



INTER-ORGANIZATION MEMO

TO: DISTRIBUTION
ATTENTION:
FROM: D. C. Hidinger
DATE: June 21, 1974
SUBJECT: Vinyl Chloride Monomer Testing

P E R S O N A L

The testing program to determine the vinyl chloride monomer content of various PVC products produced by the Chemical/Plastics Division has given these results to date. Please note the changes in sampling procedure and calibration curves which are being made in the course of the program to achieve greater accuracy.


D. C. Hidinger

DCH/elo

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Attachment

GENC 20856

SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLE AT	DATE	ppm Vinyl Chloride Residual
PL72-018-258	04 Sight Shield GTR Part #415185 Injection Molded		Received 5/17/74	Schulman PVC 4319	Akron	5/17/74	1.8 $\pm$ 0.5 ppm 1.3 $\pm$ 0.5 ppm
26C	Molding Compound	Lot #16147	Sampled 5/14/74	Schulman PVC 4319	Akron	5/17/74	1.1 ppm

GENC 20657

SAMPLE NO.	PROJECT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DATE	ppm VINYL CHLORIDE MONOMER
PC72-013- 278-1	Hollovin od os Cast Expanded Shoe Upper	3-1-20567	5/7 - 5/8/74	Skin 55/45 Marinol 5051/Pliovic H-90 Foam 50/50 FPCo54/Pliovic A-90	Akron	5/16/74	1.1 ± 0.2 ppm
8-2		Aged 1 week at ambient					0.2, 0.2 ± 0.1 ppm

GENC 20868

READING

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SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DAYS	ppm VINYL CHLORIDE MONOMER
41C	Liquid Plastisol adhesive	SVPI617		50 Marvinol 5051 25 Marvinol 53 25 Pliovic M-90	2nd Coating Head	1434	3.9 ± 0.2 ppm
41D	Unfinished Product - Soft-Touch Apparel	Factory Order A958, M003d39		50 Marvinol 5051 25 Marvinol 53 25 Pliovic M-90	Windup	1445	N.D.
41E	Unpigmented Plastisol			50 Marvinol 5051 25 Marvinol 53 25 Pliovic M-90	1500 gal Bulk Storage	1500	3.1 ± 0.2 ppm
41F	Resin	L-0134039		Marvinol 5051	Mixing platform	1505	55 ± 2.0 ppm
41G	Resin	L-4-M9P-2		Pliovic M-90	Mixing platform	1510	15 ± 1.0 ppm
41H	Resin	L-160062		Marvinol VR-53	Mixing platform	1615	0.3 ± 0.1 ppm
41I	Soft-Touch Apparel	Factory Order A958, M003d39					

GENC 20859

READING

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SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DATE	ppm / INYL CHLORIDE MONOMER
PD72-018- 13B	5908-T-9012 Calendered Auto Seating	Roll #43444	4/4 & 4/5/74	80/20 Vygen 120/Vygen 110	Reading	4/10/74	None
13C	5908-T-3112 Calendered Auto Trim	Roll #43760	4/8 & 4/9/74	Vygen 120	Reading	4/10/74	Not Tested
NOTE: Above samples taken in narrow mouth bottles with natural rubber stoppers.							
15A	5908-T-9012 Calendered Auto Seating	Roll #43444	4/4 & 4/5/74	80/20 Vygen 120/Vygen 110	Akron	4/16/74	6 ppm*
NOTE: The above sample was taken in 4 oz wine mouth bottles with Teflon/butyl rubber lined caps. *This is a repeat of Sample 13B taken 6 days later. The accuracy of Samples 13A-15C is considered to be at least + 20%, but the calibration curves are not guaranteed accurate at 410 ppm. At this point, the calibration curves were redone to give accurate answers at <1 ppm.							
10d	7331-3042 9530 Starcraft Calendered Camper Ceiling	PO #44543A-1	4/10 - 4/19/74	Vygen 120	Akron	4/30/74	0.8 ppm
31A-1	5966-T-10012 Calendered Expanded Auto Seating	Roll #40995	Produced 1st week January, 1974	?	Akron	5/20/74	
A-2		Heat aged 24 hours at 150°F			Akron	5/21/74	
A-3		Heat aged 48 hours at 150°F			Akron	5/22/74	
The following comprises an audit of the #1 canning line producing Soft-Touch apparel, Green 7400 on 5/20/74.							
41A	Liquid Plastisol	EV1617		50 Marvinol 5051 25 Marvinol 53 25 Plivoc A-90	1st Coating Head	4425	5.0 ± 0.2 ppm
41B	Skin Coat (collar only)			50 Marvinol 5051 25 Marvinol 53 25 Plivoc A-90	Scraped from release paper at exit of oven #1	4432	3.1 ± 0.3 ppm

