

PROGRESS REPORT **ORGANIC CHEMICALS DIVISION** **St. Louis Research Department**

Job No. 117-2681
 Report No. (10)

Reported By: A. M. Ellenburg

Date September 30, 1954

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<u>At St. Louis</u>	<u>At St. Louis</u>	<u>At W.G.K. Plant</u>	35-G. R. Buchanan-KXOK-2
1 Library	13 R.O. Nellums	25-29-	36-P. G. Benignus-KXOK-3
1a Library	14 O.J. Weinkauff	30 Development	37-
2 D.M. Campbell	15 J.R. Wilson		38-
3 H.W. Faust	16 F.B. Zienty	<u>At J.F.Q. Plant</u>	39-FILE NO. 246.6061.....
4 L.L. Fellinger	17 O. DeGarmo	31-	40- TECHNICAL SERVICES
5 H.R. Gamrath	18 J.F.Q. Development		41- CHEMICAL ENGINEERING DEPT.
6 R.M. Hitchens	19 J.R. Durland	<u>At Nitro</u>	42- PERMANENT ☒
7 C.A. Hochwalt	20 R. M. Morris	32-W.P. Metzner	43- DESTROY AFTER MONTHS.
8 R.E. Howard	21 J. H. Lum		44- SEE ALSO
9 D. S. Weddell	22 P.G. Marsh	<u>At Dayton</u>	45-
10 R.H. Munch	23 J. L. Hammer	33 L. Lederman	46-
11 F.M. Murdock	24 B.E. Thomas	34 N.N.T. Samaras	47-
12 H.K. Nason			48-
			49-

Title: ASSISTANCE TO SALES AND DEVELOPMENT DEPARTMENTS ON AROCLORS AND BIPHENYL DERIVATIVES.

Problem:

To supply data on specific requests from Sales or Development.

Summary:

- A. The use of Aroclor 5460 as a specialty item in a potting compound requires a more refined material than our present grade. Methods of upgrading our Aroclor were presented to the Anniston operating department.
- B. Electrical Utilities Company of LaSalle, Illinois are producers of Aroclor capacitors. Recently they changed to Aroclor 1242 as the dielectric liquid and have encountered difficulty in making capacitors that will pass their specifications. A trip was made to their plant to assist them in their problem.

Details:

- A. General Electric Company at Hudson Falls, N. Y. have been cleaning up Aroclor 5460 to pass their specifications by filtering

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through a diaper cloth at 150°C. Objections have been raised to doing this and Monsanto was asked to supply a better grade of Aroclor 5460.

If a cloth filtration will work for G. E., it should be the first thing to try. The suggestion that a simple cloth filtration be used in addition to the present 100 mesh screen was given to the Aroclor plant.

An analysis of the Aroclor 5460 considered to be of poor quality shows about 10 ppm of insoluble residue. About 6% of the insoluble was iron, some of which were iron filings or scale. In addition, non-magnetic dust and fibrous material were also present. Whether the use of a fiber container will be satisfactory will require consideration.

The Anniston plant is investigating the desirability of upgrading Aroclor 5460.

B. A visit to Electrical Utilities Company was of value in assisting these people in their use of Aroclor. The following problems and points of interest were discussed.

1. Vapor pressure data of Aroclor 1242 at 20 microns pressure.
2. Stability of Aroclor 1242 at their impregnation temperature of 135°F.
3. Evolution of dissolved gas from Aroclor 1242 on reduction of pressure to 20 microns.
4. Sources of contamination in capacitor manufacturer; such as solder flux, welding flux, gasketing material, rust from pipe and other contaminants introduced by handling.

Several recommendations on cleaning their system were made and will be followed to see if their capacitor quality cannot be improved.

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