November 21, 1960

Mr. P. W. Holloway
Ford Motor Company
Accessories and Hardware Division
Rawsonville, Michigan

Dear Mr. Holloway:

I have been asked to forward toxicity information on our hydraulic fluid Pydraul A-200.

Enclosed is a discussion concerning this product.

If I can be of any further assistance, please let me know.

Very truly yours,

R. Emmet Kelly, M.D.
Medical Director

REK:dh
Enclosure

cc Mr. J. Glenn Hicks
Monsanto Chemical Company
18230 Grand River Avenue
Detroit 23, Michigan

DSW 018780

STLCOPCB4005324

TOXICITY AND SAFE HANDLING OF PYDRAUL A-200

Animal toxicity studies with this product have indicated that the oral lethal dose (LD_{50}) to rats is 10,500 milligrams per kilogram. The lethal dose when the material was applied undiluted to the unbroken skin of rabbits is approximately 1250 milligrams per kilogram.

We conclude from the above that accidental ingestion on the part of humans is not a particular hazard in view of the high oral lethal dose in rats. Similarly, single massive skin exposures should not be immediately hazardous. The lethal dose obtained in skin penetration studies is such, however, that prolonged and repeated skin contact should be avoided because of possible systemic effects. In addition, prolonged and repeated skin contact may lead to skin irritation.

We also feel that vapor inhalation should be avoided when the fluid is heated to elevated temperatures. Such exposure again relates to prolonged or repeated exposures rather than short-term massive or acute exposures. In the case of the latter, workmen would not voluntarily expose themselves to concentrations that are hazardous because of irritation of the respiratory tract.

The use of Pydraul A-200 in industrial hydraulic fluid applications should not present toxicity hazards during the transfer of the fluid from original containers to the hydraulic system. Obviously when the fluid is within the hydraulic system, there should be no exposure and consequently, no hazard. In the event of rupture of hydraulic lines and subsequent splashing or spraying of the fluid on the heated surfaces, vapors of the fluid and possible decomposition products (depending on the temperature of the heated surface) may be irritating if inhaled to the degree that workmen will not voluntarily expose themselves to toxic concentrations. No hazardous exposure should result during the interval required to shut down the system and obtain suitable respiratory protective devices during repairs to the system.

The material in this report is to be used in development of the product and may be given to responsible sales contacts, but it is not to be used by them in advertising copy. The source of this material is not to be divulged until it appears in formal publications. No exceptions to the established rule may be made without the approval of the Medical Department in St. Louis. Customers' inquiries regarding matters of toxicity are to be referred as before to the Medical Department in St. Louis for reply.

— Monsanto Chemical Company

STLCOPCB4005325