



INTEROFFICE
MEMORANDUM

Date 4 NOVEMBER 1975

Subject PVC FOR EXPORT

To G. B. H. SPEED/E. A. PRIMEAU

CALVERT CITY/PENSACOLA

(Location, Organization, or Department)

From J. T. BARR

VALLEY FORGE

(Location, Organization, or Department)

cc: A. R. Adams
R. C. Danziger
C. E. Bowman
J. D. Kramer
~~R. E. Jones~~
J. Outland
R. H. Schenck

We are being asked to provide unlabeled PVC bags for export. We can reduce the possibility of an OSHA citation if we provide a temporary pallet label for the time the unlabeled bags are on the warehouse floor before they are loaded into the shipping container. It is important that this be removed before loading.

It is also important that you get proper notification that the material is for export, so that you can use unlabeled bags.

Please discuss this with the proper persons and let me know your reactions.



J. T. BARR

/mjv

RECEIVED
NOV 10 1975
R. E. JONES

(320)

AP00035898

INTEROFFICE
MEMORANDUM

Date 6 NOVEMBER 1975

Subject VINYL CHLORIDE SAFETY ASSOCIATION

MEETING - HOUSTON - 30 OCTOBER 1975

To T. L. CAREY

VALLEY FORGE

(Location, Organization, or Department)

From J. T. BARR

VALLEY FORGE

(Location, Organization, or Department)

cc: A. R. Adams
N. H. Brock
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W. R. Schofield
G. B. H. Speed
W. Stuben
G. F. Tillson
D. D. Ward
H. L. Watson

The Vinyl Chloride Safety Association met at Houston, Texas on 30 and 31 October, 1975. There were 75 persons present from 35 facilities in 7 countries.

Amos Dixon of Goodyear will be Chairman next year, Roy Henderson of Diamond-Shamrock, Vice-Chairman, and Mark Soble of Hooker, Program Chairman. W. Iliff of Uniroyal resigned as permanent Secretary because of their withdrawal from PVC, and a replacement will be decided on by mail ballot after the usual 30-day notice. It was voted to hold a short meeting in Atlanta in March to review the OSHA situation at that time, and the regular annual meeting will be held next October.

PROGRAM

A copy of the agenda is attached.

- I. The first item was a discussion by A. A. Peterson of Union Carbide on pilot plant problems. He listed the major difficulties as: gross exposure because of methods used; repeated exposure to unproven chemicals and recipies; and partial manning and infrequent operation.

Eight companies have their pilot units associated with production facilities, and generally handle the vinyl chloride as they do in production. The areas are monitored, ventilated, and special precautions are taken to avoid exposure from blowdown and drying. Small reactors are vented, larger ones are connected to some type of recovery system.

Firestone said that their 8-reactor unit generally stayed below 1 ppm, using special precautions during venting.

Initial scale-ups to production were viewed as general problems. Diamond-Shamrock emphasized that very close cooperation with Research, including the presence of R&D personnel during the first batches was necessary.

General Tire said that they have a suspect case of angio in a man who worked six years in the pilot plant during the '50's.

- II. The writer discussed the problem encountered with FIA on development of future expansion plans. Pantasote reported a similar occurrence, which is resulting in substantially increased deductibles. Persons now covered by OIA reported that OIA hoped to continue as a semi-independent branch of FIA after the merger, but this has not been our interpretation of what we have seen. Borden reported that they were required to provide a 750 ft. separation in their Illinois expansion. Diamond-Shamrock and Tenneco expressed interest in an industry group to deal with the question, and were urged to contact D. Ward. Representatives from the United Kingdom said that there was no strong reaction of insurers to the Fitchboro incident, but admitted that premiums will rise substantially in 1976. General concern was expressed over potential liability claims against the industry, especially from neighbors and workers with indirect exposure.
- III. A Goodrich paper on stress cracking in stainless vessels is attached. This has not been seen in clad portions, but in solid stainless vessels and walls. Leak tests give adequate warning, and no catastrophic failures have occurred. The nozzle displayed showed easily visible corrosion paths penetrating the wall.
- Several other companies confirmed this experience in vessels, centrifuges and piping, but not on agitator shafts. Suggestions for prevention included use of Incaloy, Mo-Co, Ta, or Carpenter 20 alloys. The value of 316L was disputed. Esso X-rays their vessels every two years. Other companies use routine hydrostatic tests or vapor leak tests.
- This presentation was made at the specific instruction of J. J. Nanco.
- IV. M. Soble of Hooker began the portion on OSHA with a 22-minute slide-tape training program used with their employees. This covers the hazards of vinyl chloride and the steps employees should take to minimize exposure. It is given to all new employees and repeated annually, and a printed version is included in their work manual.

Thirteen companies reported OSHA inspections, and ten received citations. These latter are summarized below.

