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HEALTH HAZARDS FROM "COLITHO" AND "A.B. DICK ROLLER WASH".

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AEC GE RICHLAND WASH

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TO: J. P. Pierard

FROM: C. P. Skillern

October 20, 1958

HEALTH HAZARDS FROM "COLITHO" AND "A. B. DICK ROLLER WASH"

It was requested that the Industrial Hygiene Operation investigate the health hazards that might be associated with the use of "A. B. Dick Wash", and "Colitho Blanket and Roller Wash" and determine whether they could be used safely as a substitute for "Blankrola". Each of the three commercial solvents contains a base solvent, and a halogenated hydrocarbon is added to suppress flammability.

The "A. B. Dick Blanket Wash" has essentially the same base solvent as "Blankrola" and "Colitho Wash". This base solvent is a special cut from petroleum crude oil. The MAC* for this petroleum solvent is 500 ppm. The toxicological information states that an individual will exhibit headache, dizziness and narcosis when exposed to concentrations above the MAC. It has been reported(1) that 10,000 ppm will produce fatalities from exposures of 15 minutes to one hour.

The "A. B. Dick Blanket Wash" has as its halogenated constituent a solvent similar to Freon. Freon has an MAC of 1000 ppm. Freon is a halogenated hydrocarbon containing fluorine and chlorine. This halogenated hydrocarbon

*Maximum Acceptable Concentration.

(1) Sollmann, T.: A Manual of Pharmacology, W. B. Saunders Co., Phila. (1958)

is relatively non-toxic and only a minor irritation and cramps(1) would be displayed at concentrations of 100,000 ppm by volume for brief periods.

Both "Blankrola" and "Colitho Wash" contain a chlorinated hydrocarbon similar chemically and toxicologically to trichloroethylene. The MAC for the solvent is 200 ppm. This chlorinated hydrocarbon produces a narcotic and anesthetic effect. Some symptoms would be dizziness, confusion, and nausea. Liver damage has been reported in the literature(2).

CONCLUSIONS

The "A. B. Dick" solvent would be least toxic because the chlorinated hydrocarbon portion is less toxic.

C P Skillern

C. P. Skillern
Industrial Hygiene Operation

(1) Fairhall, L. T.: Industrial Toxicology, William & Wilkes, Baltimore (1949)
(2) von Oettingen, W. F.: The Halogenated Hydrocarbons Toxicity and Potential Dangers, U. S. Government Printing Office, 1955.