File

JUN 7 REC'D

Charles Hess — Pedricktown

P. M. Zakriski — Brecksville R&D Center — June 3, 1974

Vinyl Chloride Personnel Monitor Analyses

The vinyl chloride personnel monitors submitted on May 29 have been analyzed. The results of that analysis are presented below.

Sample #	Operator Duty	mg vinyl chloride	*ppm vinyl chloride
1	Utility technician	12.1	22.4
2	Utility technician	23.5	46.2
3	Lead technician	12.8	26.8
4	Lead technician	0.6	1.1
5	Pearl technician	6.7	11.9
6	Roving technician	4.1	7.0
7	Utility technician	2.5	4.2
8	Pearl dryer technician	0.6	0.9
9	Paste Bagger	0.5	0.8
10	Mixing technician	0.4	0.6

*Please note that the ppm value reported is calculated on the basis of the volume of air sampled for a specific sampling period and it is not a TWA value for 8 hours.

Paul

PAUL M. ZAKRISKI

cad

cc: J. McCool
E. B. Katzenmeyer, Jr.
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2616:001

BFG46689

[illegible]

.F.G. PEDRICKTOWN

PERSONNEL MONITORING DATA

26167002

FILE #	DATE	BUILDING	EMPLOYEE	JOB CLASS	SPECIFIC OPERATIONS	AREA EXPOSURE BENDIX OR OVA	TIME	ACTUAL FLOW-RATE (l/min)	ANALYSIS: ACTUAL SAMPLE VOLUME (l)	ANALYSIS: SAMPLE TIME (min)	ANALYSIS: VCM (mg)	ANALYSIS: VCM PPM
1	5-17-74	MASS #512 140x31 produced	Gene Dorrell	Utility Tech. 40 min in office 25 min on break (lab)	1115 hrs: transferred 8300 * 15 min 1200 hrs: turned 8102 hamerblind this valve was leaking vinyl chloride badly - could cause this sample tube to be saturated. * 40 min. 1240 hrs: in reactor cleaning * 25 min 1305 1st Floor Drive end. 20 min 1335 turned hamer blind * 20 min 1425 prepoly adding catalyst 15 min 1510 transfer 8400 * 25 min	~30 ppm OVA -up to 1000 ppm+ 20 ppm OVA -10 ppm -? -8 ppm. -?	START 1115 hrs 1205 1316 1420	.96 .88 .84 .83	211	240		
2	5-17-74	MASS #512 140x31 produced	Dick Green	Tech.	1200 hrs.: helped turn 8102 hamer blind (leaking) * ? min 1335 helped turn 8202 hamerblind. ~1 hr. in office ~2 hrs. 2nd Floor dumpend	-up to 1000 ppm+ -? -? -5 ppm.	start 1045 1205 1420	1.01 .85 .77	199	240		
3	5-17-74	MASS #512 140x31 produced	Chet Mullen	Lead Tech.	1045 1st Floor Drive end 45 min 1145 " 20 min 1200 Bagging area cpd. 20 min 1240 in reactor cleaning * 25 min (this is not a normal duty) 1245 1st Floor - 60 min 1345 dump side 1st Floor - 30 min the rest of the time was spent outside on break or other building areas of low VCl conc.	-12 ppm -15 ppm -? -20 ppm OVA -10 ppm -	start 1045 1205 1315 1420	.88 .81 .75 .73	187	240		

BFG46690

F.G. PEDRICKTOWN

PERSONNEL MONITORING DATA

26167003

RFG46691

SAMPLE #	DATE	BUILDING	EMPLOYEE	JOB CLASS	SPECIFIC OPERATIONS	AREA EXPOSURE BENDIX OR OVA	TIME	ACTUAL FLOW RATE (l/min)	ANALYSIS: ACTUAL SAMPLE VOLUME (l)	ANALYSIS: SAMPLE TIME (min)	ANALYSIS: VCM (ppm)	ANALYSIS: VCM PPM
4	5-20-74	Pearl Paste Poly #513 241 103 EP } produced	Dave Cawman	Lead Tech.	~ 2 hrs. 2nd floor area ~ 1 hrs. 1st floor area rest of time at computor room or break	-13 ppm - 4 ppm	1015 (start) 1145 1415	1.00 .97 .94	233	240		
-	5-20-74	Pearl, Paste Poly #513 103 EP produced	Tom Finney	Pearl Tech.	~ 3 hrs. 2nd Floor Pearl Side ~ 15 min 1st Floor ~ 15 min at shop ~ ½ hrs. in office opened 4 prl. polys for transfer valve leaking on poly # 7, 2 min in area	- 15 ppm - 4 ppm - ?	start: 1015 1130 1415	1.00 .93 .88	220	240		
6	5-20-74	Pearl, Paste Poly #513 241 103 EP } produced	Darrell Robinette	Rover Tech.	~1½ hr. 2nd Floor ~1½ hr. 1st Floor 1030 hrs: changed rupture disc for 20 min	- 13 ppm - 4 ppm - ?	start: 1015 1145 1320 1415	1.00 .98 .94 .94	232	240		
1	5-20-74	Pearl, Paste Poly #513 241 103 EP } produced	Steve Whitener	Utility Tech.	~ 1 hr. 2nd Floor area ~ 2 hrs. 1st Floor area 1030 hrs: Changed rupture disc for 20 min.	- 13 ppm - 4 ppm - ?	start 1050 1145 1320 1430	1.03 1.01 .96 .94	235	240		

