

TO: H. WALTEMATE

FROM: T. BIALKE

DATE: 11/4/82

Per your request, I have compiled a list of all BFGoodrich VCM personnel monitoring exposure data from the processing of polyvinyl chloride. Chemical Group results are tabulated by plant areas. Areas include PVC concentrating and drying, PVC compounding and PVC warehousing. Engineered Product Group results are listed for operations by facilities. Various PVC finishing operations have been monitored during routine industrial hygiene surveys by the Corporate Environmental Health Department back to 1975. Operations monitored include extrusion of PVC gaskets, various finishing operations, PVC milling and mixing. Where available, I have listed the resin type or residual levels of VCM in the resin being processed. Exposure due to a customer's latex coating operation are also listed.

All values are from samples collected for more than 360 minutes, except where noted. VCM monitoring methods have been refined with time, so direct comparison of data collected in 1975 can not be made with data collected in 1981.

If you have any questions, do not hesitate to ask.


T.S. Bialke, CIH

TB/stw
1523q

cc: E.G. Katzenmeyer
Dr. H. Dietz
File

NGC 15051

LONG-TERM PERSONNEL MONITORING RESULTS
NON-REGULATED AREAS

PLANT AREAS	1977		1978		1979		1980		1981	
	#	%	#	%	#	%	#	%	#	%
<u>Louisville</u>										
002 Millroom and Lab	15	0.15	100	0.10	10	0.08	7	0.00		
008 Banbury	3	0.43	47	0.04						
010 PVC Storage										
020 Plastic Powder & Warehouse	2	0.06	14	0.05	1	0.00				
026 Warehouse										
112 PVC Drying	16	0.85	51	0.19	21	0.03	26	0.01	4	0.0
116 Warehouse										
129 Paste Drying	8	0.50	90	0.19						
<u>Avon Lake General Chemical</u>										
438 Compound West Millroom							1	0.00	1	0.00
441 Compound East			1	0.13						
452 PVC West Dryer	33	0.73	432	0.18	396	0.18	321	0.21	274	0.2
455 PVC East Dryer	11	1.04	169	0.22	100	0.14	96	0.12	68	0.2
459 Paste Concentrate	5	1.64	96	0.92	66	0.38	63	0.95	47	0.6
<u>Pedricktown</u>										
515 Dryer	14	0.82	164	0.27	140	0.09	111	0.04	58	0.13
541 Compound	6	0.35	6	0.16	5	0.03	5	0.08	14	0.06
547 Distribution Warehouse	1	1.00	16	0.47	3	0.52	6	0.66	9	0.24
<u>Long Beach</u>										
813 Dryer Building	4	0.25	79	0.07	84	0.13	57	0.06	90	0.09
814 Compound	22	0.21	358	0.10	266	0.11	157	0.21		
815 Warehouse										
<u>Henry</u>										
732 PVC Dryer & Warehouse	26	0.74	506	0.60	353	0.41	290	0.34	255	0.18
741 Compounding	3	0.06	29	0.04	32	0.24	36	0.12	7	0.07

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NGC 15052

AREA AND PERSONNEL MONITORING RESULTS
OTHER BFGOODRICH LOCATION INVOLVING
PVC PROCESSING

(All Greater Than 360 Minutes Except Where Noted)

KITCHENER, 1981 INDUSTRIAL HYGIENE SURVEY

	<u>PPM VCM</u>
FMC Loader	Less Than 0.2
Banbury Loader	Less Than 0.2
90" Millman	Less Than 0.2
Warehouse Tractor Driver	Less Than 0.3
General Area Warehouse	Less Than 0.3

(No Residual Data on Resin Type)

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SALEM, INDIANA 1975 INDUSTRIAL HYGIENE SURVEY

		<u>PPM VCM</u>
Sealer (6 Samples)	22370 22302 42111	0.05 (Avg.)
Material Loader	22454	0.04
Extruder Operator	62096	0.04
	<u>Area Monitoring</u>	
Tuber #3		0.04
Tuber #1		0.04
Extruder #5		0.03
Extruder #7		0.03
Hot Room		0.04

(No Residual Data on Resin Type)

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MODESTO, CALIFORNIA 1976 INDUSTRIAL HYGIENE SURVEY *ED -*

	<u>PPM VCM</u>
Finishing - Sealing Gaskets (3 Samples) <i>ventilated</i>	Less Than 0.01 (Avg.)
Extruder - Operator	Less Than 0.1
Mixer - Operator	Less Than 0.1

Resin Used Was Geon 92

MODESTO, CALIFORNIA 1975 INDUSTRIAL HYGIENE SURVEY

	<u>PPM VCM</u>
<i>ventilated</i> Extruder Operator	Less Than 0.02
Finisher (IBM Gasket)	Less Than 0.02
Finisher (GEM 45 Gasket) (2 Samples)	Less Than 0.02
Finisher, Anthony Die	Less Than 0.02
Mixer Operator	Less Than 0.02