GENC 20860

ITEM NO.	DESCRIPTION	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLE AT	DATE	TEST METHOD
35-6	Compound			Vygen 220 Ashtabula	Feedmill Conveyor ¹	1007	2.9 ± 0.5 ppm
35-7	Hot Trim			Vygen 220 Ashtabula	Calender ¹	1010	2.9 ± 0.5 ppm
35-8	Finished Boltaron 201d-1055			Vygen 220 Ashtabula	Guillotine ¹	1015	4.0 ± 0.5 ppm
35-9	Finished Boltaron 201d-1055			Vygen 220 Ashtabula	Guillotine ²	1016	2.5 ± 0.5 ppm

¹ Samples taken in wide mouth 4 oz bottles with Teflon/butyl rubber cap liners.

² Samples taken in narrow mouth bottles with butyl stoppers and crimped metal retainers.

SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	ASSIN	SAMPLED AT	DATE	PPM VINYL CHLORIDE MONOMER
	The following samples comprise an audit of the #7 extruder - Chairmat 6551-9000.						
33-1	Incoming Resin			Vygen 310 Ashtabula	#2 Silo ¹	1030 5/23/74	19.0 ± 1 ppm
33-2	Incoming Resin			Vygen 310 Ashtabula	#2 Silo ²	1030 5/23/74	33.1 ± 1 ppm
33-3	Henscheled Blend			Vygen 310 Ashtabula	Ribbon Blender ¹	1046 5/23/74	2.2 ± 0.5 ppm
33-4	Henscheled Blend			Vygen 310 Ashtabula	Ribbon Blender ²	1047 5/23/74	4.3 ± 0.5 ppm
33-5	Virgin Blend			Vygen 310 Ashtabula	Upper Hopper ¹	1102 5/23/74	1.6 ± 0.5 ppm
33-6	Regrind			Vygen 310 Ashtabula	Extruder Feeder ¹	1107 5/23/74	1.9 ± 0.5 ppm
33-7	Finished Chairmat 6551-9000			Vygen 310 Ashtabula	Guillotine ¹	1055 5/23/74	N.D.
	¹ Samples taken in wide mouth 4 oz bottles with Teflon/butyl rubber cap liners. ² Samples taken in narrow mouth bottles with butyl stoppers and crimped metal retainers.						
	The following comprises an audit of the #2 calender line making Solaron 2018-1055 vacuum formable lamp cover 5/23/74.						
35-1	Resin	Lot 74-13		Vygen 220 Ashtabula	Banbury ¹	952	27.0 ± 1 ppm
35-2	Resin	Lot 74-13		Vygen 220 Ashtabula	Banbury ²	953	Lost Sample
35-3	Compound			Vygen 220 Ashtabula	Skip Moist ¹	1001	4.3 ± 0.5 ppm
35-4	Compound			Vygen 220 Ashtabula	Skip Moist ²	1000	4.3 ± 0.5 ppm
35-5	Compound			Vygen 220 Ashtabula	Marcup Mill ¹ Conveyer	1003	3.4 ± 0.5 ppm

GENC 20662

SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DATE	ppm / DRYL CHLORIDE MEASUR
25A-1	Boltaron 1050-2079 Calendered Corrosion Resistant Type I for Tanks, etc.	Piece #21352A	Received 5/13/74	Vygen 105 (91%)	Akron	5/14/74	2.2, 2.9 $\pm$ 1 ppm
A-2 A-3		Aged 16 hours at 150°F Aged 1 week at ambient			Akron Akron	5/15/74 5/21/74	3.6 $\pm$ 0.5 ppm 3.4, 3.4 $\pm$ 0.1 ppm
25B-1	Acrylavin 3360 Thermoformable		Received 5/13/74	Vygen 302 (67.3%) 4428 (24.2%) Acrylic	Akron	5/14/74	53.2, 55.3 $\pm$ 2 ppm
B-2		Heated to 370°F in Agastat vacuum former			Akron	5/14/74	50.4, 47.8 $\pm$ 3 ppm
25C-1	Boltaron 1008-1332 Thermoformable Pipe Covering		Received 5/13/74	Vygen 65	Akron	5/14/74	129.9, 121.0 $\pm$ 5 ppm
C-2		Heated to 370°F in Agastat vacuum former			Akron	5/14/74	97.5, 109.1 $\pm$ 5 ppm
25D-1	Boltaron 6000-5236 Calendered & Press Laminated Thermoformable Aircraft		Received 5/13/74	Vygen 65 (67.3%)	Akron	5/14/74	59.4, 69.3 $\pm$ 5 ppm
L-2 D-3		Heated to 370°F in Agastat vacuum former Aged 1 week at ambient			Akron Akron	5/14/74 5/14/74	61.1, 65.0 $\pm$ 3 ppm
25E-1	Chairmat 6551-V Extruded		Received 5/13/74	Vygen 310	Akron	5/14/74	1.0, 0.0 $\pm$ 0.5 ppm
E-2 E-3		Aged 1 week at ambient Aged 2 weeks at ambient			Akron Akron	5/21/74 5/20/74	0.2, 0.2 $\pm$ 0.1 ppm
27A-1	Boltaron 2002-1000 Print/Vacuum form sheet 1000		Received 5/14/74		Akron	5/15/74	117 $\pm$ 5 ppm
A-2		Heated to 370°F in Agastat vacuum former			Akron	5/17/74	
20A	bulk PVC Resin			Pantasote Vygen 220		5/16/74	1040 $\pm$ 10 ppm