:G. PEDRICKTOWN

PERSONNEL MONITORING DATA

26167004

BFG46692

?#	DATE	BUILDING	EMPLOYEE	JOB CLASS	SPECIFIC OPERATIONS	AREA EXPOSURE BENDIX OR OVA	TIME	ACTUAL FLOWRATE (ℓ/min)	ANALYSIS: ACTUAL SAMPLE VOLUME (ℓ)	ANALYSIS: SAMPLE TIME (min)	ANALYSIS: VCM (mg)	ANALYSIS: VCM/TLV PPM
	5-21-74	DRYER #515 103 EP } dried 241 }	Jack Moran	Pearl Dryer Tech	1150 hrs. changed rotex boots for about 30 minutes 1215 hrs. bagging paste 30min (not a normal duty) 1245 hrs. 1st Floor panel board & moving skids for 45 mn. 1330 1st & 2nd floor paste side for 30 min. 1415 - 1st floor prl. side 30min 1440 - silo area compound for 10 min rest of time at lab or break	(all OVA) - ? area 15ppm -10 ppm -10 ppm -10 ppm -10 ppm. -?	start: 1050 1145 1410 1450	1.00 1.00 .96 .92	233	240		
	5-21-74	DRYER #515 241 dried	Steve Whitener	Bagger (Paste)	~3½ hrs bagging paste 20 Min 1st Floor 10 min. - break	(all OVA) - 10 ppm -10 ppm -	start: 1045 1145 1400 1445	1.00 1.00 .95 .91	230	240		
	5-21-74	Compound 85297 nat 025 (80<5 resin) being produced on 6" line which Larry was running 8804 Blk 208 (103 EP) being prod. on 9" line	Larry Lloyd	Mixing Tech.	1220 hrs. resin leaking from flexclean ~~bottom~~ hatch for 10 minutes (very dusty) 3½ hrs spent on third floor. 20min lunch.	no measurement	start 1100 1200 1400 1500	1.00 .97 .94 .92	230	240		

TO	FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.	DATE THIS LETTER
Glenn Schaaf	Cleveland	
FROM	**FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.**	**DATE THIS LETTER**
Dennis O'Keefe	Pedricktown	3/18/74

SUBJECT

MONTHLY CODE "O" PROGRESS REPORT NO. 2

OVA SURVEY

During the latter part of February, technician trainees were trained and assigned to conduct the OVA surveys on a continuous basis. This enabled the technical people previously assigned to this task to resume their normal responsibilities. In addition to normal survey work, the OVA operators are testing all vessels prior to entry.

PEARL/PASTE POLY BUILDING

1. The majority of high readings reported during the past month in this area were due to extensive maintenance on the recovery system. It is recommended that ventilation be switched to emergency operation to provide maximum air movement during maintenance of this nature.

2. Plugged lines caused excessive pressure buildup in the paste homogenizers on several occasions, resulting in relief valve discharge into a floor trench. The problem has been corrected; however, consideration is being given to piping the relief valve discharge to the outside.

3. A coupling has been installed on one HRC unit for attachment of an exhaust hose. A better means of attaching the hose to this coupling is necessary before we can determine if this modification eliminates the occasional high VCl levels experienced during HRCing.

MASS BUILDING

1. A thirty-foot extension was added to the exhaust from the vacuum jets, eliminating contamination of building inlet air.

2. A similar extension will be added to the vent condenser stack on the recovery system.

3. Extensive maintenance on valves, lines, and equipment has dramatically reduced VCl exposure within the process area.

4. The mass screening and grinding general area was sampled on 23 occasions. Maximum reading--7ppm. Average reading--4ppm.

5. Rotex screeners were sampled on 80 occasions. Two readings greater than 50ppm were obtained with a maximum of 70ppm and an average of 11ppm.

6. Mass grinder was sampled on 80 occasions. One reading greater than 50ppm was obtained with a maximum of 60ppm and an average of 6ppm.

DRYER BUILDING

The modifications made in this building, reported last month, have reduced VCl levels to an average of less than 10 ppm.

WAREHOUSE BAGGING AREA

The bagging area was monitored on 42 occasions with a high reading of 19 ppm and an average of 6 ppm.

AIR MASK SUPPLY AIR

Thirty-six readings were taken on supply air to breathing masks. High--13 ppm. Average--6 ppm.

TANK FARM

VCl exposure in the tank farm area was monitored on a daily basis for approximately one week. Several leaks in the circulating pump area were discovered and are being corrected.

An air mask is presently required during connection and disconnecting VCl cars. An air line station has been installed in the pump area to provide breathing air during abnormal conditions.

