R. C. Hamil, Atlanta

November 6, 1967

Frito Lay Boiler Accident
Monday, October 30, 1967

G. R. Buchanan, St. Louis
Don Roush, St. Louis
J. D. Wright, Atlanta

Stan Shaw - St. Louis

Stan:

With reference to the phone calls, I thought it might be wise if we recorded the sequence of events that have taken place with reference to the Frito Lay boiler accident.

On Monday, October 30, I received a call from an individual at Frito Lay in Jacksonville, who was inquiring about the medical aspects of Aroclor-1248 vapors which had been emitted from their heater and saturated the plant area at this location. This call was referred to you, and in turn was handled by Dr. Kelley of our Medical Department. (The name of this individual should be on file with our Medical Department, but I am temporarily unable to find the particular name).

On Tuesday, October 31, I received a call from a Bill Dawson, Quality Control Laboratory, Frito Lay in Atlanta, who was inquiring about the chemical makeup of Aroclor-1248. His request was primarily to find out if Frito Lay should try to salvage the peanut oil which had come in contact with the vapors of 1248. I indicated to Dawson at that time that 1248 was a chlorinated diphenyl product and that I felt that he should run a laboratory analysis on his material to insure that none of this material had been left in his peanut oil. I further offered Monsanto's assistance in running an analysis of his oil to insure no contamination from the vapors of the 1248 fluid. He indicated at this time that he felt that the peanut oil would be disposed of and that an insurance claim would be placed with the Insurance Company involved to replace his peanut oil.

On Friday, November 3, Robert Crabtree of the Atlanta Office was contacted by two individuals requesting information on the Aroclor 1248 fluid. Mr. Crabtree indicated that he would not be in position to answer these questions, and asked that I return their call on Monday, November 6. This was accomplished on Monday with the following results: (1) Mr. William R. Lewis of Hartford Steam Boiler Insurance Group had requested information as to the fire point and flash point of Aroclor-1248. The information given to Mr. Lewis consisted of numbers extracted from the aroclor polychlorinated polyphenyls technical bulletin O-FF/1. I gave

him a flash point of 379 to 384° with no fire point, and explained pro foot note that there was no fire point up to the boiling temperature of the material itself. I further gave him a distillation range of 340 to 375° C. and he felt quite sure this was all the information which would be required at this time by his organization.

The second individual requesting information with regards to this unit was a W. E. Johns of Register & Cummings Company, 218 West Church Street, Jacksonville, Florida. Mr. Johns is a consulting engineer for the General Adjustment Insurance Division of Factory Insurance Association, was quite interested in the decomposition products of Aroclor-1248. At this point I would like to regress and give the sequence of events as related to me by Mr. Johns. He indicated that at approximately six o'clock on Monday morning the boiler was fired from a cold position. At approximately one hour or one and a quarter hours later, it was noted that the flame had failed on the burner unit. At this time an employee completely shut down the system to include induced draft fan, which in Mr. Johns' own words almost sealed the vessel air tight. About fifteen minutes later a muffled explosion occurred which buckled one side of the heater about one foot, and the other side of the heater was buckled to the point that it had a hole occur at one of the joints. Mr. Johns indicated that the size of this heater walls was approximately 3/16s to 1/4 inch steel with refactory backup. He further indicated that it had been established that the tubes which are made of black steel had corroded but this had occurred from the outside in, therefore, eliminated any fault with the Aroclor material as being at fault as far as corrosion is concerned. Johns indicated that the refactory was somewhere in the neighborhood of 1100 to 1600° F. as a good estimate from the time the flame cut off until the muffled explosion occurred. Information going to Johns was that from the U. L. letter, which indicated the percentage by volume of gaseous decomposition of materials formed at 600° C. which was given to me by Stan Shaw on Monday, November 6.

Johns indicated his further need for information from some other incidents which have involved Aroclor heat transfer fluid, and indicated that his main concern here was what would have caused the heater to buckle and to blow out on one side. He indicated that this information which was being disseminated to him would be held as privileged information, however, that it could be used

in some sort of legal action if this were deemed necessary in the future.

It seems to me in retrospect that the key to this entire problem is the fact that the exhaust fan was cut off, thus making the heater almost airtight, and when these gaseous decomposition materials were formed they had absolutely no place to go, and therefore caused perhaps this "muffled" explosion as experienced and reported by the Jacksonville fire department.

Any comments from any of the above individuals would be greatly appreciated, and secondly, please comment as to similar experiences with Aroclor heat transfer fluids which have happened, and which might shed some light on the Frito Lay incident.

Regards,

Dick Hamil

RCH/rb