file aroclor BU 8/17 for next WGK mtg 8/28

**Monsanto**

FROM (NAME & LOCATION) K.E. Boucher, W. G. Krummrich Plant

DATE : June 25, 1975

SUBJECT : MINIMIZE CORROSION AT CRUDE STORAGE TANKS

REFERENCE : Memo: Eliminate Air Blowing of Crude Aroclor, 5/16/75, by K.E. Boucher

TO : Art Leisy

CC: B.C. Bosse
W.C. Engman
G.L. Johnson
D.K. Lynch
J.R. Savage - B2SL

In the reference memo above, a program was outlined to:

1. Reduce corrosion of the intermediate storage tanks.

2. Minimize future equipment failure of the Aroclor column.

3. Reduce corrosion of the Aroclor 1254 still jet system.

4. Reduce lime usage for the neutralization of dissolved HCl in crude 1142 and 1154.

The May 16 plan was reviewed and altered to possibly reduce costs. Specifically, the nitrogen blanket and premixer have been eliminated. This project work may later become necessary if the rate of corrosion continues to be excessive.

The nitrogen blanket including piping alterations, would have cost about $15,000. In addition, $8,000 would have been needed for providing premixing of the crude with lime.

RECOMMENDED ACTION PLAN

| ITEM | BENEFIT | RESPONSIBILITY |
|---|---|---|
| AROCLOR 1254 | | |
| 1. Alter facilities to again air blow Crude 1154. (Minor work job) | Reduce jet failure at #3 still | Production |
| 2. Provide amendment to raise batch chlorinator temperature from 150° to 190° C. | Reduce jet failure at #3 still | TSD |
| 3. Reduce lime usage for 1154 from 200# to 150# for each 15,000 gallons. | Reduce lime usage and resulting Montars. | Production |

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## RECOMMENDED ACTION PLAN

| ITEM | BENEFIT | RESPONSIBILITY |
|---|---|---|
| AROCLOR 1242 | | |
| 1. Install 0-50 SCFM rotometer with alarm for regulating air to blow Tank I - 422 ($4,000 expense) | Reduce Aroclor column failure | TSD |
| 2. Install corrosion samples in crude storage tank. | Monitor corrosion rate to deter. success of plan. | Production |
| 3. Determine in field if 20 SCFM of air to 1-422 is adequate to remove dissolved HCl. Adjust air distribution as necessary. Check for increased PCB losses to sewer. | Reduce Aroclor column failure | TSD, Laboratory, Production |
| 4. Check to determine if adequate neutralization is being accomplished by analyzing acidity of filtered crude from storage. | Reduce Aroclor column failure | TSD |
| 5. Discontinue air sweep (both 1154 & 1142) storage tanks. | Reduce storage corrosion | Completed |
| 6. Prepare plan of action to further reduce lime to neutralize 1142 once above has been completed. | Reduce lime usage and resulting monitor. | TSD, Production |

Further discussions with Dario Cova, in Research, have resulted in the discovery that air blowing and neutralization rate testing has been done on Crude 1107 at 150°C in 1971. This eliminated some of the research work originally requested in the above referenced memo. The data shows the target of 20 SCFM of air to blow Crude 1142 should be adequate. Data also shows much of the lime does not react. This can be explained by assuming the lime particle only reacts on the surface. For this reason lime usage of 0.2-0.3 #/cwt may be inadequate when not air blowing to neutralize all the traces of HCl in order to protect the stainless steel trays and lines for the Aroclor column. And it follows that the present process target of 0.1-0.3 lime in crude does not apply when not air blowing.

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The newly found information again supports our plan to return to air blowing. It shows why it is necessary to be very sure air blowing is adequately accomplished to prevent failure of the Aroclor column. For this reason, an alarm located in the control room is recommended when the flow of air is lower than the desired set point.

May I have your comments.

Ken Boucher

Kenneth E. Boucher
Technical Services Department

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