

W. J. Wilcof

B.F.GOODRICH CHEMICAL COMPANY
Inter-Organization Correspondence

March 22, 1974

HIGHLIGHTS

PLANT MANAGERS' MEETING - MARCH 15, 1974

1. F.E. Krause discussed Code Zero approaches to residual VCl. The stripping column will be in operation at Avon Lake, Geon East, in April, 1974.
2. Code 10A reduces buildup in 1100 gallon polys at Louisville (the poly is coated after every third charge and HRC-cleaned after every 30 charges).
3. Buildup in Geon 90 series polys is a problem. There appears to be less build-up when stainless steel vessels are used together with Pfaudler agitation.
4. A dispersion resin (not specified) has been developed which gives less build-up than Geon 121.
5. Analytical techniques are being developed to accurately measure residual vinyl chloride in the various PVC resins.
6. Personnel monitoring techniques, regarding exposure to VCl, are being studied and work is about to start again at Avon Lake.
7. Respirator filters are only good for one hour when exposed to VCl at the 100 ppm level.
8. Chemicals, other than VCl, must be studied, e.g., Vinylidene chloride, Chloroform, Acetone, etc.
9. H. Waltemate discussed the NIOSH work practice recommendations and distributed a report concerning the status of their recommendations (attached).
10. Among the work practices and problems mentioned were the following:
 - 10.1 Provide wash up facilities at the eating areas.
 - 10.2 Showers and clothing should be supplied in other areas such as Compounding.
 - 10.3 Showers will be supplied for those who work in the Hycar dusting area.
 - 10.4 PVC dust is to be removed from beams in the various buildings. The contractor at Louisville was unsatisfactory and quotes for the work at Avon Lake G.C. are exceedingly high. This might be accomplished by shutting the appropriate building down and flushing it with water. Louisville or Avon Lake may try this.
 - 10.5 Mr. Harrington stated that after the removal of the present PVC dust, any new PVC dust should be measured for residual PVC content. We should also find out how long it takes for a significant quantity of new dust to collect on the beams, etc.

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- 10.6 Some type of shoe covering will be required in order to prevent employees taking home traces of PVC on their shoes.
 - 10.7 Maintenance people assigned to PVC operating areas, should be considered the same as PVC operators.
 - 10.8 Operators are generally excused 12 mins. early in order to take a shower. This appears to be true at all plants. The exception occurs when the job requires total coverage. In this case showering is done on over-time.
 - 10.9 Compounding operators will continue to wear long sleeves. This is not now the case at Avon Lake Technical Center. They will review their policy.
 - 10.10 Louisville only allow maintenance personnel in PVC areas for 4 hours at a time without a shower being required.
 - 10.11 Warm outer garments may be worn by operators in colder areas.
 - 10.12 The Century OVA will be used by Calvert City as part of their vessel entry procedure.
 - 10.13 Tank farm operators at Calvert City and other plants will be required to use a fresh air breathing apparatus when breaking VCl tank car flanges. This procedure also applies to laboratory VCl sampling personnel.
11. Dr. M.N. Johnson made the following comments concerning health:
- 11.1 NIOSH does not have a medical testing protocol at present. Their submission will be made soon and it is not expected to be much different from our own.
 - 11.2 Bill Wilcox distributed copies of our current protocol.
 - 11.3 Physical examinations for "base-line" purposes are required.
 - 11.4 Former employees should be offered the current tests on a voluntary basis.
 - 11.5 Brecksville Research will set up a physical examination and testing procedure.
 - 11.6 Dr. Maltoni is working with 100 people at Montedison as health subjects.
 - 11.7 There is a question as to whether or not the offspring, of females exposed to VCl, may get angiosarcoma.
12. The following comments were made relating to VCl in the work atmosphere:
- 12.1 Louisville personnel wear masks about 25% of the time. The masks have just arrived at Long Beach and the program of wearing them will go into effect immediately.
 - 12.2 At Pedricktown, 99% of the operators wear their masks about 5-10% of the day. Baggers wear respirators. If the probability of exposure to VCl is high, air line respirators are used.

