bcc: Dick Davis - Org. Sales

September 3, 1965

Mr. Frank Haredos
Reliance Electric & Engineering Company
1088 Ivanhoe Road
Cleveland, Ohio 44110

Dear Mr. Haredos:

Confirming our telephone conversations this week, I am enclosing additional information concerning the safe usage of the Aroclors.

Enclosure 1 is a copy of a report by Underwriters' Laboratories showing the results of their fire resistance tests and some analysis of the decomposition products when Aroclors are subjected to high temperature or an electric arc. You will note that the study was done in relation to heat transfer fluids and that the samples were identified as Thermofluids FR-1, FR-2 and FR-3. These are now our trademark heat transfer materials identified as "Therminols FR-1, FR-2 and FR-3. These compounds are heat transfer grade Aroclors 1242, 1248 and 1254 respectively.

The second enclosure is a two page extract of data from a report from the Kettering Laboratory at the University of Cincinnati. Although it deals with Aroclor 1248, we would expect that the results could be extrapolated to Aroclor 1242 since the chronic inhalation work on Aroclor 1242 was done at the same laboratory and shows comparable effects when animals were exposed to vapors at ambient temperatures. I sent you reprints of the work from Kettering on Aroclors 1242 and 1254 with my letter of August 27.

Perhaps I should emphasize again that these reports deal with a specific use for the Aroclors in essentially "closed" systems where there is little or no opportunity for vapors which may be liberated at elevated temperatures to escape into the working environment. The conclusions regarding reducing exposures to a minimum would apply, however, whether the Aroclors are used as dielectrics, floor tile plasticizers, die casting machines hydraulic fluids or in any other applications

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We have attempted to point out in our literature and on the labels for our Aroclors that the inhalation of vapors for long periods should be avoided and that the hazard is greater when the fluids are heated. Secondly, we have recommended that repeated and prolonged skin contact be avoided.

The third enclosure (Hygienic Guide - Chlorodiphenyls) was prepared by a number of industrial and governmental industrial hygienists and represents the view of most of the professionals in the field in so far as toxicity characteristics and safe practices and usage are concerned.

I told you on the telephone that other possible applications for Aroclors in machinery to be used in underground mines have been considered by mine fire and safety groups, other companies and Monsanto. The feeling of our Medical Department is that data are not yet available on actual experimental use of the Aroclors in mines to demonstrate absence of toxic atmospheric concentrations. We appreciate that mining is a hazardous operation and that other toxic gases and vapors may be present in particular mines. We also recognize the need for less flammable materials and chemicals in mining equipment. At the same time we do not want to substitute occupational health hazards for fire and explosion hazards.

I hope that it will be possible for you to eliminate the possibilities of release of Aroclor vapors in your application by design and engineering changes. Certainly in the past this has been possible with many new applications for these materials.

If I can be of any additional assistance, do not hesitate to let me know.

Very truly yours,

Elmer P. Wheeler
Manager, Environmental Health
Medical Department

EPW:mjb
Enclosures

cc: Mack Nichols - Cleveland

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