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May 2, 1967

Dr. John D. Welch
Marquam Medical Center
2220 S. W. First Avenue
Portland, Oregon 97301

Dear Dr. Welch:

The Pydrauls are fluids which have been developed by Monsanto in conjunction with another organization, and I am unable, therefore, to give you the specific details of the composition of the fluids. They all contain a chlorinated organic hydrocarbon. At ambient temperature there should be no vapor hazard. At elevated temperatures, especially in confined areas, care must be taken to avoid continuous or repeated respiratory exposure. The thermal decomposition products would be CO, CO_2, and chlorine.

Perhaps if I can give you some detailed toxicology of the materials you may be in better position to advise your company. These data are listed on the attached sheet.

The safe handling procedures that we recommend are as follows:

Eye contact should be avoided. The materials burn and cause rather severe pain but this is temporary and no permanent ill-effect occurs.

Skin contact should be avoided. The materials may cause a defatting action on the skin such as a paint remover might.

Inhalation of the fumes at elevated temperatures must be avoided. I think the problem here would be action on the liver, although we have never had any reports of such cases.

The decomposition products should not be breathed, as they are irritating. However, certainly they are not serious enough to keep the individual from turning off the valves should a rupture in a line occur.

We have manufactured these Pydrauls for a number of years and had inquiries from all of our customers on their introduction. With the exception of eye contact, we have never had any reports

of injury to the workers who have used them when the above simple procedures were followed.

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

Sincerely,

R. Emmet Kelly, M. D.
Medical Director

REK/ln

att.

	Pydraul 312	Pydraul A-200	Pydraul F-9
Oral LD_{50} - Rats	6,500 mg/kg (5460-7735)	10,500 mg/kg (9295-11,865)	11,200 mg/kg (9855-12,770)
Skin MLD - Rabbits	2000-3160 mg/kg	625-1250 mg/kg	501-794 mg/kg
Skin irritation Rabbits- Max. score after	1.3/810 24 hrs.	3.0/8.0 24 hrs.	
Eye irritation Rabbits Max. score after	13.0/110 24 hrs.	11.3/110 1 hr.	
*Vapor Inhalation Rats Fatalities/no. exposed	0/4	0/4	

*Atmosphere saturated with vapors at ambient temperature.