

Inter-office Memo

TENNECO CHEMICALS, INC.

To H. B. Carr At Burlington Date May 12, 1969

From E. L. Kanyok At Burlington Copy to P. F. Albanese

Subject Raw Material Received - Burl. Plant
Week of 4/28/69 - 5/11/69

H. H. Duhamel
J. C. Fisher
R. D. Richards
P. R. Scarito
M. W. Williams
File ✓

<u>Date</u>	<u>Vendor</u>	<u>Car No.</u> <u>Lot No.</u>	<u>Material</u>	<u>Disposition</u>
4/28	U. Carbide	39218	MVAc	Approved
4/28	PPG	9036	MVC	"
4/28	American Chemical	-	TCE	"
4/28	PPG	9904	MVC	"
4/28	PPG	9057	MVC	"
4/28	PPG	9072	MVC	"
4/29	Alcolac	AV-0101-A9	Sipex	Rejected*
4/30	PPG	9044	MVC	Approved
4/30	PPG	9045	MVC	"
5/1	Tenneco	38050	MVC	"
5/1	Tenneco	38051	MVC	"
5/1	Tenneco	38011	MVC	"
5/2	Atlantic	6909903	Colic 1	"
5/2	Atlantic	6911103	Colic 1	"
5/2	Atlantic	6909601	Rozic	"
5/2	Standard Chemical	3411	DEW 80	"
5/2	Standard Chemical	S-2955	Avirol 101	"
5/3	Tenneco	38001	MVC	"
5/3	Tenneco	38016	MVC	"
5/3	Tenneco	38036	MVC	"
5/4	PPG	9074	MVC	"
5/5	Borden	12975	MVAc	"
5/5	PPG	9050	MVC	"
5/6	Tenneco	38024	MVC	"
5/6	PPG	17178	MVC	"
5/7	PPG	17144	MVC	"
5/8	Tenneco	38028	MVC	"
5/9	Tenneco	38038	MVC	"
5/9	PPG	9066	MVC	"
5/10	Celanese	12732	MVAc	"
5/11	Tenneco	38025	MVC	"
5/11	Tenneco	38006	MVC	"

*Color and odor was not that of Sipex. An infrared analysis confirmed this observation. This material was sent back to the supplier.

COLORITE 016148

MONOMER SUMMARY
RANGE

Date	4/27/69		5/4/69	
(As Received)	(8 Tenneco)	(2 PPG)	(6 Tenneco)	(6 PPG)
Propylene	2-2	ND- <1	0.3-4	ND
Propadiene	58-82	<1	50-78	ND- <1
Butene-1	5-9	ND	6-13	ND
Methyl Acetylene	25-32	<1	25-27	ND- <1
Methyl Chloride	ND	25-33	0.8-6	32-41
1,3 Butadiene	4-22	6-7	5-20	4-6

Date	5/11/69	
(As Received)	(5 Tenneco)	(4 PPG)
Propylene	0.8-1	ND
Propadiene	40-68	ND
Butene-1	5-16	ND
Methyl Acetylene	22-37	ND
Methyl Chloride	ND-4	36-45
1,3 Butadiene	2-19	4-5

E. L. Kanyok
E. L. Kanyok

ELK/rjl

BULK DENSITY CONVERSION TABLE

$$\text{LBS./FT.}^3 = \frac{\text{RESIN WT. IN GRAMS}}{\text{VOLUME OF TUBE (405)}} \times 62.4$$

<u>Gm.Wt.</u>	<u>#Ft.³</u>	<u>Gm.Wt.</u>	<u>#Ft.³</u>	<u>Gm.Wt.</u>	<u>#Ft.³</u>	<u>Gm.Wt.</u>	<u>#Ft.³</u>	<u>Gm.Wt.</u>	<u>#Ft.³</u>
163	25	192	30	221	34	250	39	279	43
164	25	193	30	222	34	251	39	280	43
165	25	194	30	223	34	252	39	281	43
166	26	195	30	224	35	253	39	282	43
167	26	196	30	225	35	254	39	283	44
168	26	197	30	226	35	255	39	284	44
169	26	198	31	227	35	256	39	285	44
170	26	199	31	228	35	257	40	286	44
171	26	200	31	229	35	258	40	287	44
172	27	201	31	230	35	259	40	288	44
173	27	202	31	231	36	260	40	289	45
174	27	203	31	232	36	261	40	290	45
175	27	204	31	233	36	262	40	291	45
176	27	205	32	234	36	263	41	292	45
177	27	206	32	235	36	264	41	293	45
178	27	207	32	236	36	265	41	294	45
179	28	208	32	237	37	266	41	295	45
180	28	209	32	238	37	267	41	296	46
181	28	210	32	239	37	268	41	297	46
182	28	211	33	240	37	269	41	298	46
183	28	212	33	241	37	270	42	299	46
184	28	213	33	242	37	271	42	300	46
185	29	214	33	243	38	272	42	301	46
186	29	215	33	244	38	273	42	302	47
187	29	216	33	245	38	274	42	303	47
188	29	217	33	246	38	275	42	304	47
189	29	218	34	247	38	276	43	305	47
190	29	219	34	248	38	277	43		
191	29	220	34	249	38	278	43		

TENNECO CHEMICALS, INC.

TENNECO PLASTICS DIV.

