



A Division of The Society of The Plastics Industry, Inc.

② HEM,
FVI
② JCT

File: VI

March 16, 1987

TO: The Vinyl Institute Health, Safety & Environment Committee

RE: Follow-Up Items From March 12-13th Meeting

1. Attached is the material Joe Ledvina gave me at the March 12-13th meeting for distribution.
2. Enclosed is an up-to-date committee roster for your files.
3. This morning Dennis Burgess (Assistant Technical Director of SPI) called to brief me on a meeting of the Science Advisory Board that he attended on March 5th and 6th. As you know, one of subjects on the Agenda for that meeting was the TCLP. Dennis indicated that Matt Strauss was at the SAB Meeting on behalf of EPA. The SAB reportedly expressed concern about a variety of TCLP issues - wastewater, biodegradation, and the generic landfill scenario. The SAB is now reviewing the comments that EPA received, along with a report from the Agency to SAB. (Dennis could not get a copy of this report). The SAB intends to complete their review and formally direct their comments to the EPA in August/September. In the meantime, and of importance, is the fact that Strauss indicated at the SAB Meeting that the Agency would indeed be reopening the comment period in the very near future. I will send you a copy of Dennis' memo on this subject as soon as I receive it. As soon as the notice is officially published in the Register, I will apprise you.

MNS/pmb
enclosures

Meredith

Meredith N. Scheck
Assistant Director

VVV 000004285



Emergency and Continuous Exposure Guidance Levels for Selected Airborne Contaminants

Volume 6

Benzene and Ethylene Oxide

Committee on Toxicology
Board on Environmental Studies and Toxicology
Commission on Life Sciences
National Research Council

VVV 000004286

EGLs FOR CARCINOGENS

1985) 5-10

Estimating EEGLs for chemical carcinogens is complicated. Vainio

Many experimental investigations involve high-dosage, long-

Substances that are carcinogenic in one mammalian species are often

diat, other exposures, intercurrent disease, and age at first exposure contribute additional uncertainties in predicting human effects. Mathematical models suggest greater precision than exists.

The role of short-term exposures in producing cancer is not clear. On the one hand, any exposure to a carcinogen has the potential to add to the probability of carcinogenic effects, and such exposure should be avoided or at least minimized. Nitrosoureas, for example, are carcinogenic after a single exposure, and hydrazines and other alkylating agents might also have this capacity. On the other hand, the effects of long or repeated exposures could greatly overshadow brief exposures (up to 24 h). Industrial accidents involving brief exposures to vinyl chloride or benzidine might be in that category. A familiar example of strong relation of cancer risk to duration of exposure is tobacco-smoking. Exposure to tobacco products for a day or less, although not carrying zero risk, carries much less risk than chronic smoking and will not be likely to add significantly to the risk of tobacco-related cancer.

The following mathematical approach is applicable for EEGL computations for carcinogens.

1. If an exposure d (usually in parts per million in air) has been computed that, following a lifetime of exposure, is estimated to produce some "acceptable" degree of excess risk of cancer--say, 1×10^{-6} --this has been called a "virtually safe dose" (VSD). Dose d , if not already computed by a regulatory agency, will be computed by COT in accordance with generally accepted procedures used by the major regulatory agencies--i.e., with the multistage no-threshold models for carcinogenesis and the appropriate body weight/surface area adjustments for extrapolating from an animal species to humans.

2. If carcinogenic effect is assumed to be a linear function of the total (cumulative) dose, then for a single 1-day human exposure an acceptable dose (to yield the same total lifetime exposure) would be $d \times 25,600$ (there being approximately 25,600 days in an average lifetime), and the allowable one-day (24 h) dose rate would be

$$d \times 25,600.$$

3. Because of uncertainties about which of several stages in the carcinogenic process a material might operate in and because of the likely youth of military persons, it can be shown from data of Crump and Howe (1984) that the maximal additional risk that these considerations contribute is a factor of 2.8. As a conservative approach, the acceptable dose is divided by 2.8, i.e.,

$$\frac{d \times 25,600}{2.8}.$$

If a lifetime excess risk, R , is established by DOD (for example at 1×10^{-4} , as has been suggested by the International Council on

Radiation Protection for nuclear power plant workers), then the appropriate EEGL-based risk would be

$$\frac{d \times 25,600}{2.8} \times \frac{R}{\text{risk at d}}$$

(In the example given here, the risk at d was no more than 1×10^{-6} .)
If R is 1×10^{-4} , then $R(\text{risk at d}) = 10^{-4}/10^{-6} = 100$.

4. If a further element of conservatism is required (for example, if animal data need to be translated to human risk), an additional safety factor can be used as a divisor.