GENC 20863

SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DATE	ppm VINYL CHLORIDE MONOMER
2072-019-150	Boltaron 1055-2079 Calendered Type I Rigid for Tanks, etc.	Lot #934500-A	4/2/74	Pantasote Vygen 105	Akron	4/10/74	15 ppm
NOTE: The above sample was taken in 4 oz wide mouth bottles with Teflon/butyl rubber lined caps. The accuracy of samples 13A-15C is considered to be at least $\pm 20\%$, but the calibration curves are not guaranteed accurate at <10 ppm. At this point, the calibration curves were redone to give accurate answers at <1 ppm.							
20A	Acrylwin 3360-1018 extruded PVC/Acrylic Vacuum Formable		5/1/74	Vygen 302	Akron	5/3/74	31 ± 2 ppm
20B	Boltaron 1009-2206 Extruded PVC Profile	Lot #2624d-2	5/1/74	Vygen 85 Precompounded	Akron	5/3/74	40.6 ± 5 ppm
20C	Clear Chairmat 6551-9000 extruded		5/1/74	Vygen 310	Akron	5/3/74	4.1 ± 1 ppm
20D	Boltaron 2003-1195 Calendered Print Stock		4/22/74	Pantasote Vygen 220 #2 Calender	Akron	4/24/74	275 ± 5 ppm
20E	Boltaron 1055-2029 Calendered Rigid Type I for tanks, etc.		4/22/74	Pantasote Vygen 105 #1 Calender	Akron	4/24/74	5.9 ± 1 ppm
20F	Boltaron 2004-5012 Calendered Packaging Film		4/22/74	Pantasote Vygen 220 #3 Calender	Akron	4/24/74	40 ± 5 ppm
An aging study is underway to determine both the level of VC in roll goods and the loss of VC with exposure. A sample piece was removed from the middle of a tightly wrapped roll. Samples 21L-21B were aged at ambient on my office wall; Samples 21C-21F were aged in a 150°F oven with low air circulation.							
21L-1	Boltaron 2000-L-2d72 Calendered Print Stock		5/1/74	Vygen 220	Akron	5/6/74	440 ± 5 ppm
21-2						5/7/74	$410,422 \pm 5$ ppm
21-3						5/8/74	$75,700.3 \pm 5$ ppm
21-4						5/13/74	44 ± 1 ppm

