November 20, 1957

Mr. M. J. Vodille
Engineering Supervisor
Worthington Corporation
P. O. Box 956
Buffalo, New York

Dear Mr. Vodille:

I have been asked to forward to you toxicity information on Hydraul AC and Hydraul 150.

In animal toxicity studies with Hydraul AC, the oral lethal dose in rats is approximately 40 grams per kilogram and for rabbits, 3.5 to 4.5 grams per kilogram. The greater sensitivity of rabbits is typical of this type of fluid. This lethal dose is of such an order, however, in either case, that the fluid may be considered only "slightly toxic" to man from the standpoint of accidental ingestion of single oral doses. The fluid may be absorbed through the unbroken skin of rabbits in doses resulting in death, but again the dose is such that accidental massive skin exposures to man do not present a hazard. Skin and eye irritation studies with rabbits would classify the fluid as a mild irritant. Laboratory animals survived six-hour exposures to an atmosphere saturated with the vapors of the fluid.

On the basis of the above data it may be concluded that Hydraul AC requires no special handling precautions other than avoiding prolonged or repeated skin contact. Accidental splashing in the eyes will result in moderately severe pain and irritation but no permanent damage should result.

Similar data on Hydraul 150 indicates that it is practically innocuous when fed orally to rats since the animals survived single doses of 28.5 grams per kilogram with loss of appetite and severe diarrhea as the only toxic effects. The fluid apparently is not absorbed through the unbroken skin of rabbits since this species survived doses up to 9.5 grams per kilogram of body weight. In rabbit skin and eye irritation studies, Hydraul 150 was no more irritating than a 10% soap solution tested similarly. As indicated with Hydraul AC above, however, Hydraul 150 will cause severe pain if there is accidental splashing in the eyes of humans. Rats survived a six-hour exposure to an atmosphere saturated with Hydraul 150 vapors.

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Although we have not conducted analyses to determine the amount of Pydraul vapors in air from compressors lubricated with these materials, we feel sure that the concentrations of vapors will be very minute and should introduce no hazards to workmen breathing the compressed air if it is used for air masks. The amount of skin contact with the fluids in the case of workmen servicing or maintaining the compressors would not be expected to be sufficient to cause any difficulties.

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

Very truly yours,

R. Emmet Kelly, M.D.
Medical Director

REK:dh

bcc G. A. Greene-New York
V. A. Parent-New York
M. C. Plummer-General Ofcs.

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