bcc: ~~C. Paton/J. S. Reder~~
1650 P. L. Slayton
1650 J. S. Pullman

October 13, 1971

Mr. Bryk
The Norton Company
Troy, New York 12181

~~Dear Mr. Bryk:~~

The following results are reported, per our telephone conversation of October 8, on a sample of Therminol FR-1 submitted for analysis August 31, 1971.

Test	Aug. 31 Sample	New Therminol FR-1 Specifications
Viscosity at 100°F, cs	16.0	18.0 typical
Acid Number, mg KOH/g	0.01	<0.01
Moisture, ppm	165	150 maximum

Acid number of the sample submitted is within specification. Moisture is over new fluid specifications and slightly above our arbitrary limitation of 150 ppm. I do not feel there is any point for concern on this high moisture. Viscosity is slightly under new fluid specifications but not considered to be cause for concern at this time.

The sample of solids submitted contains very finely divided iron salts, iron oxides, and carbon in paste form. The oil carrier for this paste is Therminol FR-1. These finely divided particles range in size from 200 to 0.4 microns. Their appearance is similar to jeweler's rouge and, as such, would be particularly abrasive to bearing surfaces.

Filtration of these finely divided particles would be virtually impossible as the normal retention of industrial filters could not accommodate the very small particle sizes. I suggest a drain and flush situation in an attempt to remove the larger share of the particulate matter.

DSW 018110

I would like to again advise that the Therminol FR fluids contain polychlorinated biphenyls (PCBs). As you are undoubtedly aware, the PCB concentration in our environment has increasingly come under the scrutiny of various governmental agencies and scientific laboratories. In some studies certain PCBs have been found to be persistent environmental contaminants and, possibly, injurious to certain forms of birds, aquatic and animal life. Accordingly it is very important that PCBs be kept out of the food chain.

We are also questioning the suitability of PCB heat transfer systems in those applications dealing with adhesives. Inasmuch as your operation is primarily paper converting where latex and fillers are dried after being applied to a web for tape adhesives, we suggest you consider an early change from the PCB containing Therminol FR fluids. In this regard, we have two alternate products that do not contain PCBs, Therminol 55 and Therminol 66. I have attached data on these two products for your information.

All users of PCB containing products should take every possible care to prevent any entry into the environment through spills, leakage, disposal, saporization or otherwise. Proper disposal of Therminol FR fluids can be accommodated through our disposal facility in Sauget, Ill. I have attached our bulletin describing disposal service for Therminol FR fluids.

Should you have any questions concerning conversion of your system to Therminol 55 or Therminol 66 please contact your Monsanto fluid specialist in New York, Jay Pullman. Mr. Pullman's address is as follows:

Monsanto Company
277 Park Avenue
New York, New York 10017
(212) 922-4111

Very truly yours,

D. E. Roush
Product Specialist
Heat Transfer Fluids

cs

Enclosures

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