Monsanto

FROM (NAME & LOCATION) V. Brawley - WGK

DATE : May 26, 1971

cc: W. C. Engman
R. M. McCutchan

SUBJECT : Aroclor Spill Investigation

REFERENCE :

TO : A. E. Leisy

Sequence of Events

Westinghouse of Bloomington, Indiana sent a trailer with 2 compartments of 1242 CM rework to Dept. 246. It arrived at 8:30 AM on 5/20/71 and was sampled by 9:00 AM. It was obvious that Compartment A (1100 gal.) was wet and Compartment C (1800 gal.) was wet and off-color. The trailer was held 4 days while awaiting lot analysis and empty tanks needed to hold the rework.

The lot analysis on each compartment was:

	A	C
H_2O	0.13%	0.37%
Sp. Gr.	1.385 at 25°C	1.379 at 25°C
Visc. at 100°F	88.0 SUS	83.3 SUS
ND	1.6251	1.6236
Acid No.	.019	.010
% PPO	<.01%	<.01%
Flash Pt.	386°F	376°F

It was decided at the department level, based on the analysis and general appearance of the samples, that the material could be re-distilled and meet non-electrical specifications.

On 5/24/71 the trailer was spotted for unloading. The operator did observe a top layer of water in compartment C. This compartment was unloaded first, into #2 blend tank, the agitator turned on and 80# steam applied to the internal heating coils. The operator then unloaded compartment A into #2 blend tank, taking about 75 minutes. When he started to apply heat and agitation to #1 blend tank he noticed material splashing out the 6 inch opening on top of #2 blend tank. He immediately shut off the agitator but could not get to the temperature controller to shut off the steam because of the large amount of material now coming out the 6 inch opening and rising 4-5 feet in the air. The operator went up to the next level and closed a block valve in the steam line. The material ceased immediately coming out the opening. Within 2 minutes 1,200 gallons had been blown out of the tank.

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IN-10 REV. 11-65

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No further attempt has been made, as of 5/26/71, to agitate or heat the material in #2 blend tank.

On 5/25 both tanks were analyzed for water. #1 blend tank had 0.105% and #2 blend tank had 1.87%.

#1 blend tank was then agitated, heated to 50°C and blown with plant air to remove the water. It was sampled at 1:30 PM, after 4 hours blowing, and the water was 0.02%. The temperature was then raised to 75°C and agitated and blown the rest of the night. The water was 0.0050% at 9:30 PM and 0.0030% at 4:00 AM. At 8:00 AM on 5/26 the heat, agitation and air was removed from #1 blend tank and the material is now ready for distillation.

Future Work

1. Determine if Aroclor 1242 which contains 0.37% water will react as described above when it is heated and agitated.

2. Establish a safe procedure for removing water in concentrations of 0.1% and above from Aroclor.

3. Establish guidelines for the reworking of scrap Aroclor. This will become a part of the Aroclor Standard Manufacturing Process.

V. Brawley
Dept. 246

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