B 11/15 file Aroclor Qual

Monsanto

FROM (NAME & LOCATION) R. M. McCutchan - WGK

DATE : October 29, 1971

SUBJECT : Aroclor 1016
Specification

REFERENCE :
PGB to RHM, 9/2/71

TO :
J. R. Savage - GO
R. H. Munch - JFQ

cc: P. G. Benignus
J. R. Kuster
A. E. Leisy
W. R. Richard, T380 - GO

"Tentative Amendment B" to the tentative process for MCS1016 (now Aroclor 1016) lists the specifications for the finished goods. I recommend several changes before these are adopted as final. The changes are:

	Amend. "B"	Recommend
Specific gravity at 25/15.5°C	1.362-1.372	1.357-1.372
Refractive index at 25°C	1.6215-1.6235	1.6210-1.6235
Viscosity at 100°F (SUS)	71-81	70-81
Dielectric Constant, 60 cyc., 100°C	4.7-4.9	4.75-4.95
Power Factor, 60 cyc., 100°C	5%, max.	1%, max.*
Resistivity, ohm-cm x 10^9	500, min.	20,000, min.

* (bulk quantities analyzed by new method)

Physical properties:

The upper limits on the physical properties are fine. It appears that if these were to be exceeded the product would be out of specification on penta/hexa. I think the lower limits should be lowered unless there are excellent reasons against it. On one occasion to date the S.G. was out of specification on the low side. We got it into spec. only by blending in material from the end of the succeeding run. Because of small variations in the crude and because of our control method (forward flow totalizer), specific totalizer numbers are not reliable enough to allow the product to always be within a 0.010 specific gravity range. The forward flow rotameter is accurate to ± 2%. Assuming the crude is no problem, the forward flow accuracy needed is about ± 0.5%. This would be very difficult to achieve. More than one product run would have been out of specification if it were not for the fact that we have been holding the last 500-1000 gallons of distillate, analyzing, and then determining whether or not it should be pumped forward. This is not an acceptable way of operating. We must be able to use the flow totalizer to determine the final distillation point and be reasonably confident that the product will be in specification. On page 3 is data from the first six column runs.

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IN-10 REV. 11-65

STLCOPCB4075881

Electrical Properties:

Dielectric constant is not controlled as such, and the slight shift I am recommending simply reflects the analyses to date.

Power factor and resistivity data on bulk quantities of Aroclor 1016 are shown on page 4. These results are by the new improved method and are comparable to the results seen on Aroclor 1242 (see memo on p. 5). We have done no analyzing of drums by the new method. If the actual product quality does not change, and if the measurement method and technique is constant, a 1% power factor at 60 cycles and a resistivity of $20,000 \times 10^9$ should present no problem.

Please let me have your thoughts so a formal specification can be prepared and circulated for approval within the next 2-3 weeks.

Thank you.

R. M. McCutchan

ap

Attachment:

DSW 329174

AROCLOR 1016

BATCH No.	DISPOSITION OF RECEIVER	LOT No.	GAL.	S.G.	% P/H	ND	VISC	@60° DC	GA. RESIDU
2		702	19,420	1.369	0.23				10,70
		703	19,430	1.366	0.20				
	Receiver split	—	750	1.397	1.62				
		702	19,760	1.370	0.21	1.6228	77.0	4.85	
		703	19,840	1.368	0.18	1.6226	76.0	4.86	
3		704	19,340	1.364	0.13				9,5
		705	19,720	1.363	0.15				
	Receiver split	—	1000	1.439	6.31				
		704	19,840	1.363	0.16	1.6225	73.3	4.89	
		705	20,220	1.364	0.17	1.6226	74.3	4.87	
4		706	20,600	(1.361)	0.07				9,5
	NO LOT NUMBER		20,600	(1.359)	0.15				
	all of receiver to 706	—	900	1.423	4.21				
		706	21,500	1.363	0.33	1.6222	74.2	4.84	
	Received receiver from Ba # 5 NO LOT NUMBER		21,200	1.362	0.40	— Used for FR-1 —			
5		707	19,300	1.366	0.19	1.6223	74.7	4.85	9,5
		708	19,700	1.366	0.16	1.6223	74.2	4.89	
	Receiver to FR-1 lot — of Ba # 4		600	1.449	7.55				
6		709	19,340	1.370	0.34	1.6232	77.0	4.85	8,7
		710	19,230	1.370	0.29	1.6231	76.9	4.91	
	Receiver to residue	—	900	1.443	8.11				
7		711	18,100	1.368	0.23	1.6225	76.8	4.88	9,
		712	18,000	1.367	0.28	1.6224	75.6	4.86	
	Receiver to residue	—	800	1.455	7.91				

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1016 Storages

Power Factor @ 60 Cycles %	Resistivity x 10^9
0.288	144,350
0.276	161,450
0.126	121,600
0.150	178,900

1016 Tank Cars

Power Factor @ 60 cycles %	Resistivity x 10^9
0.186	230,800
0.144	370,600
0.180	227,800 (trailer
0.120	289,600
0.192	307,500
0.048	716,000
0.374	284,700
0.210	98,000
0.222	98,000

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