BCC W. [illegible]. Conwell - [illegible]
W. G. Morlock - Houston [illegible]
D. [illegible]. Smith - [illegible]

July 18, 1961

Mr. John Hoopes
Maintenance Superintendent
Phillips Chemical Company
Plains Plant
Borger, Texas

Dear Mr. Hoopes:

Our Houston Office has asked me to forward toxicity information on our hydraulic fluid Pydraul AC.

Animal toxicity screening studies with Pydraul AC indicate that the oral lethal dose to rats is greater than 52.0 grams per kilogram. In the case of rabbits, the minimum lethal dose was found to be 3.5 to 4.5 grams per kilogram. The difference in toxicity to various animal species is not unusual in the case of our hydraulic fluids. Based on the lethal dose in rabbits, we conclude that Pydraul AC may be considered only "slightly toxic from the standpoint of accidental ingestion of single doses.

When applied to the unbroken skin of rabbits, the skin penetration lethal dose was found to be between 4.0 to 5.0 grams per kilogram. Again, this indicates a relatively low order of toxicity in terms of accidental exposure to large areas of the skin surface. Skin and eye irritation potential studies in animals indicate that irritation is not a serious hazard. We do recommend, however, that prolonged and repeated skin contact be avoided. In relation to eye irritation, animal studies do not reflect the pain which has been reported when the fluid has accidentally splashed in the eyes of workers. Significant pain and moderate irritation have resulted in the case of such accidents. As would be predicted from experience in animals, no permanent damage to eye tissues or to sight has resulted.

Rats survived six-hours' continuous exposure to an atmosphere saturated with vapors of Pydraul AC. This indicates that accidental exposure to massive vapor concentrations presents no serious acute hazard.

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We believe that any Pydraul AC carried over in compressed air or gases presents no significant toxicity hazard to humans breathing the air or gas. The limited series of samples taken from a compressed air line used for such purposes indicated that no measurable quantities of the components of the fluid were present. Certainly, single or limited repeated inhalation exposures cause no effect in industrial uses of compressed air where workers are provided with protective air-supplied respiratory equipment. Any Pydraul AC vapors in concentrations to be toxicologically significant would be objectionable from the standpoint of odor. Even these concentrations would not be significant in terms of possible toxic effects unless the workers were continuously exposed eight hours a day, week after week, during their working hours.

Where the compressed air is supplied to workmen through individual air-supplied respiratory masks, good industrial practice dictates that the system include an air-line filter. Such a filter is available from the Mine Safety Appliances Company and will remove oil, water, mists and condensation from compressed air, vapors and odors. Your application, as it was described to me, supplies the compressed air directly into a room used for sandblasting. If, as I was told, the compressed air first passes through silica gel dryers, the silica gel should certainly pick up any organic contaminants in the compressed air. Obviously, such dryers have a finite "life" or period of effectiveness which I am sure you take into account.

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

Very truly yours,

R. Emmet Kelly, M. D.
Medical Director

REK:dh

—and will remove organic vapors, oil, water mists and condensation from the compressed air.

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