

Vinyl Chloride
Products

RESIDUAL VCM ANALYSIS OF TEXAS CITY

VINYL RESIN PRODUCTION

JUNE, 1975

Prepared by: R. M. Arnold
Reviewed by: G. F. Tacquard
Date: July 2, 1975

Table I is a summary of residual VCM levels in vinyl resins produced during the month of June. A slight reduction in average residual VCM content in high-7 was observed during the month as compared to May. Individual bin and blend VCM data for each suspension type produced during June are shown in Tables II-XI. An average 5% reduction in residual VCM content was observed from in-bin blending. Also, shown in Tables XII and XIII are residual VCM of VYNW and VYDS analyzed during the month. All TDS blends (regular and Rule 66) analyzed <1.0 ppm

RESINS LABORATORIES
UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS DIVISION
TEXAS CITY PLANT

UCC
055297

TABLE 1
SUMMARY OF VCM ANALYSIS OF SUSPENSION VINYL RESINS

BIN	<u>VCM, ppm</u>		<u>% BLENDS <100 ppm</u>	<u>% VCM REDUCTION FROM BLENDING</u>
	<u>BIN</u>	<u>BLEND</u>		
521-7	696	327	0	53
521-7	530	140	40	74
CR	266	97	75	69
521-10	542	267	4	51
521-10	1270	612	0	52

TABLE II

QSAH-7 BLEND ANALYSIS FOR VCM CONTENT

<u>BLIND NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
B-1769	6-29	151
B-1770	6-29	128
B-1771	6-30	346
B-1772	6-30	684
Average		327

TABLE III

TABLE-7 BLEND ANALYSIS FOR VCM CONTENT

	<u>DATE</u>	<u>VCM, ppm</u>
6-4	6-4	123
6-10	6-10	44
6-11	6-11	10
6-10	6-10	128
6-11	6-11	19
6-8	6-8	271
6-14	6-14	77
6-13	6-13	146
6-14	6-14	431
6-16	6-16	154
Average		140

TABLE IV

Q000-7 BLEND ANALYSIS FOR VCM CONTENT

<u>Q000-7</u>	<u>DATE</u>	<u>VCM, ppm</u>
B-911	6-1	54
B-912	6-19	5
B-913	6-19	392
B-914	6-23	109
B-915	6-24	36
B-926	6-25	35
B-928	6-26	48
B-931	6-29	99
Average		97

TABLE V

VSJE-10 BLEND ANALYSIS FOR VCM CONTENT

<u>NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
B-714	6-4	71
B-715	6-4	206
B-716	6-1	190
B-717	6-5	265
B-718	6-4	130
B-719	6-4	319
B-720	6-17	146
B-721	6-10	304
B-722	6-6	240
B-723	6-11	440
B-724	6-11	852
B-725	6-11	416
B-726	6-17	122
B-727	6-16	116
B-728	6-16	312
B-729	6-16	236
B-730	6-18	244
B-731	6-18	386
B-732	6-19	167
B-733	6-19	329
B-734	6-19	160
B-735	6-21	353
B-736	6-20	321
B-737	6-20	251
B-738	6-20	126
B-739	6-20	228
Average		267

TABLE VI

VSKK-10 BLEND ANALYSIS FOR VCM CONTENT

<u>BLND NO.</u>	<u>DATE</u>	<u>VCM, ppm</u>
B-932	6-23	735
B-933	6-29	655
B-936	6-26	1042
B-938	6-29	314
B-939	6-29	507
B-941	6-30	617
B-942	6-30	525
B-943	6-30	499

TABLE VII

QSAH-7 BIN ANALYSIS FOR VCM CONTENT

<u>LOT NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
605	6-27	428
601	6-28	320
606	6-28	521
602	6-29	1392
603	6-29	656
603	6-30	1120
602	6-30	680
605	6-30	465
608	6-30	674
Average		694