Stauffer

Non-serious citation for not labeling contaminated filters, and not monitoring in the laboratory. A serious violation for exposure over 25 ppm was withdrawn when their duplicate sample showed zero, and it was pointed out that the work area had been closed for two weeks.

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Dow

They were cited twice based on their own reporting of "massive releases." The first included two men exposed to liquid while dismantling a compressor, the second a driver who probably passed through a vapor cloud at a remote storage area. Both were non-serious, for a total of \$100.

Hooker

An odor complaint by workers prompted an inspection. No vinyl was found. Citations were for minor items.

General Tire

They experienced a spill on Friday night. The district office did not answer the phone on Saturday or Sunday. Monday was a Federal holiday and the district manager answered the phone only long enough to say the office was closed. They received a citation for not reporting within 24 hours. Because of several experiences like this, a number of companies no longer report minor releases, and use telegrams confirmed by letters if they do report, especially on weekends.

Allied

During a non-vinyl chloride inspection, they received citations because men had beards and for lack of posted respirator use and maintenance programs. They then notified their employees to shave, and the district officer gave them an indefinite postponement on compliance after the union protested to him. Allied believes it has data showing that a good fit can be obtained with beards, and will contest the citation.

Goodyear

They were cited for a 1.4 ppm exposure to a compound mixer operator. When they reported that the situation was corrected (fan turned back on) OSHA rechecked and dropped the citation.

B. F. Goodrich

The Avon Lake plant was cited for exposure over 5 ppm while wearing a mask, but the citation was dropped at conference.

Borden

The Leominster plant was cited for high exposures, but these were dropped when their duplicate samples did not confirm. They were cited for pallets over the yellow line, missing toe plates, etc.

AP00035901

Great American

They received two non-serious citations because of poor housekeeping in the color room, and for a rescue station mask that was not covered. Dust at the bagging station was sampled when workers complained, but it was found to be only 10% of allowable.

Diamond-Shamrock

The inspector spent much time in taking dust samples at the dispersion resin bagger, but gave no citation.

Five companies reported inspections after "release" notification, but none received citations except Dow.

Several companies report deregulation of their bagging or monomer unloading areas when they are not in use. Others are going to a permanent deregulation of bagging or compounding based on recent experience with low-residual polymer. Others are calling monomer unloading a hazardous job, rather than regulating the area.

More than half the facilities represented have a formal or informal policy of not allowing females capable of bearing children to work where exposed to vinyl chloride or lead dusts. This is because of the one Maltoni experiment on pregnant mice, and the proposed OSHA lead standard preamble. In a few cases this has been approved by the local EEO office.

The attached table shows the results of a poll taken on residual monomer in polymer. Note that not all companies voted. Schaaf of B. F. Goodrich gave a short presentation on their process. The Long Beach plant has had two units in operation for three weeks, and while not optimized, generally gives finished product of the more porous grades of below 1 ppm. Contrary to our prior information, Dow did not get approval from OSHA not to label bags of resin below 1 ppm, primarily because their product is processed by mass melting, while Carbide's dispersion resin is not.

The safety equipment people apparently have dropped efforts to develop an approved cannister. NIOSH did not accept the end-of-life indicator presented by MSA. The PVC industry apparently has dropped its intention to use any substantial number of cannisters, and so this device is at a standstill. Only about half require that masks be carried at this time.

There was no agreement on what constitutes a satisfactory result from a pulmonary test, but most doctors are more lenient for pressure demand or continuous flow devices.

Georgia Pacific, Goodyear at Niagra, and Dow (monomer) said they expect to comply with the 1 ppm limit in April without masks. Goodyear is undergoing extensive revisions in their dispersion plant to reach this point. Firestone wishes to, but is pushed for sales now, and are afraid to start revisions next spring because of contract renewal.

AP00035902

Scott is trying to get an escape bottle and transfer mask approved. Shell is using it at present.

Goodrich uses the following definitions of massive release:

- a. Equipment failure with worker exposure, or
- b. Exposure over 100 ppm for over an hour, or
- c. Exposure to over 1,000 ppm.

Several other companies expressed general agreement with this definition.

Tenneco reported that they have been informed by OCAW that in the next negotiation they will ask for a medical fund to be started to care for workers with occupational disease. Allied has already agreed to give the needed care.

V. Madden of Firestone reviewed the EPA standard. No new information was presented.

VI. Pantasote gave an unscheduled presentation of their area monitoring system. It is a complex and expensive unit (over \$350M) in which they have combined an infrared detector with a Mickelson interferometer and a predictive computer program to combine a constantly updated algorithmic search of the area point readings with time and motion studies on operator's habits and reactor schedules to calculate exposures. They plan to ask OSHA for a variance to use this in place of carbon tube testing.

Dow, who has had considerable experience in this area, was not impressed. General Tire is afraid they will be asked to pay for half the cost for the West Virginia plant.

