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July 30, 1964

Mr. J. O. Schiltz, Supervisor
Industrial Hygiene Department
The Bendix Corporation
Kansas City, Missouri 64141

Dear Mr. Schiltz:

In accordance with Mr. Shaw's July 28 letter to you, I am forwarding information relative to the toxicity and safe handling of THERMINOL FR products.

The THERMINOL FR fluids are specifically refined grades of chlorinated biphenyls or AROCLORS. I have enclosed a reprint reporting the results of chronic vapor inhalation studies with AROCLORS 1242 and 1254. Enclosed also is information relative to AROCLOR 1248. I believe these enclosures will provide information relative to toxicity, safe handling and usage.

Your letter of July 23 indicated that you were also interested in information relative to identification of fumes or vapors evolved at elevated temperatures. In the work done at Kettering Laboratories, the fluids were allowed to drop onto heated metal surfaces at 1050° and 1250°F. The vapors and decomposition products were then carried into the animal exposure chambers. The principal decomposition products were soot, CO, CO_2, HCl, phenolics and aldehydes. The exposures were so severe that the animals were obscured by the particulate matter, smoke, etc. in the chamber. At the end of the exposure the animals were black from soot deposition. In spite of these excessive conditions which humans would not voluntarily endure without respiratory protection, the survival rate of the animals was similar to that when petroleum fluids were thermally decomposed. I should point out that in testing the petroleum base fluids, the experimental equipment had to be modified to prevent flame carry-over from the petroleum fluids into the animal chamber.

Mr. Shaw included with his letter the report of an incident where a therminol fluid spewed into a hot fire box. We have heard of several instances where, due to accidents,

our fire resistant fluids have sprayed onto molten metal or other hot equipment. As might be expected, the workroom has been contaminated with vapors, acrid odors and irritating substances depending on the amount of fluid spill or leakage and the temperatures involved. In no case have we heard of serious injury to personnel. There has been sufficient opportunity for appropriate individuals to shut down the equipment and leave the area, returning subsequently with either respiratory protection or after the area has been cleared by ventilation.

If you have any additional questions after reviewing the enclosed material, please do not hesitate to let me know either by letter or calling me collect. Our number is -- area code 314, WYdown 3-1000, extension 2196.

Very truly yours,

Elmer P. Wheeler, Manager
Environmental Health
Medical Department

EPW:mjb

cc: S. Shaw

bcc: G. R. Buchanan/R. Davis
T. C. Tupper TTUPP
W. L. Buehholz WBUCH
D. Roush - Queeny