BCC: Mr. J. G. Hicks-Detroit
Mr. J. O. Orem-Detroit
Mr. Dale Smith-St. Louis

April 10, 1962

Mr. Warren Vernier
Fire Marshall
St. Clair Shores Fire Department
26700 Harper Avenue
St. Clair Shores, Michigan

Dear Mr. Vernier:

I have been told of a fire which occurred in a small die casting shop in St. Clair Shores. This die casting shop uses our hydraulic fluid Pydraul A-200. As I understand it, you are desirous of knowing the effects of the decomposition products of this material.

We have carried out tests with rats who were exposed to a heavy concentration of the decomposition product for varying periods. Our first test was of 15 minuts' duration. The fog was dense and sufficient to obscure the animals except when they were in the immediate front section of the chamber. The animals were sick and lethargic but did not collapse and ocular and nasal discharge ceased within an hour. There was evidence of upper respiratory infection present for 36 hours. All these rats recovered. We repeated the same experiment for a duration of one hour. Here, three out of eight animals collapsed and the remainder appeared very close to collapse. Pulmonary congestion occurred which remained for about a week. All animals, however, survived.

It is obvious, therefore, that under the conditions of this experiment, decomposition products were irritating but not lethal. This is to be expected as the chief decomposition product is HCl. No phosgene can possibly be formed. These experiments bear out our experience that while the fumes are irritating, they are not of sufficient severity to cause

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any other damage. When exposure is limited they do not present any hazard to those individuals who are exposed for the length of time it takes to turn off the particular machine or to fight the fire that might have caused the break.

If you have any further questions, please let me know.

Very truly yours,

R. Emmet Kelly, M. D.
Medical Director

REK:PH

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