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- 12.3 At Henry the respirator program is in effect.
- 12.4 Cartridges are changed after each 8 hour day.
- 12.5 The accuracy of the Century OVA is questionable at readings less than 10-15 ppm. The purity of the hydrogen used is a possible contributor to this inaccuracy.
- 12.6 The question was raised, but not resolved, as to whether or not the VCl in inlet and outlet air, of PVC buidlings, should be measured.
- 12.7 A poll was taken of the group as to our TWA VCl exposure. Some said 10 ppm was a good standard; others 25 ppm. Bart DiLiddo suggested that we await our Bendix results before forming an opinion, since Bendix data will be more thorough and more accurate.
- 12.8 Both Avon Lake and Louisville were requested to submit plans to eliminate vented charges. It was suggested that the rupture disk-relief valve combination be investigated as part of the solution.
13. Mr. Harrington reviewed the minutes of the last Standards Committee meeting.
14. Mr. C. Lane - Public Relations - made the following comments:
 - 14.1 The news media has helped to fix the idea in the mind of the Public that VCl is a carcinogen.
 - 14.2 The political implications of our current situation are that the liberals will probably use employee health as an issue.
 - 14.3 Any inquiries from news persons are to be referred to Mr. J.J. Bell, Mr. T. Duke or Mr. C. Lane. Interviews with the press can lead to very bad misinterpretations and unnecessarily damaging publicity.
15. The FDA has requested that we review the end-use of our PVC products.
16. The current magnitude of residual VCl (RVCl) in our PVC resins was reviewed. The most acceptable resin is Geon 92 (nil to 4 ppm) whereas the most unacceptable resin is Geon 222 (9,000 to 11,000 ppm). The compounding group, coordinated by R.J. Coffey, is running analyses on compounds and pipe. This compound will contain Geon 103EP F-76. In one run the resin RVCl will be 200-400 ppm; in another run, 800-1,100 ppm.
17. Mr. Brodine had the following comments:
 - 17.1 He advised elevation of the VCl vents.
 - 17.2 The Plant Managers have submitted their capital requirements so that their plants will comply with OSHA standards.
18. Mr. Vittone stated that we must eliminate residual VCl in the air, the water and the product.
19. All plants will send the RVCl analysis of their off-grade materials to E.R. Clayson.

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20. Mr. Woods mentioned that he had insufficient personnel to accomplish all of the required changes, in a reasonable length of time. A general discussion of engineer recruitment followed. Mr. Cooper stated that he has hired his quota but will continue to interview likely candidates for possible hiring at other plants.
21. Among other things, NIOSH recommends a limit of no detectable VCl in the work atmosphere. In addition, they recommend that any emissions containing VCl must be decontaminated before venting. (To date, OSHA have not necessarily agreed to follow these recommendations).
22. FDA will require certification that any vinyl product in contact with food and/or water contain less than 10 ppm residual VCl. It must also be certified that the food and/or water contained in these vinyl products contain less than 50 ppb residual VCl.

Earle R. Clayson
Earle R. Clayson

ERC:cj

Attachment

cc: J.J. Bell
W.E. Brodine
D.A. Brooks
A.W. Clements
C.B. Cooper
B.A. DiLiddo
R.J. Fawcett
C.R. Flynn
R.A. Guyton
M.N. Johnson
K.J. Kaminski
E.B. Katzenmeyer, Jr.
F.E. Krause
R.M. Kreager
C. Lane
P.H. Lawrence
T.R. Linak
J.L. Nelson
G. Pow
R.N. Rylands
G.D. Schaaf
R.D. Scott
P.D. Terry
A. Vittone
H. Waltemate
A.R. Webber
W.J. Wilcox
C.L. Woods
B.M.G. Zwicker

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Attached is the status of implementation of NIOSH recommendations in the various plants involved. It should be recognized that some of these recommendations have been completed on a temporary basis and will require further action.