TABLE VIII

QSAL-7 BIN ANALYSIS FOR VCM CONTENT

<u>BIN NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
414	6-2	603
405	6-2	715
403	6-3	303
406	6-3	400
414	6-4	98
409	6-5	162
411	6-5	82
405	6-6	304
414	6-7	722
403	6-7	917
412	6-7	698
406	6-9	115
411	6-9	1003
412	6-10	699
406	6-10	354
412	6-11	744
402	6-11	512
411	6-12	601
405	6-12	426
414	6-13	1144
Average		530

TABLE IX

QSQH-7 BIN ANALYSIS FOR VCM CONTENT

<u>BIN NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
412	6-15	519
415	6-16	93
403	6-17	449
405	6-17	778
403	6-18	776
409	6-18	360
405	6-20	182
412	6-20	69
409	6-20	133
402	6-21	44
406	6-21	119
403	6-22	97
415	6-22	120
412	6-23	135
405	6-24	107
402	6-24	376
409	6-25	307
403	6-25	180
406	6-25	380
405	6-26	252
411	6-26	51
402	6-27	326
Average		266

TABLE X

VSJE-10 BIN ANALYSIS FOR VCM CONTENT

<u>BIN NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
701	6-2	443
701	6-2	340
706	6-2	489
707	6-2	513
709	6-3	305
703	6-4	429
705	6-4	1626
701	6-4	176
706	6-4	423
704	6-6	1089
701	6-6	585
703	6-6	212
707	6-6	204
707	6-7	679
704	6-9	353
702	6-10	1578
705	6-11	536
701	6-10	633
708	6-10	599
708	6-11	576
702	6-11	456
702	6-15	317
704	6-14	320
707	6-14	254
705	6-16	540
702	6-17	369
707	6-18	554
703	6-18	436
704	6-18	570
702	6-19	840
701	6-13	436
705	6-13	459
Average		542

TABLE XI

VSKK-10 BIN ANALYSIS FOR VCM CONTENT

<u>BIN NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
702	6-21	923
708	6-21	998
705	6-21	1059
705	6-22	1141
701	6-22	1554
703	6-23	1769
704	6-23	1343
706	6-23	1910
707	6-23	1905
706	6-24	1955
702	6-24	1539
705	6-25	1505
707	6-26	1362
708	6-26	1428
701	6-27	1867
706	6-27	1096
702	6-27	1628
703	6-28	715
709	6-28	768
708	6-27	1065
705	6-28	885
704	6-28	1069
702	6-29	1069
701	6-29	884
706	6-29	1127
706	6-30	1078
702	6-30	1051
705	6-30	867
Average		1270

UCC
055308

TABLE XII

VYNW BLEND ANALYSIS FOR VCM CONTENT

<u>BLIND NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
B-3867	6-16	1.9
B-3868	6-13	1.6
B-3869	6-18	<1
B-3870	6-19	<1
B-3872	6-21	5.0
B-3873	6-24	<1
B-3875	6-29	10.8

TABLE XIII

VYDS BLEND ANALYSIS FOR VCM CONTENT

<u>TYPE</u>	<u>BLEND NUMBER</u>	<u>DATE</u>	<u>VCM, ppm</u>
Super 55	B-764	6-26	0.7
55	B-765	6-27	<0.5
Regular	B-766	6-19	<0.5
Regular	B-767	6-30	<0.5

UCC
055310

DISTRIBUTION

TEXAS CITY PLANT

Mr. C. C. Chaty/Dr. D. R. Montgomery
Mr. M. L. Fishenhour
Mr. R. L. Frantz
Mr. L. L. Joansen
Mr. K. L. Ross
Mr. S. W. Sesler

OLD BROOK PLANT

Mr. Ed Bell

NEW YORK OFFICE

Mr. G. P. Bigelow
Mr. D. E. Hardman
Mr. G. T. Scott
Dr. A. B. Steele
Dr. T. T. Szabo
Mr. A. E. Donaldson

