Monsanto

FROM (NAME & LOCATION) G. L. Johnson, W. G. Krummrich Plant

DATE June 4, 1974

SUBJECT HIGH METHYL BIPHENYL AROCLOR FEEDSTOCK

REFERENCE

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In early May, Department 246 received two tank cars of "high" methyl biphenyl content biphenyl from Anniston, Alabama. The cars were 0.14 and 0.16% Me biphenyl* versus a normal level of 0.05% or less. This biphenyl was isolated for two Aroclor 1016 runs to determine its effects on Aroclor quality. Crude 1142 for the first 1016 run (Lot Nos. 747 and 748) was made from 0.067% Me biphenyl feedstock. Crude for the second run (Lot Nos. 749 and 750) was made from 0.135% Me biphenyl feedstock. A sample of the crude 1142 for the second run was laboratory distilled** to Aroclor 1242 and analyzed. The column bottoms from the second 1016 run were isolated for Aroclor 1254 production (Lot No. 615).

Attached are the analyses for all the above. All material was in specification and saleable. Stabilities and HBH's were in the "normal" range, although they tended toward the higher side. Based on this limited test, it appears Me biphenyl contents up to 0.13% do not markedly effect Aroclor 1016 or 1254 quality short term. Further testing is needed for Aroclor 1242 and longer range effects.

If you have any questions, please contact me.

Gary L Johnson

Gary B. Johnson

* See W.G.K. AR&D Report No. 2457, 5/16/74
** See W.G.K. PPR Report No. OR212174, 5/10/74

/tm
attachment

DSW 310120

AROCLOR	1016	1016	1016	1016	1254	1242
Lot No. (KD05-)	747	748	749	750	615	Lab Distillation
% Me Biphenyl in Feedstock	0.067	0.067	0.135	0.135		of Plant 1142
Monsanto Stability, ppm	0.03	0.03	0.11	0.06	0.37	0.18
Thermal Chemical Chlorides, ppm	0.12	0.11	0.19	0.20	0.78	0.27
Unstable Chlorides, ppm	0.09	0.07	0.07	0.04	0.07	
Westinghouse Chlorides, ppm	0.19	0.30	0.17	0.18		0.26
Inorg. Chlorides, ppm	0.02	0.01	0.02	0.03	0.01	0.05
Power Factor @ 60 cycles	0.336	0.162	0.468	0.192	0.084	
Dielectric Constant @ 60 cycles	4.86	4.84	4.82	4.83	4.53	
Resistivity @ 100°C x 10^{12}	59.76	88.9	114.95	197.1	290.18	
Dielectric Strength @ 25°C, KV	41	50	43	50	46	
HBH, %	0.25	0.21	0.25	0.25		
Refractive Index @ 25°C	1.6232	1.6230	1.6229	1.6228	1.6408	1.6241
Distillation Range, °C						
10%	325	325	324	324	371	
90%	337	336	337	338	390	
Specific Gravity @ 25°C	1.369	1.368	1.370	1.370	1.497*	
H_2O, ppm	25	25	25	25	25	

* Sp. Gr. @ 65°C

GLJ/WGK
6/4/74

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