The device is said to be capable of a reading every 5 seconds, or 4 minutes for 48 points. It looks at groups of points (mixed samples) and if there is a probability that any one is over the desired maximum, it searches the individual readings to determine which is. This was a tour-de-force in instrument development, but it seems doubtful if it has realistic potential.

VII. Pete Bogart of Tenneco delivered a speech on which he had been pondering while recovering from a fall at home late at night. He suggested several criteria by which a basic safety program could be evaluated.

1. Are economics put ahead of safety? Adequate equipment, properly maintained.
2. The worker alone problem. Buddy system, remote worker areas.

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3. Emergency notification. Simple, well displayed methods to call help.
4. Quality of the Rescue Team, training.
5. Effective equipment.
6. Quality of treatment. Do medical personnel know of hazards, are they competent?
7. Regard for the individual vs. concern for the record.
8. Quality of the safety program.

This latter point prompted a discussion of how to maintain an effective safety program. Several suggestions were made:

- a. Regular, well-planned meetings on pertinent subjects.
- b. Effective leadership.
- c. Management support and review.
- d. A small, responsible central safety committee.
- e. A responsive suggestion program, with compensation and response for submittals.
- f. A routine STOP program a' la duPont, with all supervisors participating.
- g. Intense inspections, with pinpoint followup.
- h. A diverse program, to maintain interest, adopted to local conditions.

VIII. True Confessions

Madden of Firestone told of a worker who took some monomer peroxide residues on his fingers to show another person, and who suffered serious burns when it exploded.

Asti of Stauffer reported on a peroxide freezer fire. They had all the proper safeguards except a check to see that the peroxide had been put in the proper temperature box.

Hooker changed their Scott Paks from pressure demand to demand made. A worker leaning in a tank fainted, and a nearby worker helped him to fresh air.

AP00035904

Carbide split a storage tank while water purging. The man who acknowledged the high level alarm did not know that the rupture disk was valved off because of a leak. They will go to a Y-valve arrangement. This is a problem with the Carbide philosophy of using a single rupture disk without relief valve backup.

Dixon of Goodyear reported on a reactor that was 20% overcharged with monomer. It overpeaked, and neither the automatic or manual vent system relieved. The exotherm passed without damage, and the vents were later found to be open. It appears that they may have had a temporary crust over the nozzles. On questioning, no one stated that they used predictive control to prevent this occurring.

Diamond-Shamrock had a fatality at Deer Park on October 1st. Workers installing the water lance noticed that the rupture disk protection was missing. When they removed the lance, they found a man on the reactor floor. He had been transferred back temporarily to this plant as a reactor drop man, but was experienced. They believe that he started to open the reactor for cleaning without going through the check list, the O-ring fell in, and he tried to position a short ladder to retrieve it, was overcome and fell in, fracturing his skull. He died of asphyxiation. The elapsed time was less than ten minutes.

Georgia Pacific lifted a relief on a storage sphere when the pumps were lined out to transfer rather than recirculate. The computer printout on high level was garbled and the control-room man did not recognize the condition. They have added an analog HLA system.

PPG at Lake Charles overfilled a rail car and flooded liquid VC into a vent stack (100 ft. from the boiler) when their slip gauge discharge line did not function because of a frozen excess flow valve. Most suppliers have gone to magnetic level devices. PPG has put a temperature probe on the equalizer to the storage sphere.

IX. Miscellany

It was reported that the NFPA peroxide storage proposal has been revised and should now be satisfactory.

The number-based warning system for hazardous cargo has been withdrawn and reopened for comment. Carbide has proposed a combination of words and pictorial diagrams.

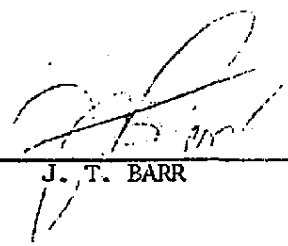
Firestone uses a scrubber on their vent condenser and gets 3-10% in the effluent. They take this to the boiler inlet (note: this is in the explosive range!). They are looking at both B. F. Goodrich license packages, but have not signed.

AP00035905

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Harlan Jewett is now manager of the Astabula plant of General Tire.

Flores of Great American reports memory problems in area monitors coming from solenoid O-rings and PE tubing.



J. T. BARR

/mjv

Attachments

AP00035906

RESIDUAL MONOMER
IN PVC

Pipe Grade or Higher
Homopolymer

<u>Less Than, ppm</u>	<u>Number of Producers Claiming</u>		
	<u>Dispersion</u>	<u>Suspension</u>	<u>Bulk</u>
1	6	3	1 (UCC)
10	0	6	1 (BFG)
50	0	9	3
100	0	0	0

Low Molecular Weight
Homopolymer

1	2	1 (BFG)	0
10	1	2	0
50	1	8	2
100	0	4	0

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