St. Louis - General Offices  Mack Nichols - Cleveland

September 3, 1965

AROCLOR 1242 -- Reliance Electric & Engineering Company, Cleveland

Richard Davis
RDAVI

As I told you on the telephone Mr. Haredos called me earlier this week quite disturbed as a result of my letter of August 27. This letter apparently alerted him somewhat to the potential toxic hazards of the use of Aroclor 1242 at elevated temperatures. He told me that the Monsanto literature furnished him had been more reassuring in terms of what problems might arise in their application. I guess what really shook him was when I mentioned that with temperatures greater than 150° mechanical exhaust ventilation should be provided to remove vapors.

For the record Mr. Haredos' application involves the use of Aroclor 1242 as a coolant in electric motors. Two motors are mounted on mining equipment used at the face of a drift. Total volume of Aroclor for the two motors is approximately two gallons. Haredos estimates that four quarts per day of this quantity would be lost in the mine -- presumably all of it by volatilization. I told him I doubted that the ventilation provided in mines would be sufficient to keep this amount of Aroclor at the threshold limit value of 1.0 mg/cu. meter of air. He told me there had been some complaints in mines where the motors were being used. He wasn't specific but I understood that the complaints were of odor and irritation. Whether or not the levels are actually irritating I don't know. It may be that the miners have just recognized that there is something in the air now that wasn't there before. Mr. Haredos went on to say that in his own plant hot Aroclor spills on the floor were common and that his own employees had complained of discomfort. I was brutally frank and told him that this had to stop before he killed somebody with liver or kidney damage -- not because of a single exposure necessarily but only to emphasize that 8-hour daily exposures of this type would be completely unsafe.

Haredos called a second time to inquire about the decomposition products with specific reference to decomposition products resulting from electric arcing. I told him that we had Underwriters' Laboratories reports on heat transfer fluids which were pertinent. He recognized that the chief decomposition

product would likely be HCl. I emphasized that this in itself is a good "warning agent" which serves to limit voluntary exposure to high concentrations of decomposition materials.

I told Mr. Haredos further that the Medical Department was skeptical about the use of Aroclors in mining operations because we had not seen data to show absence of toxic levels.

I emphasized and re-emphasized that the Aroclors are excellent products but must be used in closed systems if they are to be heated. He implied in his second conversation that his engineering group was looking at redesign to provide a "sealed" system.

Elmer P. Wheeler

EPW:mjb

P.S. Mr. Haredos pointed out that in his application the Aroclor could be heated up to nearer 400°F than the 150°F figure which I had mentioned.

EPW