C. Paton . E. Roush
E. L. Shimley - 1010
C. F. Seger - 1010
R. V. Weyland - 1180
C. Boutin - 1800
D. R. Hansen - 1800

December 13, 1971

Mr. W. M. Thomas
The Sherwin Williams Company
101 Prospect Avenue N. W.
Cleveland, Ohio 44115

Subject: Therminol FR Heat Transfer Fluids

Dear Mr. Thomas:

Your letter of October 5 has been directed to me to explain the present situation with the subject fluids used at your Cleveland, Oakland, Mexico and Spain locations.

During July of this year we made the decision to discontinue selling the FR fluids into any new systems because they had been shown to be an environmental contaminant. The FR fluids are polychlorinated biphenyls (PCB's) and recent studies indicate that because of their persistent nature they can cause injury to certain forms of bird, aquatic and animal life. The effect on humans long term is not known, thus, we have taken steps to prevent the spread of PCBs particularly into the food chain.

At the present time we do not have legislation preventing the sale of PCB materials, however, a bill is presently pending in Congress. The FDA has, however, issued guidelines to show when a food product has been contaminated. Those guidelines are 0.2 ppm in milk, 0.5 ppm in eggs and 5 ppm in chickens, turkeys and other food. Any product with higher PCB content is subject to possible destruction.

Even though legislation against PCB's may fail we feel the long term availability of the Therminol FR fluids is very poor. In particular we have voluntarily established certain industries to be more hazardous than others from the standpoint of accidental contamination. Those

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systems that are involved with paints, resins, varnishes, coatings and printing inks have been placed on the unapproved list from the standpoint that we will no longer supply any FR makeup to those systems. We encourage the change from Therminol FR to a non PCB material such as Therminol 66.

Mr. Joel Port at your Chicago plant has been notified of the unapproved status and we have offered special pricing considerations to encourage conversion. Basically we have offered to supply Therminol 66 at $.22/pound F.O.B. Anniston, Alabama for all the present systems requiring fill. We have also agreed to pay the return freight charges and the incineration charge for the used FR fluid. The above price is substantially less than scheduled pricing for Therminol 66 of $.33 - $.40/pound and is a one time only price.

Literature on Therminol 66 is enclosed. Should you have other questions please call me.

Very truly yours,

James J. Roder
Product Supervisor
Heat Transfer Fluids

lb

Enclosure

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All PCB production was halted by Monsanto in July 1977 and all customer shipments were completed by October 1977 from the company's Sauget, Illinois, plant.

PCBs continue to be manufactured by other firms in Germany, France, Spain, Italy and certain eastern European countries. No legislation prohibiting the manufacture or use of PCBs in closed systems exists in Europe.

REMOVAL OF PCBs FOUND IN THE ENVIRONMENT

Disposal of PCBs found in waterways is a very complex issue. There is no known technology that will guarantee 100 percent collection and disposal of PCBs from mud and silt bottoms.

Dredging is not a practical solution. Not only are costs extremely high, but more importantly the dredging operation itself recirculates PCBs, which have settled into the bottom materials, back into the waterway.

Presently, development of specific bacteria to break down the PCBs are under investigation at a number of laboratories including:

-- Ontario Foundation in Canada

-- Institute of Fermentation in Japan

-- General Electric's Schenectady Lab

Also a new method using high-energy electrons to destroy PCBs in water was reported by the Massachusetts Institute of Technology in November 1977.

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Monsanto has initiated research to identify innovational and practical approaches to the removal of PCBs from the environment. Such principles as absorption, extraction, new enzyme systems and other unconventional ideas will be explored through Monsanto research funding.

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For more information, contact: Public Relations Department, Monsanto Industrial Chemicals Co., 800 N. Lindbergh Blvd., St. Louis, MO 63166 -- (314) 694-2621.