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THE DISPOSAL OF SCRAP ASKAREL AND SOLID WASTE CONTAMINATED WITH ASKAREL

Presented by

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at the

1972 Doble Client Conference

I am sure you are all aware of recent headlines concerning polychlorinated biphenyls or, more commonly, PCBs. PCB fluids are important ingredients in Askarel. Increasing scientific evidence shows that PCB is a persistent chemical and is building up in the environment. The same evidence indicates PCB is affecting some species of birds and marine animals. I, therefore, want to take this opportunity today to emphasize that extreme care must be taken to prevent any entry into the environment of these materials.

Through proper handling techniques, spills, leakage and vaporization can be avoided. Spent fluids should be collected for proper disposal. It is only through a concentrated effort by users of PCB that further exposure to the environment can be curtailed.

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From information currently available we can conclude that the principle mode of entry of askarels into the environment appears to be through industrial, domestic and natural water systems. Significant contamination is possible through atmospheric pollution via vaporization or incineration at temperatures too low to result in total destruction. If these two avenues of contamination are completely avoided we can successfully cut down the amount of entry into the environment and significantly reduce the PCB/environmental problem.

Proper disposal of liquid scrap askarel can only occur under conditions which assure complete destruction. This means the material must be incinerated at temperatures exceeding 1600 degrees C. Only under these high-temperature conditions can askarel be completely destroyed and broken down into its components - water, carbon dioxide and hydrogen chloride gas.

I am aware of only three facilities in North America capable of incinerating askarels at these temperatures. These special high-temperature units are operated by Chemtrol Company at Blasdell, New York; Rollins-Purle Company, Wilmington, Delaware, and Monsanto Company, Sauget, Illinois. I understand that one transformer manufacturer has installed an incinerator in his own plant to properly dispose of spent fluids.

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Using the Monsanto unit as an example, let me illustrate the conditions required for total destruction. One set of conditions for operating the unit is as follows: Temperature 2700 degrees F.; 1.5 seconds retention time; 2.5 per cent excess oxygen.

As a producer of PCB-containing products, Monsanto urges you to use one of the three disposal facilities available for the proper destruction of these products. Our unit can receive returned material in tank trucks, tank cars or drums. The current charge for the incineration service is 3 cents per pound of liquid received. Freight and container costs are paid by the shipper.

If you prefer to use the Chemtrol Company or the Rollins-Purle Company facilities, we suggest disposal arrangements be made with their appropriate representatives.

The disposal of solid waste contaminated with askarels poses a more difficult challenge. There are no incinerators in operation today which are capable of handling solid wastes although the technology for their high-temperature incineration is available. The cost of this incineration is estimated to exceed 10 cents per pound of waste. This cost, coupled with the high freight costs involved in shipping the material to the disposal site, have proven to be serious obstacles to the proper disposal of solid waste via incineration.

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Solvent degreasing for removing askarel from the solid waste, followed by high-temperature incineration of the contaminated solvent has been evaluated, but costs to reach thorough decontamination can be prohibitive.

Steel and copper contaminated with askarel can be properly salvaged since the temperatures reached in the recycled processes for these metals is adequate for complete destruction of the askarels. Aluminum, however, which melts at lower temperatures, must be decontaminated before being introduced into the normal aluminum recycle process.

Lacking the proper high-temperature solid waste incinerators required for complete destruction of askarels, we suggest as an alternative the use of properly operated and properly located sanitary landfills. These landfills must not be located near any surface or subterranean water systems.

Looking at the long-term needs for proper disposal of askarels and other persistent materials, it is apparent that a network of high-temperature incinerators needs to be established throughout the continent. The Rollins-Purle Company has already announced plans for developing such a network. The Environmental Protection Agency also has plans for establishing disposal sites and the American National Institute Committee (ANSI) C-107, in which some of you are participating, is also addressing itself

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to this very problem. Improved techniques for disposal will eventually be available. In the meantime, it is imperative that users of askarel fluids make every effort to avoid letting these materials escape into water systems or into the atmosphere.

So far, Monsanto has borne the burden of this environmental issue. Few if any users of PCB have been involved in the national headlines. As pressures to totally ban PCB production increase, the burden of defending PCB products could fall to others. Electrical customers and users of PCB materials can make a significant contribution to lessening the environmental pressures by proper handling of PCB.

If through preventive measures we can reduce the amount of PCB getting into the environment, we will have preserved a valuable product for use as a safety fluid.

If, on the other hand, by careless disposal of PCB into our waterways, no decline is noticed in the environment, then we can speculate that PCB will be legislated out of existence and the electrical industry will not only have lost a valuable product, but will be required to expend considerable funds in redesigning its basic equipment.

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