February 24, 1959

Mr. John T. Bunting
Aluminum Company of America
Alcoa Building
Pittsburgh, Pennsylvania

Dear Mr. Bunting:

I have been asked to forward you toxicity information concerning Pydraul AC, with special reference to its use as an air compressor lubricant.

I would like to point out there are two facets to this problem. One is the toxicity of Pydraul AC itself and the second is the concentration of Pydraul AC vapors in the compressed air at the time it is delivered to the worker for breathing.

In animal toxicity screening studies with this product, the oral lethal dose in rats is approximately 40 grams per kilogram and in rabbits, 3.5 to 4.5 grams per kilogram. The greater sensitivity to rabbits is typical of this type of fluid, but in either case the figures are such that it would be classed as having a low order of toxicity from the standpoint of accidental ingestion of single doses.

We have tested rats for a 6-hour exposure to an atmosphere saturated with vapors of the fluid. There was a slight reddening of the upper respiratory tract and a slight degree of lachrymation. This in itself would constitute a warning, should large amounts of the material contaminate the air stream and a mist rather than vapors occur. There were no other effects either systemic or local.

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The second factor deals with the actual amount of Pydraul AC vapor that would be present in the air delivered by the compressor. We have not conducted analyses to determine this amount, but it is certainly my opinion that the concentration of vapors would be very minute and should introduce no hazard to workmen breathing the compressed air if it is used for air masks. This is especially true in view of the negative results in our animal vapor exposure.

Normally traps or filters are installed in such lines to take out any odors, vapors, oil droplets or other foreign material. We know this fluid has been used in many installations similar to the one described, and we have no knowledge of any difficulty resulting.

If we can answer any further questions for you, please let us know.

Very truly yours,

R. Emmet Kelly, M. D.
Medical Director

REK:ph