Monsanto

FROM (NAME & LOCATION) Elmer P. Wheeler, Medical Department

DATE : August 15, 1969

SUBJECT : Therminol FR Series--
Chlorinated Biphenyls

REFERENCE : Food Processing
Your Memo of August 11, 1969

TO : J. R. Fallon
JFALL

cc: W. T. Black, WBLAC
R. E. Kelly, RKELL
D. E. Roush, DROUS
~~D. A. Olsen, DOLSO~~
S. Shaw, SSHAW

The question raised in your memo concerning the possible contamination of cooking oil in foods warrants, I believe, a full discussion. I propose that we set up a meeting for this purpose the week of August 25 or soon thereafter. Dr. Kelly is out of the office until the 25th.

When Therminols were introduced for heat transfer in food processing equipment, we believed that if any Therminol contaminated the food, the taste of the Therminol would make the food unpalatable before a toxic concentration would be reached in the food. This conclusion was based on a simple test we personally ran about 15 years ago. We could detect less than 1 ppm in water by taste and/or odor.

We subsequently heard (about five years ago) from a customer on the east coast that had run experiments where 25 ppm could not be detected in fried foods (I think it was donuts). Since then we have urged that systems be designed and constructed so that they would be fool-proof or that it would be impossible for the Therminol to be lost and contaminate the food product. Secondly, we have urged that some simple method be devised to detect contamination in the low ppm or less range. We felt this was desirable because even though the concentration of Therminol in the food might be below any toxic level and might be below a level detectable by taste or odor, the food product would be subject to seizure and destruction because of "adulteration".

A research effort was not successful in providing an analytical method or instrumentation which could be economically applied for use by the food processor.

The Japanese incident appears to indicate that perhaps more than a thousand people consumed rice bran oil or food cooked therein when the oil contained 1000 to 1500 ppm of chlorinated biphenyl. It is hard for us to believe that the Japanese taste buds are so insensitive as to miss detection of the adulteration.

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IN-10 REV. 11-65

PCB-ARCH0743415

I think two actions are indicated:

A. Assure ourselves by direct personal contact that all food processing uses are such that contamination is impossible (except for the circumstance where loss of fluid to the food product would become obvious immediately--e.g. a line rupture where half the fluid in the system suddenly disappears from the system).

B. Immediately urge all other customers to switch to Santotherm 66 (or other substitute products not containing chlorinated biphenyls) even though there would be loss of fire resistance characteristics.

Elmer P. Wheeler

EPW:ju

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