SOUTH CHARLESTON PLANT

Mr. R. N. Wheeler

TECHNICAL CENTER

Dr. J. J. Brezinski

UCC
055311

Vinyl Chloride
Products



RESIDUAL VCM ANALYSIS OF TEXAS CITY

VINYL RESIN PRODUCTION

JULY, 1975

AUTHOR: R. M. Arnold

SUPERVISOR: G. F. Tacquard

DATE: August 1, 1975

Attached in Table I is a summary of residual VCM levels in suspension vinyl resins produced during the month of July. Increases in VCM content were noted in QSAL/QSAN and VSJE-10 as compared to the previous month. These increases were primarily related to wide fluctuations in VCM content as a result of different stripping conditions used on the various production lines.

Toward the end of the QSAN-7 production run, a suspending agent change was made in which a Klucel J:Methocel recipe was used rather than the standard Cellosize:Methocel recipe. Comparison of residual VCM data on QSAN-7 type resins produced with both recipes indicated that, under ideal stripping conditions, the Klucel:Methocel recipe resulted in lower VCM levels than the Cellosize:Methocel recipe. Average VCM analysis of blends produced by the Cellosize:Methocel recipe was approximately 30 ppm as compared to an average VCM analysis of 10 ppm with the Klucel:Methocel recipe. Additional evaluations of this newer suspending agent by R&D and production personnel will be made.

Individual bin and blend VCM data for each suspension type produced during July are shown in Tables II-XII. Also shown in Tables XIII and XIV are residual VCM levels of VYNW and VYDS blends produced during the month. All VYDS blends analyzed <1 ppm VCM.

/kw
Attachments

RESINS LABORATORIES
UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS DIVISION
TEXAS CITY PLANT

UCC
055312

TABLE I

SUMMARY OF VCM ANALYSIS OF SUSPENSION VINYL RESINS

<u>Resin Type</u>	<u>VCM, ppm</u>		<u>% Blends <100 ppm</u>	<u>% VCM Reduction from Blending</u>
	<u>Bin</u>	<u>Blend</u>		
QSAL-7	801	-		
QSAN-7	486	268	66	42*
QSQF-7	1296	577	11	45
VSKK-10	1447	634	4	44
VSJE-10	1261	601	0	48

*Based on average QSAL-7 and QSAN-7 bin samples.

RMA/kw
3/1/75

UCC
055313

TABLE II

QSAH-7 BLEND ANALYSIS FOR VCM CONTENT

<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
B-1773	7-1	672
B-1774	7-1	136
B-1775	7-1	458
B-1776	7-1	168
B-1778	7-1	619
B-1779	7-22	14
Average		345

RMA/kw
8/1/75

UCC
055314

TABLE III

QSAN-7 BLEND ANALYSIS FOR VCM CONTENT

<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
B-6333	7-13	20
B-6334	7-13	1446
B-6335	7-13	48
B-6336	7-13	879
B-6337	7-13	13
B-6338	7-13	40
B-6339	7-13	2976
B-6340	7-13	129
B-6341	7-13	480
B-6342	7-13	23
B-6343	7-14	14
B-6344	7-14	45
B-6345	7-14	53
B-6346	7-14	38
B-6347	7-14	36
B-6348	7-14	29
B-6349	7-16	18
B-6350	7-16	56
B-6351	7-17	61
B-6352	7-17	7
B-6353	7-16	502
B-6354	7-17	2
B-6355	7-22	250
B-6356	7-22	11
B-6357	7-22	134
B-6358	7-20	6
B-6359	7-20	165
B-6360	7-20	792
B-6361	7-20	18
B-6362	7-21	43
B-6363	7-21	8
B-6364	7-21	237
B-6365	7-21	568
B-6366	7-21	7
B-6367	7-21	488
B-6368	7-21	15
B-6369	7-21	1
B-6370	7-21	13
B-6371	7-22	11
B-6372	7-22	26
B-6373	7-22	997

TABLE IV

QSQH-7 BLEND ANALYSIS FOR VCM CONTENT

<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
B-930	7-1	29
B-932	7-1	47
Average		38