GENC 20864

SAMPLE NO.	ANALYST	IDENTIFICATION	PRODUCTION DATE	RESYN	SAMPLE AT	DATE	ppm .L.H.L. CHLORIDE MONOMER
13A F523-013-13A	F-93-5176 White Nubby Ceiling File Calendered	Roll #23705	?	Vygen 50	Akron	4/15/74	9 ppm
NOTE: Above sample taken in narrow mouth bottles with natural rubber stoppers. The accuracy of Samples 13A-15C is considered to be at least $\pm 20\%$, but the calibration curves are not guaranteed accurate at <10 ppm. At this point, the calibration curves were redone to give accurate answers at <1 ppm. An aging study is underway to determine both the level of VC in roll goods and the loss of VC with exposure. A sample piece was removed from the middle of a tightly wrapped roll. Samples 21A-21D were aged at ambient on my office wall; Samples 21E-21F were aged in a 150°F oven with low air circulation.							
21A-1 D-2 D-3	F-93-5176 White Nubby Ceiling Tile	Roll #23705	Received 4/15/74	Vygen 50	Akron	5/6/74 5/7/74 5/8/74	0.6 ± 0.5 ppm $0.4, 0.4 \pm 0.2$ ppm None ± 0.1 ppm
24A	F-93-5705 Food Wrap Film	Roll #14610	5/2/74 Received 5/9/74 Aged 1 month at R.T.	Vygen 110 or Pantasote Vygen 110	Akron	5/14/74	$1.6, 3.6 \pm 1$ ppm 1.3 ± 0.1 ppm
24B	F-98-0606 Food Wrap Film	Roll #14609	5/2/74 Received 5/9/74 Aged 1 month at R.T.	Vygen 110 or Pantasote Vygen 110	Akron	5/14/74	$5.1, 4.0 \pm 1$ ppm 0.07 ppm
55A	Reverse Print Film for Wallboard	F5230P-0-302	Unknown	Vygen 65 - 90 pts. Acryloid KMO07 - 10 pts.	Jeannette	6/13/74	0.3 ± 0.1 ppm
553	Vinyl to Metal Swimming Pool Exterior Wall	ET-80-3172 Sales Code PG 331 GT11073	12/20/72	Vygen 105	Jeannette	5/13/74	0.2 ± 0.1 ppm
55C	Vinyl to Metal Display Cases	ITC/17-F9-52001 47-21012	3/20/74	Vygen 110 - 45 pts. Vygen 105 - 45 pts. Vygen 110 - 10 pts.	Jeannette	5/13/74	0.3 ± 0.1 ppm
02A	F90-5501 Pearl Oriental Silk Shower Curtain	2nd Roll #23900 Gauge .0075 50" width 3/4" #6749			AKD	5/17/74	
02B	F-33-5499 #133 Wall-to-Wall Shower Curtain	1st Roll #21240A Gauge 1.95 #14 72" width 3/4" #16480			AKD	5/17/74	

GENC 20865

IDENTIFICATION	IDENTIFICATION	IDENTIFICATION	IDENTIFICATION	IDENTIFICATION	IDENTIFICATION	IDENTIFICATION	IDENTIFICATION
PL72-010- 444	Food Grade Hose		5/23/74	Vygen 310	Akron	5/23/74	

GENC 20866

COLUMBUS

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SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DATE	ppm VINYL CHLORIDE MONOMER
FD72-018- 21A-1	Contract Wallcovering F-07-05	PO #79524	Received 3/29/74	Conoco 4350 (priscoale) Vygen 105 or Pantasote Vygen 105	Akron	5/6/74	0.5 ± 0.5 ppm
						5/7/74	0.5, 0.3 ± 0.2 ppm
						5/8/74	None ± 0.1 ppm
21B-1	Lightweight Wallcovering F-07-15 Calendered	PO #60331	Received 3/29/74	Vyren 105	Akron	5/6/74	0.5 ± 0.5 ppm
						5/7/74	0.5, 0.2 ± 0.2 ppm
						5/8/74	None ± 0.1 ppm
21C-1	.010" Sealable Film for toilet seat bottom for Beneko	PO #01437	5/23/74		Columbus	5/11/74	0.1 ± 0.1 ppm
21D-1	.010" Formable Film for toilet seat top for Beneko	PO #00799	4/23/74		Columbus	5/11/74	0.1 ± 0.1 ppm

GENC 20867

	DESCRIPTION	IDENTIFICATION	PRODUCTION DATE	ASSIGN	SAMPLE AT	DATE	FOR VINYL CALCULUS ANALYSIS
	The following comprises an audit of #2 Jet Zone.						
43A	Vicuna Footwear Spec. 13-432-006	Factory Order 10592	5/28/74	Vygen 110	Jet Zone Unwind	1110	
43B	Vicuna Footwear Spec. 13-432-006	Factory Order 10592	5/28/74	Vygen 110	After Smoothing Before Finishing	1150	
43C	Vicuna Footwear Spec. 13-432-006	Factory Order 10592	5/28/74	Vygen 110	Wind-Up	1152	
53A	5900T9012 Calendered Automotive Seating	PC 0422133 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	6/13/74	R&D 0.2 ± 0.1 ppm
53B	5900T9012 Calendered Automotive Seating	PC 0422133 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	6/13/74	R&D 0.1 ± 0.1 ppm
53C	5900T9012 Calendered Automotive Seating	PC 0422133 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	6/13/74	Ashtabula 2.4 ppm
53D	5900T9012 Calendered Automotive Seating	PC 0422133 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	6/13/74	Ashtabula 1.8 ppm
53E	5900T9012 Calendered Automotive Seating	PC 0422133 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	6/13/74	Diam. Sham.
53F	5900T9012 Calendered Automotive Seating	PC 0422133 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	6/13/74	Diam. Sham.
43	Starcraft Marine Seating	Catalogue #15-35-0245 Color 4032 done White P.O. #19179	6/73	Back Sheet - Vygen 110 Topskin - Vygen 110	R&D	6/13/74	N.D.

