General Offices - St. Louis 66, Mo.

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USE OF PYDRAULS IN COAL MINES

Your memo to A.T. Hinson - 8/24/60

Mr. J. F. Churchill
MCL - London

Original correspondence filed
Pydraul F-9

In Dr. Kelly's absence, I would like to forward the comments of the Medical Department concerning the use of Pydrauls in underground air pumping machinery.

I am not familiar with how much formulation or composition data MCC is allowed to divulge in the case of the Pydrauls. I believe it is common knowledge, however, that most of these are phosphate ester based fluids with "chlorinated hydrocarbons". Within the past year, the labels on containers of Pydraul sold in the United States bear the statement: "Contains Chlorinated Hydrocarbons". It became necessary to add this to our labels because of legal labeling requirements in several of the states.

The Medical Department cannot recommend the use of the Pydrauls which contain "chlorinated hydrocarbons" in any application where workmen must immerse their arms and hands in the fluid for any prolonged period, or even for a short period, if they cannot soon thereafter wash thoroughly with soap and water. The interpretation of "short and long periods" is relative. Perhaps an example of what we have in mind would be pertinent. Garage mechanics working on automobile engines customarily have a film or layer of lubricating oil or grease on their hands and arms from the time they start work in the morning until they finish their shift (perhaps a growing number wash their hands before eating lunch). Except for occasional cases of oil acne or dermatitis, there is no particular harm in this practice.

A similar exposure to our Pydrauls containing "chlorinated hydrocarbons" could not be tolerated. Skin irritation, chloracne and possible systemic injury due to absorption through the unbroken skin would occur.

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By contrast, I think that if a mechanic or maintenance man had the Pydraul on his hands and arms for no more than ten or fifteen minutes once or twice a day, and washed thoroughly after each such exposure, no systemic injury or chloracne would develop. At the same time, the men might still develop some dermatitis due to the solvent action of the fluid on the oils and fats normally present on the surface of the skin.

It may be possible to promote the use of a Pydraul which does not contain chlorinated hydrocarbons (such as Pydraul 60) without any important skin or toxicity problem. Even with these, however, continuous exposure could lead to the defatting or solvent action mentioned above.

Elmer P. Wheeler

EPW:dh

Blind note to Dr. Newman

Dear Harold:

I think when you were over here we discussed the Pydrauls to some extent. In any case, most of these fluids contain one or more of the Aroclors in varying percentages. Pydraul A-200 is approximately 98% Aroclor formulation of two of the Aroclors.

As indicated in the letter above, I am not sure how free MCC is with formulation data since these fluids are part of a development and sales program with Douglas Aircraft. If you can find out which Pydrauls are involved in this application, I can send you confidential composition data.

I am glad your return trip was pleasant and uneventful.

Sincerely,

EPW