The assumption that the carcinogenic response is directly proportional to total dose is likely not to hold for all materials and all tissues that these materials affect. Appropriate mathematical models need to be developed for materials that have other mechanisms for the induction or promotion of cancer. Thus, if a proto-oncogene needs to go through several mutations before it is "turned on" to producing frank cancer cells, the material that leads to the final mutation might show a higher-degree dose-response function than the material producing the first-stage mutation. Knowledge of mechanisms that produce different dose-response curves should, in the future, lead to better material- and mechanism-specific risk-assessment computations.

REFERENCES

Crump, K.S., and R.B. Howe. The multistage model with a time-dependent dose pattern. Applications to carcinogenic risk assessment. Risk Analysis 4:163-176, 1984.

Office of Science and Technology Policy. 1985. Chemical carcinogens. A review of the science and its associated principles. Fed. Regist. 50: 10372-10442.

Vainio, H., K. Hemminki, and J. Wilbourn. 1985. Data on the carcinogenicity of chemicals in the IARC Monographs programme. Carcinogenesis 6:1653-1665.

TABLE I
CRITERIA LEVELS FROM THE LITERATURE
FOR SELECTED CHEMICALS

	<u>PEL/TLV</u>		<u>STEL</u>	<u>IDLH</u> * (1)	<u>NRC/EEG</u> * (2)
BENZENE	10ppm (30mg/m ³) PEL 10ppm TLV 1ppm NIOSH		50ppm 25ppm	2,000ppm	1,000ppm
CHLORINE	1ppm (3mg/m ³) PEL (ceiling) 1ppm TLV (ceiling)		None 3ppm (9mg/m ³)	25ppm	3ppm
ETO	1ppm (2mg/m ³) PEL 1ppm TLV		None None 5ppm (NIOSH)	800ppm	20ppm
HCl	5ppm (7mg/m ³) PEL (ceiling) 5ppm TLV (ceiling)		None None	100ppm	
HF	3ppm (2.5mg/m ³) PEL 3ppm TLV (ceiling)		6ppm (5mg/m ³) None	20ppm	
VCM	1.0ppm (3mg/m ³) PEL 5.0ppm (15mg/m ³) TLV		5ppm None	None Found	

NOTES:

- (1) IDLH is defined by NIOSH as the 30 minute maximum concentration from which one could escape without escape impairing symptoms or any irreversible health effects.
- (2) NRC/EEG - These are the levels proposed, or recommended by the National Research Council, committee on Emergency Exposure Guidelines. There are considered as a ceiling limit for a one time exposure, not to exceed 60 minutes.

Comments:

In general ceiling limits are "not to be exceeded" limits for industrial workers. They would be conservative estimates for the normal population.

HF, HCl, and Chlorine are all detectable and potentially irritating at levels of 1/10 to 2 times the PEL/TLV.

2

minutes

SI

File: VI

HEALTH, SAFETY & ENVIRONMENT COMMITTEE

Charleston Marriott Hotel
North Charleston, South Carolina
Board Room I

Thursday
December 18, 1986
9:00 a.m.

Attendees:

W. C. Holbrook, Chairman	- BFGoodrich
J. King	- Occidental Chemical
J. Kachtick	- Occidental Chemical
J. Ledvina	- Vista Chemical
F. Borrelli	- Georgia Gulf
N. Blackman	- Borden Chemical
C. Graybill	- PPG Industries
M. Scheck	- Vinyl Institute

Companies Not Represented:

Air Products and Chemicals
Dow Chemical Company
CertainTeed Corporation

Approval of Minutes of October 8, 1986 Meeting

Mr. King motioned that the minutes of the previous committee meeting be approved without correction. The motion was seconded by Mr. Kachtick and approved by voice vote by those present.

Legal Update

On behalf of counsel, Ms. Scheck updated the committee on the legal status of the VCM standard. Ms. Scheck disseminated a report prepared by Mr. de la Cruz as well as copies of the November 20, 1986 General Counsel Report to the Vinyl Institute Executive Board.

THE SOCIETY OF THE PLASTICS INDUSTRY, INC.

355 Lexington Avenue • New York, N.Y. 10017

(212) 503-0600

VVV 000004291

RCRA Update: TCLP

Mr. King noted that responses to his questionnaire on sending samples to an outside laboratory for analysis were "mixed". Of those who responded, one company responded in the affirmative, two in the negative, and two willing to go along with the majority of responders. As part of the discussion on individual company experiences, it was noted that results of using the TCLP on products differ substantially and that there have been numerous problems in trying to use the specified method to achieve verifiable results. Two companies noted that they have received customer inquiries and suggested that other companies may soon receive similar requests.

RCRA VI Task Force

Mr. Kachtick noted that the task group assigned at the October 8th meeting to provide input to the Vinyl Institute Legal Committee for filing of comments met in Houston. Kachtick noted that with the assistance of Bailey Barton of Borden, material was provided to the Legal Committee. Additionally, Kachtick noted that there is no indication that further assistance is needed.