RMA/kw
8/1/75

UCC
055316

TABLE V

QSOF-7 BLEND ANALYSIS FOR VCM CONTENT

<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
B-311	7-23	401
B-312	7-23	171
B-313	7-25	303
B-314	7-25	421
B-315	7-27	190
B-316	7-28	81
B-317	7-17	462
B-318	7-17	1970
B-319	7-28	369
B-320	7-30	106
B-321	7-28	439
B-322	7-28	2185
B-323	7-30	116
B-324	7-30	1202
B-325	7-30	85
B-326	7-30	1432
B-329	7-30	289
B-333	7-31	164

RMA/kw
8/1/75

UCC
055317

TABLE VI

VSJE-10 BLEND ANALYSIS FOR VCM CONTENT

<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
	7-16	457
B-754	7-16	386
B-755	7-16	902
B-756	7-16	796
B-757	7-17	661
B-759	7-17	554
B-760	7-17	329
B-761	7-22	204
B-762	7-21	402
B-763	7-27	403
B-764	7-22	451
B-765	7-22	674
B-766	7-23	188
B-767	7-23	179
B-768	7-22	398
B-769	7-22	715
B-770	7-23	492
B-771	7-25	426
B-772	7-25	876
B-774	7-28	1111
B-775	7-27	977
B-777	7-27	1178
B-778	7-27	1069
B-779	7-27	442
B-780	7-28	555
B-781	7-30	895
B-782	7-30	519
B-788	7-30	

RMA/kw
8/1/75

UCC
055318

TABLE VII

VSKK-10 BLEND ANALYSIS FOR VCM CONTENT

<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
B-944	7-1	530
B-945	7-1	258
B-946	7-1	10
B-947	7-1	565
B-948	7-1	460
B-949	7-1	503
B-950	7-3	634
B-951	7-1	589
B-952	7-2	626
B-953	7-2	906
B-954	7-2	438
B-955	7-7	483
B-957	7-6	681
B-958	7-7	336
B-959	7-8	297
B-960	7-8	395
B-962	7-12	563
B-963	7-12	1543
B-964	7-14	982
B-965	7-14	757
B-966	7-12	1176
B-967	7-14	981
B-968	7-18	408
B-969	7-17	961
B-970	7-17	773

RMA/kw
8/1/75

UCC
055319

TABLE VIII

OSAL-7 BIN ANALYSIS FOR VCM CONTENT

<u>Bin Number</u>	<u>Date</u>	<u>VCM, ppm</u>
601	7-2	94
608	7-2	789
603	7-3	102
606	7-3	797
601	7-4	90
603	7-5	62
601	7-5	13
603	7-6	26
602	7-5	48
608	7-5	957
609	7-6	2181
602	7-8	59
604	7-8	2559
603	7-9	99
609	7-9	97
601	7-9	2187
606	7-10	92
604	7-10	3154
608	7-10	170
602	7-11	95
603	7-11	2728
607	7-11	67
601	7-12	2198
602	7-12	542

RMA/kw
8/1/75

UCC
055320

TABLE IX

QSAN-7 BIN ANALYSIS FOR VCM CONTENT

<u>Bin Number</u>	<u>Date</u>	<u>VCM, ppm</u>
602	7-12	192
604	7-12	162
608	7-13	195
601	7-13	125
602	7-13	169
607	7-14	136
603	7-15	1897
604	7-15	17
602	7-15	120
601	7-16	2217
609	7-16	19
606	7-15	391
602	7-17	2220
608	7-17	6
609	7-17	12
604	7-18	1412
608	7-18	1183
601	7-18	6
602	7-19	11
603	7-19	31
607	7-19	6
604	7-19	362
609	7-20	655
601	7-20	395
608	7-21	10
603	7-21	668

