed Standard for Vinyl Chloride as published by the Environmental Protection Agency at 40 FR 59532. In summary, we do not believe that the Agency has adequate grounds for declaring that vinyl chloride is a hazardous air pollutant, or for proceeding under Section 112 of the Clean Air Act. We urge that rulemaking proceed under Sections 109 and 111 of the Act.

Our reasoning and supporting data are given in the attached documents, which are arranged in the following order.

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Mr. Don R. Goodwin

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It is the purpose of these comments to correct the record and assist the Administrator in his consideration of our request. We also incorporate by reference the submittals of the Technical, Economic, and Health Effects subcommittees of the VCM and PVC Producers Group of the Society of the Plastics Industry on this matter.

We are anxious to assist the Administrator and his staff in any way we can during their consideration of this important standard. Please feel free to call on us for whatever help we may provide.

Very truly yours,

Richard Fleming
Richard Fleming

/mjv

Enclosure

SPI-16635

I. LEGAL POSITION

A. Introduction and Reservation of Rights

Air Products and Chemicals, Inc. ("Air Products") submits herewith its comments and views on (a) the Administrator's determination that vinyl chloride is a Hazardous Air Pollutant as defined in Section 112(a) (1) of the Clean Air Act (the "Act") and (b) the Administrator's Proposed Standard for Vinyl Chloride. In submitting such comments, Air Products is attempting to inform the Administrator of certain errors, omissions, misstatements, misjudgments and faulty reasoning contained in the Proposed Standard itself and in the Preamble, the Scientific Technical Assessment Report ("STAR"), the Quantitative Risk Assessment ("Risk Assessment") and the Standard Support and Environmental Impact Statement ("Standard Support"). Nothing contained in these comments should be construed as a waiver by Air Products' of its rights under the Act to petition for judicial review of the standard finally adopted, whether or not such final standard incorporates some or all of the comments contained herein, and Air Products expressly reserves all such rights.

B. Summary

As will be more fully set forth below, Air Products believes that at current or reasonably expected ambient concentrations of vinyl chloride in the vicinity of establishments manufacturing or handling this substance, vinyl

chloride monomer is not a hazardous air pollutant. Air Products believes further that the vinyl chloride emission standard is improper and unnecessary in its proposed form. We concede that some form of vinyl chloride emission standard may be desirable to insure that the current safe ambient concentrations are not exceeded, but we believe that the EPA documents supporting the proposed standard, and the proposed standard itself, are seriously flawed. We do not believe that the Administrator has been presented with all the available relevant information on the health effects of vinyl chloride; nor do we believe that the information that has been presented by the EPA Staff has been prepared in an objective and balanced manner; nor that the conclusions drawn and recommendations made in these documents are sound.

Although we have strong objections to many of the conclusions reached in the documents supporting the proposed standard, we nevertheless commend the Agency Staff for its receptivity to technical inputs from all interested parties during the development of the proposed standard. We sincerely hope that the points made in these Comments will be equally well received.

We also commend the Agency for acknowledging the necessity of and publishing the Risk Assessment Document. While we may disagree with its conclusions, we think that the publication of a document assessing the risks of exposure to air pollutants

at varying levels is essential to the standard setting process. We urge the Agency to publish a risk assessment in connection with each of its subsequent rule makings.

Thirdly, we support the Agency's use of cost/benefit analyses in determining the type and degree of pollution abatement technology to impose. The concept of cost/benefit analysis is sound, although the Agency has failed to apply it precisely in this rule making.

Decisions of the magnitude of a determination of a hazardous air pollutant should be made with great care, and should be adequately supported by rigorous evaluation of all of the available data. A fair evaluation of the voluminous material published by EPA in support of its determination and the proposed standard leaves one with the uneasy impression of a decision in search of a rationale rather than a disciplined exercise in rational decision making.

There are many technical flaws in the proposed standard itself, and these will be commented on in detail in the written comments of the technical committee of the VCM/PVC Producer's Group of the Society of the Plastics Industry ("SPI"). Air Products concurs in SPI's technical comments, and urges the Administrator to incorporate them in the final standard.

Air Products also concurs in, and incorporates herein by reference, the line-by-line critique of the supporting

documents, as well as of the proposed standard, as set forth in the SPI presentation.

Air Products objects to those parts of the proposed standard which it considers to be design or work practice standards rather than an emissions standard. These objections are more fully set forth in Part I F of these Comments.

We therefore respectfully request that the Administrator set aside his determination that vinyl chloride is a hazardous air pollutant and proceed to promulgate an appropriate standard under Sections 109 or 111 of the Clean Air Act.

Detailed technical reasoning supporting this request is given below.

C. Vinyl Chloride is Not a Hazardous Air Pollutant

Section 112(a)(1) of the Act defines a hazardous air pollutant as an air pollutant "which in the judgment of the Administrator may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacating reversible, illness." In the exercise of the foregoing judgment, the Administrator must necessarily use as his frame of reference some level of ambient concentration of the air pollutant under consideration. Were this not so, every air pollutant would fit the definition since every air pollutant is potentially hazardous at some level.

According to EPA's calculations, as set forth in the Risk Assessment, the five mile radius average annual community exposure to vinyl chloride monomer is 17 ppb. As

presented in more detail in our Part III D Comments herein on the Risk Assessment document, the data and assumptions employed to arrive at the 17 ppb figure are obsolete and inaccurate. Analysis of EPA's more recent monitoring data shows that current five mile radius average annual community exposure to vinyl chloride is less than 1 ppb. We believe that at either level, but especially at a level less than 1 ppb, vinyl chloride monomer is not a hazardous air pollutant. Exposure at this level will neither cause nor contribute to any discernible "increase in mortality or serious irreversible, or incapacitating reversible, illness". In fact, the proposed standard itself is based on a similar risk assessment.