GENC 20868

SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLED AT	DAYS	ppm VINYL CHLORIDE MONOMER
37A	Banouryed Compound			Vygen 120	Drop mill	1038	15 $\pm$ 2 ppm
37I	Milled Compound Strip			Vygen 120	Conveyor between drop and feed mills	1043	10 $\pm$ 2 ppm
37J	Mill Strip			Vygen 120	Conveyor between feed mill and calender	1049	0.2 $\pm$ 2 ppm
37K	Hot Trim			Vygen 120	#2 calender	1054	2.4 $\pm$ 0.5 ppm
37L	Unfinished Product T-9012	PO 545 Roll #10		Vygen 120	Windup	1103	6.0 $\pm$ 1 ppm
37M	Print Ink (Solution)			Vygen 123			
37N	Tint Ink (Solution)			Vygen 123			
37O	Finish (Solution)	X-185		Vygen 3020 or Vygen 123			
37P	Unfinished T-9012				#1 Printer Unwind		
37Q	Finished T-9012				#1 Printer Windup		
GENC 20889	The following comprises an audit of #1 Jet Zone expanding Vinolle upholstery 5/26/74.						
	42A	Unexpanded Calendered Material	U3026 U8030	Vygen 110	Jet Zone Let-Off	1100	1.1 $\pm$ 0.3 ppm
	42B	Unfinished, Expanded Submerged		Vygen 110	Between embosser and toothrolling	1112	0.7 $\pm$ 0.1 ppm
	42C	Vinolle Executive Upholstery Spec. 01-21-000	Factory Order #3594	Vygen 110	Windup	1115	0.7 $\pm$ 0.1 ppm

SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	ANALYST	SAMPLED AT	DATE	ppm VINYL CHLORIDE MONOMER
<u>PD72-016-</u> 15a	7026-T-10012 Calendered Expanded Automotive	PO #00395	3/11/74	Base 50/50 Vygen 110/Vygen 120 Skin Vygen 120	Akron	4/16/74	3 ppm
NOTE: The above sample was taken in 4 oz wide mouth bottles with Teflon/butyl rubber lined caps. The accuracy of samples 13A-15C is considered to be at least $\pm 20\%$, but the calibration curves are not guaranteed accurate at <10 ppm. At this point, the calibration curves were redone to give accurate answers at <1 ppm. An aging study is underway to determine both the level of VC in roll goods and the loss of VC with exposure. A sample piece was removed from the middle of a tightly wrapped roll. Samples 21A-21D were aged at ambient on my office wall; Samples 21E-21F were aged in a 158°F oven with low air circulation.							
21C-1	El Paso Vinelle Calendered Expanded Upholstery	PO #6944	Shipped 4/25/74	Base 10/1 Vygen 110/Vygen 50 Skin Vygen 110	Akron	5/6/74	0.5 ± 0.5 ppm
C-2 C-3						5/7/74 5/8/74	$0.2, 0.3 \pm 0.2$ ppm None ± 0.1 ppm
21E-1	Sy30-T-9012 Calendered Auto Seating	Piece #042213-3 Pallet 01-A Tag #981940	Received 4/15/74	Vygen 120	Akron	5/6/74	5.6 ± 0.5 ppm
C-2 C-3 C-4						5/7/74 5/8/74 5/13/74	$1.3, 1.0 \pm 0.2$ ppm None ± 0.1 ppm
The following comprises an audit of the #2 calender line producing T-9012 on 5/29/74.							
37A	Resin	Roll Car #ACX10106		Vygen 120	Railroad car Hatch #1	0323	27 ± 4 ppm
37B	Resin	Roll Car #ACX10106		Vygen 120	Hatch #2	0335	30 ± 4 ppm
37C	Resin	Roll Car #ACX10106		Vygen 120	Hatch #3	0342	$30 \pm 2, 71 \pm 3$ ppm
37D	Resin	Roll Car #ACX10106		Vygen 120	Hatch #5	0350	$22 \pm 7, 1 \pm 1$ ppm
37E	Resin			Vygen 120	Chute from bin topped to trolley conveyor	1015	135 ± 2 ppm
37F	Calender			Vygen 120	Upper blender	1027	120 ± 4 ppm
37G	Calender			Vygen 120	Chute fr. lower blender into roll canbury	1032	113 ± 2 ppm

