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INTEROFFICE
MEMORANDUM

Subject NEW JERSEY EPA CONFERENCE ON VINYL

CHLORIDE - TRENTON - 3 JUNE 1975

To T. L. Carey

Valley Forge

(Location, Organization, or Department)

From J. T. Barr

Valley Forge

(Location, Organization, or Department)

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The New Jersey EPA held an informal meeting at Trenton on 3 June, apparently for the purpose of educating their staff on the present state of emissions of vinyl chloride and abatement efforts now underway.

The industry presentations were well prepared and apparently effective to the degree that they could be, considering the very low level of understanding of the EPA personnel of the industry and the problem. The tone of the meeting was generally friendly. About 35 to 40 persons were in attendance, nearly equally divided between industry and state and Federal EPA staff. A copy of the meeting announcement and agenda are attached. The proceedings were taped, and we were invited to check back in about a month to see if the transcripts were available. More detailed notes are available from the writer.

Meeting Notes

Mr. R. D. Goodenough, Director, Division of Environmental Quality, opened the meeting with a short talk, after which he left. He spoke of the need for reason and sober decisions in setting standards, especially in view of the depressed economy, and appeared defensive as to the part environmental standards had in causing the present situation. He gave industry credit for cooperation and effective action on the vinyl chloride problem. It was requested that attendees send him a letter commenting on the effectiveness and desirability of such meetings. Mr. Vince Marcianti then acted as moderator.

B. F. Goodrich Presentation

Goodrich decided not to bring their own medical men to speak on the health problem, and presented Dr. Henry Falk of the CDC, Atlanta. He gave a reasonably moderate review of the VC history. He did use adjectives such as "possibly" in referring to the community cases in Connecticut, but included them and the accountant and G. E. worker in his list of cases. He emphasized the lack of a good early

(320)

AP00034399

T. L. Carey
4 June 1975
Page #2

Subject: NEW JERSEY EPA CONFERENCE ON VINYL CHLORIDE - TRENTON - 3 JUNE 1975

diagnostic test, and supported cautiously the theory of early fibrosis in chemically induced cases. He also referred to the excess of tumors in other organs, again making passing mention that these were not statistically significant.

Mr. D. O'Kiefe then described the monitoring work at the Pedritown plant. Grab samples in June 1973 showed an average area content of 50 ppm, with excursions to 100-200. This had been reduced to about 10 when the Bendix TMC was installed, and weekly averages are now in the 2-5 range.

Personal monitoring is by carbon absorption and the Bendix flasher. They reported on 98 samples taken in 1974, which ranged from 1-69 ppm, with 29% above 10 and 26% between 5 and 10. Of 131 samples taken so far in 1975, there have been 14% above 10, 5% between 5 and 10, and the range is 0.01-24 ppm. He reported good reliability and 98% recovery from the flasher, with its best performance at lower concentrations.

Questioning centered around whether they did anything more than just better ventilation to reduce exposures, and he emphasized their leak patrol and response to high levels on the area monitor.

Mr. K. J. Kaminski discussed their environmental testing. Tests in June of 1974 on a downwind pattern showed 1 of 98 samples over 1 ppm, with 21% less than 0.05 and 51% between 0.05 and 0.5.

They now take four-hour integrated carbon tube samples, but no data were given. The most recent raw data from Louisville show that of 737 samples 90% are below 0.05 ppm, 6% are less than 0.1 ppm, and 4% range upward to an 0.3 ppm maximum.

They are purchasing a gas filter correlation IR instrument that is "nearly commercial" (JBL Co., San Diego) that uses a 50m sample path and will have a limit of 25 ppb. It has no interference since it uses the 9-11 micron vibrational spectra of VC.

Mantua Chemical Terminal

Mr. G. Barton gave a slide presentation of this terminal which was built in 1970 for redistribution of PPG monomer from Puerto Rico. Storage is in two 3.5M gal. refrigerated tanks. He emphasized the "dry disconnect" method of preventing VC release, and redundancy of protective equipment.

