Mr. Weatherly-St.Loui
Mr. Towne-St. Louis
Dr. Jenkins-Anniston
Mr. J. F. Reeves- "
Mr. F. A. Barker- "

11/22/46

St. Louis Office

Mr. T. H. Wheelock

Your memo 11/12/46, Mr. Becker'
memo to Weatherly 5/28/46
DEPT. 246 - AROCLOR 1254(PYRANOL 1476) - DISTILLATION SPECIFICATI
INQUIRY BY WESTERN ELECTRIC CO.

Your memorandum of 11/12/46 mentioned the recent inquiry by Western Electric Co. (Chicago, Ill.) relative to a specification for the distillation range of Aroclor 1254 (Pyranol 1476). They have requested a clarification of differences that they have noticed between the specification given them in 1937 and one given them earlier this year. The two sets of values that they mention compare as follows:

Values Given Western Electric - 1937	Item	Values Given Western Electric - 1946
350°C.-355°C.	10% Temp.	365°C.-370°C.
355°C.-362°C.	50% "	370°C.-377°C.
362°C.-375°C.	90% "	377°C.-390°C.

We concur in your opinion that Western no doubt obtained the 1937 values from General Electric Co. for they are the same as the G.E. specifications.

The reconciliation of the rather large differences shown above, is we believe rather simple and is the result of a factor of correction or calculation and not one of manipulation. As you will note the range of values between high and low permitted for any percentage is the same in both specifications, and the difference is one of displacement of the various ranges to the extent of 15°C.

General Electric in determining the distilling range of Aroclor 1254 employs the A. S. T. M. D20 method. In brief such calls for use of prescribed apparatus with a total immersion thermometer for which no emergent stem correction is employed. This means that temperature readings taken during the distillation are reported as measured. This is as the A. S. T. M. prescribes but it is a known physical fact that such temperatures are not true values but rather values that are lower than the true because of the exposure of the upper portion of the thermometer stem, with consequent cooling effect. When we determine the distilling range we use the same apparatus except that we ultimately report the corrected temperature as measured by a partial immersion thermometer that reads directly in corrected values. When our specification and procedure was written it was apparently deemed desirable to report a true and correct value even though that meant being at variance with A. S. T. M. The stem correction for temperatures in the range being considered (i.e.Approx. 350°C.) will amount to approximately 15°C.

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which if added to the lower G. E. values would yield values the same as our own.

Thus the differences in specifications are paper differences not actual ones and it is probably not apropos to attempt to settle at this time the relative merits of the two bases of reporting. In our day-to-day dealings with G. E. this has not become a matter of difference because G. E. does not determine distilling range in their acceptance tests even though such is a specification and we are required to make a report of our determination.

We are definitely not shipping Western Electric a special fraction. It is the regular material and it will as shown by the results that they have been getting, continue to pass their specifications if it passes ours. In quoting our specification it is wise to indicate that they are corrected values.

This is a somewhat confused matter at best and if further elaboration will be helpful please call on us.

Wm. E. Ault

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