The sampling for PVC material has been completed by the Corporate Environmental Control group at the Avon Lake General Chemical plant. Tabershaw-Cooper has also done some sampling for PVC material at the Louisville plant. The Corporate Environmental Health Department will proceed with this sampling at the Louisville plant and then proceed with other locations, as they deem necessary. Each plant is to take corrective action with obvious dusty job operations.

The procedure and technique for eight hour personal monitoring for vinyl chloride is being set up by E. B. Katzenmeyer, Jr., in conjunction with the Avon Lake Technical Center. Each plant will be advised how to proceed when their work is completed.

The breathing zone sampling has been started by utilizing the OVA to monitor employees when entering reactors and when disconnecting vinyl chloride tank cars. Each plant should expand this type of monitoring on suspected vinyl chloride exposure jobs as the OVA is available.

H. Waltemate

HW/kats
Attachment

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IMPLEMENTATION OF NIOSH RECOMMENDATIONS

	ALGC	HE	LB	LVL	PT	ALTC	GC	ITC	N/V/L/E
I. General Housekeeping Procedures									
A. Spillage Control									
1. PVC Removal	Continuing	4-1-74	Complete	Complete	Complete	Complete	N/A	Complete	Complete
2. Closed Containers for Recovered PVC	Complete	Complete	Complete	Complete	Complete	Complete	N/A	Complete	Complete
3. Closed Containers for Waste PVC	Complete	5-1-74	Complete	Complete	Complete	Complete	N/A	Complete	Complete
B. Inventory	Complete	Complete	Complete	Complete	Complete	N/A	Complete	N/A	N/A
C. PVC from Overhead Structures and Conduit	Awaiting Quote	Complete	Continuing	In Process	In Process	Continuing	N/A	Complete	Continuing
D. Separate Eating Facilities	Complete	7/54	In Process	In Process	Complete	Continuing	Complete	Continuing	Continuing
II. Protective Clothing									
A. Daily Change of Clothing	Complete	4-1-74	Complete	Complete	On Order	Complete	N/A	Complete	N/A
B. Protective Gloves	Complete	Complete	Complete	In Process	Complete	Complete	N/A	Complete	Complete
C. Protective Footwear or Footcovers	Complete	Complete	Complete	Complete	Complete	In Process	Complete	Complete	N/A
D. Protective Head Covers	In Process	Complete	In Process	Complete	Complete	In Process	Complete	N/A	N/A
III. Showers	Complete	4-1-74	Complete	Complete	Complete	Complete	N/A	Complete	N/A
IV. Monitoring									
A. Environmental									
1. Reactors	Complete	Complete	In Process	In Process	Complete	In Process	Incomplete	N/A	N/A
2. Establish Fixed Points	Complete	Complete	Complete	Complete	Complete	N/A	In Process	N/A	N/A
3. 50 ppm Maximum VCI Levels	Complete	Complete	Complete	Complete	Complete	Complete	Complete	In Process	Complete
4. Measure VCI in Exhaust	In Process	In Process	In Process	In Process	In Process	N/A	N/A	N/A	N/A
5. Monitoring for PVC Particulates	Complete			Started			N/A		
B. Personal Monitoring									
1. Eight Hour Samples									
2. Breathing Zone Samples									
V. Respiratory Protection									
A. Air Supplied Respirators in Polys	3-22-74	Complete	Complete	Complete	Complete	Complete	In Process	N/A	N/A
B. Dust Respirators	Complete	Complete	Complete	Complete	Complete	Complete	Complete	Complete	N/A
C. Self-contained Breathing Apparatus for Tank Car Unloading	Complete	Complete	N/A	Complete	Complete	N/A	In Process	N/A	N/A
D. Other Operations									

/s/ Kate
3-14-74

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