Resin Used Was Geon 92

MODESTO, CALIFORNIA 1974 INDUSTRIAL HYGIENE SURVEY

	<u>PPM VCM</u>
Finisher	0.08
Finisher - GEM 45 Gasket	1.25
Trimming - No Sealing	0.16
Finisher	0.09
Finisher	0.14
Utility Hopper	0.06
Mixer Operator <i>66-92</i>	0.12

Resin Used Was Geon 92

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NGC 15054

NEW ULM, MINNESOTA 1978 INDUSTRIAL HYGIENE SURVEY

PPM VCM

Lp Finishing (Gasket Sealing)	0.11 Avg.
(5 Samples)	
Local Exhaust Provided	

NEW ULM, MINNESOTA 1976 INDUSTRIAL HYGIENE SURVEY

PPM VCM

Gasket Sealing (6 Samples)	All Less Than 0.1
Hydraulic Sealer	Less Than 0.1
#2 Tuber Operator	Less Than 0.1
#4 Tuber Operator	Less Than 0.1
#3 Tuber Operator	Less Than 0.1
#4 Tuber Operator	Less Than 0.1

NEW ULM, MINNESOTA 1975 INDUSTRIAL HYGIENE SURVEY

PPM VCM

Gasket Sealing (4 Samples)	All Less Than 0.1
Extruder Operator	0.03

MARIETTA, OHIO 1976 INDUSTRIAL HYGIENE SURVEY

	<u>PPM VCM</u>
Banbury Operator (8 Samples)	Less Than 0.1-0.25
Henschel Operator	Less Than 0.1
Mill Men (10 Samples)	Less Than 0.1-0.2
Calender Operator (7 Samples)	Less Than 0.1-0.3
Wind-Up Operator (3 Samples)	Less Than 0.1
Extruder	0.2

MARIETTA, OHIO 1975 VCM STUDY

	<u>PPM VCM</u>
Banbury Operator (6 Samples)	0.13-0.55
Mill Operator (8 Samples)	0.13-0.45

MARIETTA, OHIO 1975 VCM STUDY

	<u>PPM VCM</u>
Calender Operator (2 Samples)	1.0, 0.96
Roller, Die Operator (3 Samples)	0.32-0.46
Extruder Operator (3 Samples)	0.07-0.10

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VALENCIA, VENEZUELA 1982 INDUSTRIAL HYGIENE SURVEY

	<u>PPM VCM</u>
Extrusion Operator (2 Samples)	Less Than 0.1
Mixer Operator (2 Samples)	0.1, 0.2
Samples Collected For 160 - 200 minutes	
Residual VCM in Resin	0.16-0.04 ppm wt/wt

RHINELANDER PAPER CO., RHINELANDER, WISCONSIN 1979 VISIT

	<u>PPM VCM</u>
PVC Latex Coating	
Operator - Mixing	0.25
Foreman	0.2
Operator - Coating	0.1
Helper	0.25
Residual VCM was 18.08 mg/kg wet basis	

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NGC 15057

TABLE I.
VINYL CHLORIDE MONOMER
Cherry St. - Aug. 1-3, 1978

<u>Date</u>	<u>Name</u>	<u>Location/Operation</u>	<u>Sample Time (min.)</u>	<u>Conc. (ppm)</u>	<u>Ave. Conc. (ppm)</u>
8/2		3rd Flr., Plastisol Compounding	192	< 0.1	< 0.1
		2nd Flr., Plastisol Drumming	208	< 0.1	
8/2		3rd Flr., Plastisol Compounding	189	< 0.1	< 0.1
			209	< 0.1	
8/2		2nd Flr., Plastisol Drumming	167	< 0.1	< 0.1
			210	< 0.1	
8/3		3rd Flr., Plastisol Compounding and 1st. Flr. Drumming	337	< 0.1	< 0.1

All samples taken were approximately at the detection level of the analytical instrumentation; .001 mg/M³.

OSHA Standard for Vinyl Chloride = 1 ppm averaged over an 8-hr. workday.

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NGC 15058

Month of December

AREA	NUMBER SAMPLED	NO. > 1 PPM	% > 1 PPM	RANGE	AVERAGE READING
WIN I & II	14	2	14%	0.04 - 1.37	0.40
WIN III	34	7	21%	0.00 - 10.89	1.00
INT I/E	12	1	8%	0.00 - 1.80	0.23
AB	6	1	17%	0.04 - 1.16	0.27
INT TOTAL	66	11	17%	0.00 - 10.89	0.67

PERSONNEL EXCEEDING 1 PPM -

[illegible]