GENC 20870

PL72-01d-	TEST	DESCRIPTION	EXPERIMENTAL DATA	REMARKS	DATE	TIME	TEST RESULTS
	The following comprises a Round Robin Testing of Vygen desins - Ashtabula Dryer samples taken 6/6/74.						
45-1001	Vygen 120C			#3 Dryer ¹	10:50 am		424 (Ashtabula 6/7/74)
45-1002	Vygen 120C			#3 Dryer ¹	10:50 am		374 (Ashtabula 6/7/74)
45-1003	Vygen 120C			#3 Dryer ¹	10:50 am		604 $\pm$ 5 (R&D 6/7/74)
45-1004	Vygen 120C			#3 Dryer ¹	10:50 am		615 $\pm$ 5 (R&D 6/7/74)
45-1005	Vygen 120C			#3 Dryer ¹	10:50 am		567 (Diam. Sham. 6/7/74)
45-1006	Vygen 120C			#3 Dryer ¹	10:50 am		630 (Diam. Sham. 6/7/74)
45-1007	Vygen 120C			#3 Dryer ¹	10:50 am	?	430 (R&D 6/7/74) 19.5 $\pm$ 2 (R&D 6/14/74) (R&D 6/21/74)
45-1008	Vygen 120C			#3 Dryer ¹	10:50 am		
45-1009	Vygen 120C			#3 Dryer ¹	10:50 am		
45-1010	Vygen 120C			#3 Dryer ¹	10:50 am		
45-1011	Vygen 120C			#3 Dryer ¹	10:50 am		320 (Ashtabula)
45-1012	Vygen 310			#2 Dryer	11:30 am		18 (Ashtabula 6/7/74)
45-1013	Vygen 310			#2 Dryer	11:30 am		23 (Ashtabula 6/7/74)
45-1014	Vygen 310			#2 Dryer	11:30 am		23 $\pm$ 5 (R&D 6/7/74)
45-1015	Vygen 310			#2 Dryer	11:30 am		10 $\pm$ 2 (R&D 6/7/74)
45-1016	Vygen 310			#2 Dryer	11:30 am		55 (Diam. Sham. 6/7/74)
45-1017	Vygen 310			#2 Dryer	11:30 am		
45-1018	Vygen 310			#2 Dryer	11:30 am		24 (R&D 6/7/74) 14.0 $\pm$ 5 (R&D 6/14/74) (R&D 6/21/74)
45-1019	Vygen 310			#2 Dryer	11:30 am		

GENC 20871

Sample ID	Location	Time	Container	Notes	Time	Notes
45-1020	Vygen 310			#2 Dryer	11:30 am	
45-1021	Vygen 310			#2 Dryer	11:30 am	
45-1022	Vygen 310			#2 Dryer	11:30 am	23 (Ashtabula o/7/74)
45-1023	Vygen 110		Vygen 110	Control Skid Bag		133 - 5 (44L o/7/74)
45-1024	Vygen 110		Vygen 110	Control Skid Bag		95 (Ashtabula o/7/74)
45-1025	Vygen 120			#3 Dryer ²		Broken
45-1026	Vygen 120			#3 Dryer ²		347 (Ashtabula o/7/74)
45-1027	Vygen 130			#2 Dryer ²		23 (Ashtabula o/7/74)
45-1028	Vygen 130			#2 Dryer ²		25 (Ashtabula o/7/74)
¹ Samples 1001 - 1024 taken in wide mouth bottles with Neoprene/Teflon cap liners. Samples 1025 - 1028 taken in serum bottles with natural rubber stoppers.						

GENC 20872

R&D EXPERIMENTAL

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REF ID	PROJECT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLE AT	DATE	FOR VINYL CHLORIDE MONOMER
PL73-020- 136A1-50 A2-50	National Vacuum Order No. 51332-2006- 6530	#3 Calender Run	6/4/74	Pantasote 220 Resin from Silo B	Henschel	6/4/74	
136B1-50 B2-50	National Vacuum Order No. 51332-2006- 6530	#3 Calender Run	6/4/74	Pantasote 220 Resin from Silo B	Henschel Drop 120 seconds - 20 minutes Non-agitating - Temp. 60°C	6/4/74	
136C1-50 C2-50	National Vacuum Order No. 51332-2006- 6530	#1 Calender Run	6/4/74	Pantasote 220 Resin from Silo B	Farrel Continuous Mixer Stock 325°F	6/4/74	
136D1-50 D2-50	National Vacuum Order No. 51332-2006- 6530	#1 Calender Run	6/4/74	Pantasote 220 Resin from Silo B	Stock from Calender Feed Mill Stock Temp. 310°F Thickness 230 mils	6/4/74	
136E1-50 E2-50	National Vacuum Order No. 51332-2006- 6530	#3 Calender Run	6/4/74	Pantasote 220 Resin from Silo B	Finished Calendered Sheet Calender Conditions in Book PL73-020-136	6/4/74	
134G-49	B.F. Goodrich PVC Resin 103 EP				From bag - No history		
134A1-49 A2-49	Resin - Vygen 310 Lot 7415	For Acrylvin Extrusion at Newcomerstown	6/4/74	Vygen 310 Lot 7415	From bag at Henschel Mixer	6/4/74	
134B1-49 BB2-49	Acrylvin 3360-9000 Dryblend from Henschel	3360-9000 - Dryblend cycle 12 min. Drop Temp. 220°F - No vacuum Cool to 90 and drop	6/4/74	Vygen 310 Lot 7415	Henschel Mixer	6/4/74	
134B1-49 B2-49	Acrylvin Extrusion 125 mil Sheet	Dryblend from Butler Tank 3360-3298	6/4/74	Vygen 310 Lot 7415	Henschel Mixer	6/4/74	