RMA/kw
8/1/75

UCC
055321

TABLE X

QSOF-7 BIN ANALYSIS FOR VCM CONTENT

<u>Bin Number</u>	<u>Date</u>	<u>VCM, ppm</u>
607	7-22	569
606	7-22	878
602	7-24	1116
604	7-23	312
604	7-25	440
605	7-25	350
609	7-24	5685
606	7-26	4040
607	7-27	3770
604	7-27	589
601	7-26	3587
607	7-25	744
603	7-26	458
601	7-27	219
603	7-28	496
602	7-28	689
603	7-29	906
608	7-29	492
602	7-30	400
604	7-31	179

EMA/kw
8/1/75

UCC
055322

TABLE XI

VSJE-10 BIN ANALYSIS FOR VCM CONTENT

<u>Bin Number</u>	<u>Date</u>	<u>VCM, ppm</u>
704	7-17	1167
701	7-17	1012
702	7-17	1436
708	7-17	878
705	7-18	2103
707	7-18	1415
701	7-19	876
702	7-19	1679
707	7-20	467
708	7-20	1499
704	7-21	389
705	7-21	1252
701	7-22	1126
707	7-22	112
709	7-22	1633
701	7-24	2098
707	7-23	2049
702	7-24	1760
705	7-24	1691
707	7-25	233
708	7-27	1167
705	7-26	954
709	7-25	1995
704	7-26	1731
706	7-26	1810
701	7-25	1816
703	7-28	944
705	7-28	888
708	7-28	663
704	7-27	1229
701	7-29	666
703	7-30	1804
704	7-30	756
705	7-30	1217
708	7-30	1002
705	7-31	1892

RSA/kw
8/1/75

UCC
055323

TABLE XII

VSKK-10 BIN ANALYSIS FOR VCM CONTENT

<u>Bin Number</u>	<u>Date</u>	<u>VCM, ppm</u>
707	7-1	1317
701	7-4	1077
705	7-3	600
705	7-7	479
708	7-5	490
707	7-7	405
704	7-9	1139
707	7-9	1621
709	7-9	1956
703	7-10	2141
706	7-10	2040
709	7-11	1629
704	7-11	2152
708	7-12	2196
707	7-12	2011
705	7-13	1892

RMA/kw
3/1/75

TABLE XIII

NON-SOLVENT BLEND ANALYSIS FOR VCM CONTENT

<u>Resin Type</u>	<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
VYNW-5	B-3877	7-7	<1
	B-3878	7-13	13.6
	B-3879	7-14	4.6
	B-3880	7-21	<1
	B-3881	7-22	<1
	B-3882	7-23	2.7
QYNL	B-1449	7-25	3.2
	B-1450	7-27	1.3
	B-1451	7-30	0.6

RMA/kw
8/1/75

UCC
055325

TABLE XIV

VYDS BLEND ANALYSIS FOR VCM CONTENT

<u>Type</u>	<u>Blend Number</u>	<u>Date</u>	<u>VCM, ppm</u>
Regular	B-768	7-17	0.6
Regular	B-769	7-18	0.3
Rule 66	B-770	7-22	0.1
Regular	B-771	7-25	0.4
Rule 66	B-772	7-25	0.1
Regular	B-773	7-31	0.3
Regular	B-774	7-31	0.2

RMA/kw
8/1/75

UCC
055326

DISTRIBUTION

TEXAS CITY PLANT

Dr. J. C. Chaty/Dr. D. R. Montgomery
Mr. M. E. Eisenhower
Mr. R. L. Frantz
Mr. F. L. Johnson
Mr. K. E. Ross
Mr. R. W. Sesler

BOUND BROOK PLANT

Mr. Ed Bell

NEW YORK OFFICE

Mr. G. P. Bigelow
Mr. D. E. Hardman
Mr. G. T. Scott
Dr. A. B. Steele
Dr. T. T. Szabo
Mr. A. E. Donaldson

SOUTH CHARLESTON PLANT

Mr. R. N. Wheeler

TECHNICAL CENTER

Dr. J. J. Brezinski