cc: J. R. Fallon - St. Louis

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June 29, 1970

Mr. W. J. Ludlum
Campbell Soup Company
75 Memorial Ave.
Camden, N.J.

Dear Mr. Ludlum:

Referring to our recent discussion on the substitition of Therminol 66 Fluid for your Therminol FR System, we are pleased to submit the following information.

In so far as heat transfer fluids are concerned, Therminol 66 offers a very fine relative toxicity condition. We have had considerable work done on this product and a summary of this work is as follows:

1. Acute oral toxicity in rats -- Therminol 66 was fed to white rats up to a dose level of 29,460 mg/kg with no fatal results. These data indicate the compound is relatively harmless by this route of administration.

2. Acute oral toxicity in rabbits -- White rabbits were fed concentrations greater than 19,640 mg/kg and less than 29,460 mg/kg for lethal results by oral ingestion. All concentrations over 4,900 mg/kg produced moderately severe malaise lasting one to two days. The lethal results produced diarrhea followed by collapse shortly before death. There were no significant blood changes although gross examination did show edema, emphysema and congestion in the lungs with occasional bloody urine observed.

3. Subacute feeding studies -- White rats were fed 6,600 mg/kg of body weight per day for four months. The consumption of food during this period was normal but the weight gain was sub-n .nal. However, histopathological examination revealed no significant lesions.

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4. Therminol 66 was tested full strength as well as plasticised in vinyl film according to the Schwartz technique on 203 individual humans. The results indicate the material is neither a skin irritant or skin sensitiser.

As I discussed with you, the heat transfer characteristics of Therminol 66 are considerably improved over the fluid you are presently using. Keep in mind that you are using an oxidising fluid, therefore, the expansion tank should be kept cold or covered with an inert gas blanket. The most significant thing for you to review is the fact that in using Therminol 66, you will no longer be using a fire resistant fluid. You should discuss this with your insurance specialist to determine the best fire protection appertus to use in conjunction with this system.

We appreciated the opportunity of reviewing your application with you and hope that you will keep in touch with us should any questions arise.

Very truly yours,

J. S. Pullman

JSP:sb