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R&D EXPERIMENTAL

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REF ID	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLE AT	DATE	FOR VINYL CELLULOSE ADHESION
134C1-49 C2-49	Acrylvin Extrusion 125 mil Sheet	Extruded sheet with vacuum at die lip molten	6/1/74	Vygen 310 Lot 7415	#4 - 4-1/2" Extruder	6/1/74	
134D1-49 D2-49	Acrylvin Extrusion 125 mil Sheet	Extruded sheet finished 125 mils	6/1/74	Vygen 310 Lot 7415	#4 - 4-1/2" Extruder	6/1/74	
134E1-49 E2-49	Acrylvin Extrusion 125 mil Sheet	Extruded sheet at die lips molten without vacuum	6/1/74	Vygen 310 Lot 7415	#4 - 4-1/2" Extruder	6/1/74	
134F1-49 F2-49	Acrylvin Extrusion 125 mil Sheet	Extruded sheet finished without vacuum	6/1/74	Vygen 310 Lot 7415	#4 - 4-1/2" Extruder	6/1/74	
134A1A-46 A2A-46	2006-6072	R&D Lab trials	6/5/74	Pantasote 220 in bags from Silo B	From 7-1/2 lb. Farrel Banbury in lab - drop temp. 325°F	6/5/74	
134A1B-46 A2B-46	2006-6072	R&D Lab trials	6/5/74	Pantasote 220 in bags from Silo B	From 10"x20" mill roll temp. 300°F milled 10 min. 310 to 320°F	6/5/74	
134A1C-46 A2C-46	2006-6072	R&D Lab trials	6/5/74	Pantasote 220 in bags from Silo B	From laboratory calender 7 to 9 mils	6/5/74	
139A1-46 A2-46	Pantasote 220 Resin	R&D Lab trials	6/5/74	Pantasote 220 in bags from Silo B		6/1/74	
138B1A-46 B2A-46	2006-6072	R&D Lab trials	6/5/74	Vygen 220	7-1/2 lb. Banbury drop stock temperature 325°F	6/5/74	
138B1B-46 B2B-46	2006-6072	R&D Lab trials	6/5/74	Vygen 220	10"x20" mill roll temp. 300°F stock 310 to 320°F	6/5/74	
138B1C-46 B2C-46	2006-6072	R&D Lab trials	6/5/74	Vygen 220	From laboratory calender 7 to 9 mils thick	6/5/74	

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SAMPLE NO.	PRODUCT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLE AT	DATE	POA VINYL CHLORIDE MONOMER
13981-46 B2-46	Vygen 220			Vygen 220	NCT in bags	6/4/74	
138C1A-47 C2A-47	2006-6072 with Pantasote 220 resin and 6 phr 062	R&D Lab trial	6/5/74	Pantasote 220 from bags	7-1/2 lb Farrel Banbury in lab - drop temp. 325°F 2 minutes	6/5/74	
138C1B-47 C2B-47	2006-6072 with Pantasote 220 resin and 062 epoxy	R&D Lab trial	6/5/74	Pantasote 220 from bags	10"x20" mill surface roll 300°F stock - 310 to 320°F	6/5/74	
138C1C-47 C2C-47	2006-6072 with Pantasote 220 resin and 062 epoxy resin	R&D Lab trial	6/5/74	Pantasote 220 from bags	Calendered sheet 7 to 9 mils	6/5/74	
138D1A-47 D2A-47	2006-6072 with Pantasote 220 resin with 3 phr diacrylate monomer	R&D Lab trial	6/5/74	Pantasote 220	7-1/2 lb Banbury drop 320°F 2 min mix	6/5/74	
138D1B-47 D2B-47	2006-6072 with Pantasote 220 resin with 3 phr diacrylate monomer	R&D Lab trial	6/5/74	Pantasote 220	10"x20" lab mill surface roll 300°F - stock temp. 325°F	6/5/74	
138G1C-47 L2C-47	2006-6072 with Pantasote 220 resin with 3 phr diacrylate monomer	R&D Lab trial	6/5/74	Pantasote 220	Calendered sheet 7 to 9 mils	6/5/74	

