



TO Distribution DATE April 22, 1974
FROM R. P. Lynch SUBJECT VCM Tank Car Safety Meeting

A review of the rulings and company reactions to these rulings was made in Philadelphia at the VCM tank car safety meeting. I was most impressed with the change in attitudes of most of the VC Poly people. They are doing most of the things that were impossible in February (by their words).

The most important item was the mouse failure. A table of results shows this:

	Mortality (M/F)		
	<u>Mice</u>	<u>Rates</u>	<u>Hamsters</u>
Control Group	15/5	4/4	13/22
50 ppm VC*	31/9	10/8	20/20
200 ppm VC	7/13	6/9	22/29
2500 ppm VC	8/13	5/7	27/27

*The VC was administered for 7 hours/day for 5 days/week. The rodents were not fed anything and 100 of each sex were used.

	Results of Autopsies			
	<u>Tumors</u>	<u>Lung</u>	<u>Angio</u>	<u>Skin</u>
Control	-	-	-	-
50 ppm	4	2	2	2
200 ppm	6	3	4	2
2500 ppm	19	17	17	3

As may be readily seen these results will lead to some severe restrictions on VC. The existing temporary standard will probably not stand. It is hoped that 10 ppm will be tried. The mice test is equivalent to approximately 20 to 25 years for a human when the first angios were found. Moltoni is also finding tumors at low levels but his work is not released yet. (Most of the mortalities are from eating one another because of hunger.) BFG now has approximately ten cases. Only two or three died of angio but the others are reasonably real. Most of them had slides of biopsies that were checked for angio. Some of the deaths are back to 1969.

Another important item was the new 10 minute test. This has been very confusing. OSHA and NIOSH have both given and are using different times 1 - 3 hours. Basically they do not care about

April 22, 1974

the length of the sample time, but they want a warranty that the maximum concentration was not above 50 ppm for any TWA of 10 minutes of the test. Inhalation protection is all that is required for over 50 ppm.

Several methods of analysis and equipment were discussed. Fred Ewald will get a copy of Shell's collection bag system and send to me. I will give to Hank Hoenes. Some equipment data was collected, my comments added, and they were sent to Hank Hoenes. Other notes are the 77 percent loss in CS₂ solution handling, in spite of cooling bothered some, so they were using THF. They then double inject because of the long retention time of THF in the G.C. General Tire discussed VC in H₂O analysis. Major problem is every time the sample bottle is opened, the VC goes down. They take 100 ml sample, extract with HXE, distill to a cold trap and run a G.C. THF has also been used. They have reduced the VC in the H₂O to 200-400 ppm at 50°F and 100 ppm at 160°F by better analyses. (Before it was much higher.)

BFG has tested the double charcoal mask at 100 ppm and found it good for 30 minutes. They use these and change them every shift or after any spills.

Last but not least was a thorough discussion of the VCM tank car rupture in Philadelphia on Monday. Tenneco had many problems, but most of them were due to OSHA and State health people. Everyone had better be reviewing their emergency procedures, plans, and equipment.

BFG is making available their film of a VCM tank car explosion. Just write BFG, 5100 Oaktree Blvd., Cleveland, Ohio.

RPL/cg

Distribution:

D. L. Duncan
T. G. Taylor
G. A. Work
J. M. Davis
J. C. Lafleur ✓
H. J. Hoenes
File (VC Safety)

SL 091602