Burlington, New Jersey

MAY 06 1969

Re - Issued

B.A.C.M. #1

DATE ISSUED: March 31, 1969

Determination of Light End Impurities in Vinyl Chloride Monomer

APPLICATION:

The quality of vinyl chloride monomer (MVC) is of prime importance in assuring the production of quality resin. This gas chromatographic method is for the determination of light end impurities in MVC. Since these impurities will affect not only the kinetics of the polymerization, but also the properties of the finished resin, this method has been developed to have a sensitivity for control purposes to the parts per million (PPM) range.

APPARATUS:

1. Hewlett & Packard Gas Chromatograph - F & M 5754A, or equivalent (equipped with a hydrogen flame ionization detector (FID) and septum covered on-column injection port)
2. Hamilton gas syringe, 5 ml and 1 ml, fixed needle
3. 200 ml glass bag (Figure 1) (Scientific Glass App., Bloomfield, N. J. Special similar to cat. # G-2720)
4. Threeway Hoke ball valve with Swagelok fittings (Cat. # 43XS4316)
5. Needle valve, lecture bottle (Matheson Co., Inc., East Rutherford, N. J.)
6. Two stage regulators for helium, hydrogen, air with secondary gauge capacity 0-100 psig
7. 1/8" OD copper tubing
8. 1/4" OD stainless steel 316 tubing
9. 1/4" and 1/8" Swagelok nuts and ferrules
10. Adjustable wrenches 6" and 12"
11. Cork ring, size #2
12. Ringstand and clamp

COLORITE 016151

13. Hoke gas bomb 1000 ml fitted with valves (Cat. #8 HD1000)
14. Vibrator (Scientific Glass App. Cat. # M-1425)
15. Glass wool
16. Glass rod
17. #4 gas cylinder with valve CGA #290 and sampling adaptor (Figure 2) (Matheson Co.)
18. Rubber stopper, serum, size medium
19. Luer Lok syringe needle, 20 gauge
20. Evaporating dish, 200 mm diameter
21. Vacuum oven
22. Analytical balance with 0.1 mg readout
23. Hot plate
24. 60 and 80 mesh Tyler screen assembly
25. Funnel, long stem, 75 mm upper ID
26. Tygon tubing, 3/16" ID, 3/32" wall thickness
27. Single stage regulator CGA # 290 0-80 psig capacity for the sample cylinder (Matheson Co.)

REAGENTS:

1. Tributyl Phosphate, purified, (Fisher #B-404)
2. Chromosorb P/AW 60-80 mesh (Hewlett and Packard Cat. # 8501-6016)
3. Methylene Chloride, analytical reagent
4. Lecture bottles of the gases identified and to be quantitatively analyzed (Matheson Co., E. Rutherford, N. J.)
5. Helium, pure grade
6. Air, pure grade
7. Hydrogen, pure grade
8. Silicone grease, Dow Corning - high vacuum type
9. Acetone, reagent grade

COLUMN PREPARATION:

1. Into an evaporating dish transfer about 300 ml of Methylene Chloride.
2. Dissolve 10 gm of Tributyl Phosphate in the Methylene Chloride with a glass stirring rod.
3. Add 50.0 gm of Chromosorb P/AW 60-80 mesh to the Methylene Chloride - Tributyl Phosphate solution. Add more Methylene Chloride if the slurry is too viscous for easy mixing.

Quelato

Burlington, New Jersey

DATE ISSUED: March 31, 1969

Determination of Light End Impurities in Vinyl Chloride Monomer

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1. Hewlett & Packard Gas Chromatograph - F & M 5754A, or equivalent (equipped with a hydrogen flame ionization detector (FID) and septum covered on-column injection port)
2. Hamilton gas syringe, 5 ml and 1 ml, fixed needle
3. 200 ml glass bag (Figure 1)
4. Threeway Hoke ball valve with Swagelok fittings
5. Needle valve, lecture bottle
6. Two stage regulators for helium, hydrogen, air with secondary gauge capacity 0-100 psig
7. 1/8" OD copper tubing
8. 1/4" OD stainless steel 316 tubing
9. 1/4" and 1/8" Swagelok nuts and ferrules
10. Adjustable wrenches 6" and 12"
11. Cork ring, size #2
12. Ringstand and clamp

COLORITE 016153

13. Hoke gas bombs 1000 ml, fitted with valves
14. Vibrator
15. Glass wool
16. Glass rod
17. #4 gas cylinder with valve CGA #290 and sampling adaptor (Figure 2)
18. Rubber stopper, serum, size medium
19. Luer Lok syringe needle, 20 gauge
20. Evaporating dish, 200 mm diameter
21. Vacuum oven
22. Analytical balance with 0.1 mg readout
23. Hot plate
24. 60 and 80 mesh Tyler screen assembly
25. Funnel, long stem, 75 mm upper ID
26. Tygon tubing, 3/16" ID, 3/32" wall thickness
27. Single stage regulator CGA #290 0-80 psig capacity for the sample cylinder

REAGENTS:

1. Tributyl Phosphate, reagent grade
2. Chromosorb P/AW 60-80 mesh
3. Methylene Chloride (Dichloromethane)
4. Lecture bottles of the gases identified and to be quantitatively analyzed (Matheson Company)
5. Helium
6. Air, pure
7. Hydrogen
8. Silicone grease
9. Acetone

COLUMN PREPARATION:

1. Into an evaporating dish transfer about 300 ml of methylene chloride.
2. Dissolve 10 gm of Tributyl Phosphate in the Methylene Chloride with a glass stirring rod.
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