October 11, 1965

Mr. William T. McCormick
Inland Steel Company
East Chicago, Indiana 46312

Dear Bill:

Confirming our telephone conversation this morning, I am forwarding information relative to the toxicity and safe handling of our fire resistant hydraulic fluid Pydraul 312.

This is a new member of our Pydraul series and consists of chlorinated biphenyl, a phosphate ester, and a high viscosity selected petroleum fraction of low volatility. Our label for this product contains the following precautionary statement:

CAUTION!
Contains Chlorinated Hydrocarbons.

Avoid prolonged breathing of vapors or mists.
Avoid contact with eyes or prolonged contact with skin.
If skin contact occurs, remove by washing with soap and water. Following eye contact flush with water.
If clothing becomes soaked with fluid, launder before wearing again.

I am enclosing a copy of the range finding toxicity data obtained by our consultant, Younger Laboratories. There is also enclosed a table comparing these data with similar figures on our older fluids, Pydrauls F-9, A-200 and 150. I recall that some time ago I provided you and George with a copy of the work done by Dr. Treon of the Kettering Laboratories on Pydraul F-9. The report of Joe's study dealt principally with the acute toxicity of decomposition products when the fluid was sprayed or allowed to drip on Inconel surfaces heated to 1050° and 1250°F. I believe you and George agreed with our interpretation that the hazard from the accidental occurrence of a hydraulic line rupturing and spraying onto molten metal was not as great as if a non-fire resistant fluid might be involved in a similar accident.

Experience with the other members of the Pydraul series indicates that they should be used in a system as free from leaks as possible. This is particularly important if the fluid is at elevated temperatures where components of the

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formulations may be volatilized into the work room. At ambient temperature the vapor pressures are such that there are no significant vapor inhalation hazard.

We recommend the avoidance of repeated and prolonged skin contact principally because the fluids are good solvents for the natural oils and fats on the skin. The removal of these natural "barriers" can lead to drying and cracking.

I hope to have an opportunity to discuss any questions you may have with you in Pittsburgh at the time of the Foundation meeting. If I can add any additional information in the meantime, please let me know.

Best personal regards.

Very truly yours,

Elmer P. Wheeler
Manager, Environmental Health
Medical Department

EPW:mjb

cc: Dave Hesmer, Monsanto Chgo Office

bcc: Dale Smith

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