The conclusion that vinyl chloride is not a hazardous air pollutant is further buttressed by the conclusion reached by EPA itself in Appendix E of the Risk Assessment document where it is stated that EPA has found "no evidence that living around vinyl chloride plants is a risk factor in the occurrence of liver angiosarcoma". In addition, Dr. Wm. Marcus stated at the EPA hearing on vinyl chloride in Washington on February 3, 1976, ".... to date we do not have any evidence that angiosarcoma has been produced by vinyl chloride in the general population". (Transcript of hearing, page 42.) We find further support for this conclusion in the CDC finding of no confirmed cases of liver angiosarcoma among persons who were not occupationally

exposed to long term high level concentrations of vinyl chloride. This is so, in spite of the fact that historical emissions of these plants, some in existence for more than 25 years, have been substantially higher than current levels. Thus, we conclude that vinyl chloride is not a hazardous air pollutant within the meaning of Section 112 of the Clean Air Act.

D. The Proposed Emission Standard is Unnecessary to Provide an Ample Margin of Safety to Protect the Public Health

If we accept, for the sake of argument, that the Administrator acted correctly in designating vinyl chloride a hazardous air pollutant, Section 112(b)(1)(B) requires him to establish an emission standard "at the level which in his judgment provides an ample margin of safety to protect the public health from such hazardous air pollutant."

We submit that the proposed standard is unnecessary because the margin of safety which the Administrator has implicitly accepted as ample has already been achieved by industry as a result of the OSHA standard for vinyl chloride and industry's increasing awareness and understanding of the health hazard of high level exposure to vinyl chloride.

The Preamble to the proposed standard states that implementation of the standard would result in a 95% reduction in vinyl chloride emissions from vinyl chloride and polyvinyl chloride manufacturing plants. EPA has also

stated that the five mile radius average annual community exposure to vinyl chloride is 17 ppb. If the Administrator has correctly interpreted and discharged his duty under Section 112(b)(1)(B) in formulating the proposed standard, the public health would be protected with an ample margin of safety if the five mile radius average annual exposure were reduced to .85 ppb.

A fair evaluation and analysis of more recent monitoring data compiled by EPA shows that ambient concentrations are already at or below this goal, as the result of extensive and expensive abatement efforts of the plants involved. See STAR, Chapter 6.

The Risk Assessment document predicts that at an assumed five mile average annual community exposure of 17 ppb, from less than one to ten persons per year would contract liver angiosarcoma from vinyl chloride, and that an equal number of persons would contract tumors at other sites. For the reasons set forth in Part III D of these Comments, a consideration of the facts leads to the conclusion that these predictions are incorrect, and that the proposed standard is not necessary.

- E. Although the Proposed Standard is Neither Necessary nor Proper, Some Form of Emission Standard may be Appropriate to Insure that the Currently Safe Ambient Levels of Vinyl Chloride are Maintained

Although designation of vinyl chloride as a hazardous air pollutant is improper, we concede that public concern

over vinyl chloride requires that some form of emission standard be adopted by the Administrator. Although the Preamble asserts that Section 109 treatment of vinyl chloride would be inappropriate "because vinyl chloride is a localized problem and Section 109 is usually more appropriate for regulating pollutants whose presence in the ambient air is ubiquitous," we submit that the absence of clustering of incidences of liver angiosarcoma demonstrates (Risk Assessment document at Appendix E.) that the problem is not localized. We note, moreover, the recent joint publication of the American Health Foundation and the National Cancer Institute which suggests that vinyl chloride may well be ubiquitous in the ambient air because of the combustion of vegetation.

The Administrator has implicitly accepted that an ambient concentration not exceeding 1 ppb vinyl chloride is sufficient to provide an ample margin of safety to the public health, and we believe that a national primary ambient air standard under Section 109 to this effect would properly protect the public.

We would also support an appropriate new source standard for vinyl chloride under Section 111.

Alternatively, if the Administrator concludes that he cannot rescind his determination that vinyl chloride is a hazardous air pollutant, we would suggest that he modify the proposed vinyl chloride emission standard to permit

owners or operators of vinyl chloride and polyvinyl chloride manufacturing facilities to meet an ambient concentration limit on vinyl chloride in the vicinity of such facilities. The National Emission Standard for Beryllium (40 CFR 61.30 et. seq.) provides a precedent for such action at Section 61.32(b).

We believe that an alternative emissions standard based on ambient concentrations in the vicinity of vinyl chloride and polyvinyl chloride plants would be desirable for the following reasons:

The real concern in regulating any pollutant, but especially a gaseous, non-persistent pollutant with a short half life, should not be the concentration in some vent stream or the stack gas. The real concern should be with the concentration in the neighborhood. The community exposure, and the risks resulting from such exposure are the pertinent questions.

Vinyl chloride is a gas, is not persistent, has a half life of about six hours in sunlight, and does not bio-accumulate. Accordingly, if ambient concentrations of vinyl chloride are at acceptable levels in the vicinity of the plant, diffusion and degradation will adequately protect those persons living farther from the plants.

Vinyl chloride, unlike the present hazardous air pollutants is easily measured by gas chromatography. As noted in the STAR Document, the sensitivity of current monitoring equipment approaches .5 ppb. Regulation though enforcement