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TEST NO.	PLANT	IDENTIFICATION	PRODUCTION DATE	RESIN	SAMPLE AT	DATE	FOR TINYL CALCULATED FOR 0.404
<u>PL72-018-</u> 64A-1	Newcomerstown Plant 2006-6072 BaCd Stabiliser	PL73-020-146A-1	6/10/74	Pantasote 220 from Silo B	Henschel for #2 Calender	6/10/74	
A-2		A-2					
64B-1	2006-6072	PD73-020-146B-1	6/10/74	Compound for 2006- 6072 Pantasote 220 Resin	#2 Calender Banbury feed drop 3 minutes 325°F	6/10/74	
B-2		B-2					
64C-1	2006-6072	PL73-020-146C-1	6/10/74	Compound for 2006- 6072 Pantasote 220 Resin	#2 Calender feed mill. Roll temp. 210°F Stock temp. 310°F Time on mill CA 16 min. 1/4" thick	6/10/74	
C-2		C-2					
64E-1	2006-6072	PD73-020-146E-1	6/10/74	Compound for 2006- 6072 Pantasote 220 Resin	Finished Calendered Sheet 10 mills	6/10/74	
E-2		D-2					
65A-1	Henschel Series 2006-1095 Compound Pantasote 220 Resin in PE bags from Silo B & from 6/10/74 Calender run	PL73-020-147A-1	Lab trials at Newcomerstown 6/10/74	Compound for 2006- 1095 Lab Studies Pantasote 220	Henschel - 6-1/2 mm to 100°F	6/10/74	
A-2		A-2					
65B-1	Henschel Series 2006-1095 Compound Pantasote 220 Resin in PE bags from Silo B & from 6/10/74 Calender run	PD73-020-147B-1	Lab trials at Newcomerstown 6/10/74	Compound for 2006- 1095 Lab Studies Pantasote 220	Henschel to 160°F in 13 minutes	6/10/74	
B-2		B-2					

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EXPERIMENT NO.	PROJECT	IDENTIFICATION	PRODUCTION DATE	R-SIN	SAMPLE AT	DATE	ppm VINYL CHLORIDE MONOMER
65C-1	Henschel Series 2006-1095 Compound Pantasote 220 Resin in PE bags from Silo B & from 6/10/74 Calender run	PD73-020-147C-1	Lab trials at Newcomerstown 6/10/74	Compound for 2006- 1095 Lab Studies Pantasote 220	Henschel to 160°F with vacuum	6/10/74	
C-2		C-2					
65D-1	Henschel Series 2006-1095 Compound Pantasote 220 Resin in PE bags from Silo B & from 6/10/74 Calender run	PD73-020-147S-1	Lab trials at Newcomerstown 6/10/74	Compound for 2006- 1095 Lab Studies Pantasote 220	Henschel mix to 160°F with vacuum	6/10/74	
D-2		D-2					
66A-1	PVC Resin used for 2006-6072 on 6/10/74	PD73-020-146E-1		Pantasote 220 from Silo B	Sampled at Silo B on 6/10/74 into a 3 layer polyethylene bag and brought back to Akron R&D. Bags opened and sampled 6/18/74.		
A-2		E-2					
GENC 20877	The following comprises	a Round Robin Testing of sheeting calendered at R&D by G. Wear on 6/14/74.					
	52A Pantasote 220	Refer to PD73-020-138A No Tin Stabilizer	-	-	R&D	6/13/74	44 ± 2.0 R&D
	52B Pantasote 220	Refer to PD73-020-138A No Tin Stabilizer	-	-	R&D	6/13/74	46 ± 2 R&D
	52C Pantasote 220	Refer to PD73-020-138A No Tin Stabilizer	-	-	R&D	6/13/74	19.1 Ashtabula
	52D Pantasote 220	Refer to PD73-020-138A No Tin Stabilizer	-	-	R&D	6/13/74	19.5 Ashtabula
	52E Pantasote 220	Refer to PD73-020-138A No Tin Stabilizer	-	-	R&D	6/13/74	Liam. Shan.
	52F Pantasote 220	Refer to PD73-020-138A No Tin Stabilizer	-	-	R&D	6/13/74	Liam. Shan.