More data will be collected in this area to determine if any procedure and equipment modifications are necessary.

RESIDUAL MONOMER IN RESIN PRODUCTS

Due to excessive production downtime in all areas, some of the samples requested during the past few weeks have been delayed.

All areas are back in full production and we should be able to resume our scheduled product sampling.

A new chromatograph and related equipment has been ordered with a delivery date of mid-April. This equipment was specified by E. G. DeCapita to provide equipment uniformity at all plants.

BENDIX ANALYZER

Although we have no recent estimate on delivery date of the Bendix analyzers, preparations are being made for their installations.

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Glenn Schaaf	Clevelnnd	
Dennis O'Keefe	Pedricktown	2/14/74

MONTHLY CODE "O" PROGRESS REPORT NO. 1

FEB 25 REC'D

OVA SURVEY

Beginning 1/7/74, OVA readings were taken on an alternating shift basis with two to four rounds made per shift. The reason for the alternating shift schedule was to permit recharging of the battery on the off shift. In late January an additional OVA and spare battery were received which has enabled us to expand survey time to every shift in the problem areas, such as the mass resin building.

Specific problems and corrective action are listed below:

Pearl/Paste Poly Building

1. High readings obtained when the poly manhead is opened, prior to transfer, have been reduced to low levels by stationing evacuation hose at manhead lip when manhead is opened. After opening, the hose is dropped inside.

2. We occasionally see high readings (100-300ppm) in the vicinity of pearl polys being HRC'd due to the poor seal between the HRC unit and the manhead. A work order has been written to install a coupling on the HRC unit for attaching an evacuation hose to determine if this reduces emissions.

3. VCl laden HRC water presently drains into floor trenches, resulting in high readings at times. Data are being collected to determine the possibility of HRCing directly into blend tanks without contaminating slurry.

4. An EA has been approved to steam sparge charges before transfer. It is hoped that this will reduce significantly, the amount of VCl in the slurry. One charge of 103EP E-76 was manually steam sparged and OVA readings were taken from the evacuation hose. Results indicate that while steam sparging may reduce residual VCl in slurry, the vapor above the hotter slurry contains higher concentrations of monomer which must be recovered or vented.

5. Drain water from seal water strippers, previously drained to open floor trench, is now drained outside.

6. Other sources due to isolated equipment leaks can only be dealt with when detected. Except for these instances, poly building atmosphere is very good.

Mass Building

1. The dry nature of the mass process has created a tendency for HCl to build up in the system, resulting in corrosion of lines and equipment. An ammoniator has been installed to neutralize the HCl in the system, replacing an ineffective caustic scrubber. It will be a while before we see the effects of this change.

2. Leaking ball valves and Hamer blinds are a sporadic source of leaks in this area. Maintenance procedures are being reviewed with extreme emphasis on leak-free operation.

3. To improve building ventilation, summer ventilation fans have been turned on and an additional fan is being installed. This additional fan is to accomodate building expansion now in progress.

4. Compressor leaks hope to be corrected when a major overhaul can be scheduled. Until then, the nitrogen pressure on the shaft seal has been increased.

5. Changes in the prepoly recovery procedure are being initiated to reduce VCl levels within this vessel.

Dryer Building

The following modifications in the dryer building have eliminated high VCl levels in this area.

1. A cover was installed on the Syntron squirrel cage, creating excellent suction of all vapors from centrifuge wet cake into first stage of dryer.

2. A temporary canvas cover was installed around chute from centrifuge to Syntron. A permanent cover is being fabricated.

3. An exhaust blower was placed in the centrifuge effluent pit, which exhausts outside.

4. The paste concentrator condensate has been repiped from a floor trench to the centrifuge effluent pit.

5. The Rotex screeners are a source of VCl if the covers are not kept in place.

BENDIX ANALYZERS

1. Attended workshop in Avon Lake on 1/29 and 1/30.

2. All materials needed for installation and startup have been ordered.

3. Pedricktown has requested an additional 6-point sampling system based upon initial analysis of OVA data. Further analysis indicates a need for more than six points per building to achieve a statistical assurance of 96% or better.

RESIDUAL MONOMER IN RESIN

1. We have begun weekly sampling of each product type for residual monomer analysis.

2. Additional in-process sampling is being conducted to trace monomer loss during handling.

3. An appreciable increase in these analyses will require additional GC equipment. Ed DeCapita will advise us to provide company uniformity.

MISCELLANEOUS

1. Surveys in storage and bagging areas indicate no problems.

2. Vapor space in bulk truck, sampled prior to shipment, resulted in reading of 150ppm. Samples from vapor space of rail car filled two days earlier ranged from 150-180ppm.

3. One inquiry has been made to Precision Gas Products on the shelf life of VCl-in-air standards. An estimate, by their chemist, was a maximum of three months. Experimental data will require a Purchase Order. Our purchasing department is working with Cleveland on this.

4. Safety Procedure SA-30 has been issued for use of cartridge type respirators in area or operations where VCl levels are greater than 50ppm but less than 1000ppm.

DPOK

DPOK

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2/14/74

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