Enforcement Update

Mr. Kachtick noted that Texas Air Control Board staff has been considering the viability of working on a proposed matrix that would correlate air violation and fines per violation. Messrs. King, Ledvina, Graybill and Holbrook updated the committee in pending legal activity.

PVC Waste Disposal Subcommittee

Mr. Ledvina reviewed the background on the issue of vinyl chloride in groundwater near landfills. Additionally, he noted that the survey questionnaire on the issue was disseminated to VCSA members and that the results of the survey were presented at the October 1986 Annual Meeting of the VCSA. Ledvina further noted that the results of the survey do not point to the need for more work on the issue at this time.

EPA Survey

Mr. King reviewed the background of a discussion at the December 10th Vinyl Institute Executive Board Meeting relative to the preparation of an industry survey on the industry performance record under NESHAPS and the increasing cost penalties. Ms. Scheck noted that the Executive Board agreed that a meeting with EPA policymakers would be a worthwhile project to be undertaken. After lengthy discussion,, the committee uniformly agreed that

recent enforcement activities relative to NESHAPS was but one part of the problem. It was noted that when one considers the TCLP and the use of the California list among other regulatory initiatives, that the industry is being "nitpicked". It was suggested that rather than pursuing a survey on NESHAPS alone, that a strategy session involving HSE and Legal Committee representatives should be pursued at the earliest possible time. It was noted that such could occur on the afternoon of the 13th, if schedules permitted.

HOC: Land Ban Disposal

Mr. Holbrook noted that EPA published in the December 11, 1986 Federal Register a proposed rule on "Hazardous Waste Management System: Land Disposal Restrictions". He said that the proposed rule states that it was not EPA's intention to include PVC, but that they are specifically seeking comments on this approach. Holbrook urged and the committee agreed that the Vinyl Institute should plan to testify at the January 14th Agency public hearing and file written comments by the January 28th deadline.

Following a review of the proposal and a lengthy discussion the Committee:

- a. decided that the Vinyl Institute, represented by the Health, Safety and Environment Committee Chairman, W.C. Holbrook, should appear at the EPA public hearing;
- b. agreed that the Vinyl Institute should also submit written comments;
- c. decided that a subcommittee would meet on January 12th and 13th to prepare comments, and
- d. developed the following list of key points to serve as the basis of the Vinyl Institute comments:
 - enormous waste volume.
 - inadequate incineration capacity.
 - incineration generates additional hazardous waste and wastewater TDS.
 - chlorine (from environmental view) is better in bound form.
 - safety uses of PVC.
 - studies show landfill disposal to be environmentally sound.
 - PVC not carcinogenic.
 - refer to previous industry comments on TCLP.
 - use and status of California list.

Ms. Scheck will send a notice to the committee on the above and ask them to compile data on PVC and PVC sludge generation and disposal. (Note: This was done by separate memo dated January 5, 1987). Also, Scheck to notify Agency of Vinyl Institute intent to appear at the January 14th hearing. Holbrook agreed to inquire regarding CMA position.

Health, Safety & Environment Committee Meeting Minutes
December 18, 1986
Page Four

NESHAPS

The committee discussed several items related to EPA NESHAPS' enforcement and guidance activities. Specifically discussed were the definition of EDC purification and the inclusion of crude intermediate storage tanks to 10 ppm. Holbrook noted that he has been trying to clarify with EPA the discrepancy that exists between #4B8 in the BID and the standard. He noted that Mr. Dimmick of EPA has sent him additional documentation which is currently being reviewed. The committee also discussed EPA's interpretation of a "process unit" and reviewed contacts between individual companies and the Agency. Lastly, committee members reviewed in a roundtable discussion, their company submissions to EPA on material required to be submitted under NESHAPS.

CERCLA

Mr. Blackman distributed and reviewed material that Mr. Barton had previously agreed to present relating to provisions of CERCLA. Committee members discussed their experiences with CERCLA. Mr. Kachtick noted that a CMA workshop on CERCLA and Right-To-Know is scheduled to be held on January 28, 1987. The committee agreed that at a future meeting the agenda will include a roundtable discussion on the provisions of "federally permitted".

Proposition 65

Mr. Ledvina noted that the Governor of California is slated to release the required material under the recently adopted Proposition 65 in March 1987. The committee noted that at the present time, interpretations regarding the provisions of the adopted proposition differ significantly and, therefore, the impact is uncertain. Committee members agreed that this subject be included on the agenda for the next meeting.

New Meeting/Adjournment

It was agreed that unless otherwise necessary, the next full committee meeting will begin at 12 noon on March 12th and conclude at 12 noon on March 13th. The first choice location was Key West, Florida or Fort Lauderdale. The second choice noted for a future meeting was San Antonio, Texas. There being no other business, the meeting was adjourned at 2:00 p.m.

Respectfully submitted,

Therese M. Schick