Bulk Process

Ray Abramovitz of Hooker showed a 15 minute promotional film on the two-stage process, and discussed their operation. He claimed environmental advantages for the

AP00034400

T. L. Carey
4 June 1975
Page #3

Subject: NEW JERSEY EPA CONFERENCE ON VINYL CHLORIDE - TRENTON - 3 June 1975

process as: no effluent (although they are installing HP water cleaning of reactors); good material balance and efficiency (now 1.01 lb/lb.); and low emissions (fence-line results average under 20 ppb and range from 2 - 493 ppb). They are working on post treatment to reduce residual VCM, and are now below 50 ppm on "bulk shipments to customers," but emphasize that some product types may be endangered at the proposed EPA level of 400. He said that the only limit to VCM removal was economic.

Fabricators

Mr. J. B. Hardwick of Pantasote said, in effect, that there was no problem at fabricators because the residual VC is so low. There were no questions or comments from the floor.

Suspension and Dispersion Processes

Mr. W. P. Anderson of Tenneco introduced Bill Mendendoff who said earlier losses from suspension processes averaged 2.5 - 4.5%, including PVC, with fugitives (1-2%) and drying (1.8%) being the largest contributors. Present losses were estimated to be in the 2-3% range. They would not give any results of their carbon bed adsorption work at the Texas plant. Dispersion process losses were estimated at 1% higher.

Mr. Paul Kever discussed their analytical techniques. They have chosen GC over all other types for its precision and selectivity. The preferred solvent for standards is THF, not carbon disulfide. He prefers UCON 550S columns to Poropak because it suffers less from water interference. They do not back flush, but run 4-5 samples, then wait for the solvent to elute. The use of pure oxygen for flame fuel rather than zero air increases sensitivity by a factor of 3. They also report better recovery from carbon tubes at low concentrations, averaging 96%.

They prefer the headspace method for residual VC in PVC, but it is only satisfactory for dry resin or solutions of compounds. The sensitivity is about 50 ppb.

Water samples are more difficult to manipulate, but give sensitivities of about 5 ppb with direct injection of 50 microliters. The headspace method with water samples will allow measurements in the sub-ppb range, and headspace combined with carbon absorption allows measurement in the ppt range. Handling techniques are the most serious source of errors.

EPA Methods

The poorest presentation of the day was made by a Mr. Ed Finfer (spelling ?), who reported on the Region II activity soon after the VC problem became known, and on a tentative monitoring method.

AP00034401

T. L. Carey
4 June 1975
Page #4

Subject: NEW JERSEY EPA CONFERENCE ON VINYL CHLORIDE - TRENTON - 3 JUNE 1975

EPA inspected two PVC operations and six monomer plants last year. This was principally educational for them. They checked for vegetation damage near plants and found none. The air at the house of the woman who died near the Niagra Falls plant was tested and VC was found at the ppb level.

He talked at great length about the proposed EPA method, but gave no details, and said the method is not yet available to the public. I have requested a copy when it becomes available. It is reputed to be a 24-hour integrated sample sensitive to 1 ppb with a range to 8 ppm with 6% precision, and is based on carbon absorption. There are 'no common interferences, except hydrocarbons and Freons.'

SPI

John Lawrence then gave a short unscheduled talk, which I considered superfluous, on the desire of industry to cooperate, the past action of industry, and the over-reaction of U. S. agencies as compared to their counterparts abroad.

MISCELLANY

Dr. Falk joined a conversation between Lawrence and myself on the recent Firestone study released by URW/NIOSH to protest that the results were preliminary and should not have been released. He conceded that the final results will not be significantly different when they are released later this month.

Lawrence talked to Don Goodwin, EPA, Durham, and was told that they expect to start the final session of the proposed standard through the agency review routine the third week of June, and we should be able to get copies then. An "action memo" is being prepared which details their strategy, and G. Baise of Ruckelshaus, Beveridge, Fairbanks & Diamond, will attempt to get a copy.



J. T. Barr

JTB/mjv

Attachments

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