Monsanto

FROM (NAME & LOCATION) JOHN MASON - B2SA

DATE : August 16, 1971

SUBJECT : THERMINOL FR SERIES FLUIDS

REFERENCE :

TO : Mr. J. R. Eck

cc: H. S. Bergen
R. E. Kelly/E. P. Wheeler
H. L. Minckler
W. B. Papageorge
P. S. Park

We believe that there is a need for even further restricting our sales of Therminol FR Series products for closed system heat transfer units to avoid possible accidental contamination of the food chain.

The major problem in controlling this business is the large number of users (860 units currently in operation utilizing some 800,000 gallons of Therminol FR Series fluids). In many cases the units are small and we are not convinced that the operators have either the desire or the capability to operate a leak free system.

We propose a plan aimed at restricting sales of Therminol FR Series fluids and selling only to those customers who have a critical need for a high degree of fire resistance, and where the operation is sophisticated enough to provide maximum control of leakages and escape to the environment.

The following actions are designed to achieve the maximum possible degree of control of the sale and usage of Therminol FR Series fluids:

ACTIONS ALREADY TAKEN TO PREVENT THERMINOL FR SERIES FLUIDS CONTAMINATING THE FOOD CHAIN

1) 1969/71 customer lists have been scrutinized for Therminol FR Series users where there appears to be the slightest possibility that leakage of the system could result in fluid entering the food chain.

   All customers identified as possible sources of contamination (this includes such users as paper coaters where there is a possibility that recycled material could be used in food packaging applications) have been contacted and advised to change over to Therminol 55 or 66. At this time free replacement material has been dispatched to all these customers, except for a limited

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number of paper coaters and change over will be completed within the next few days. We are currently working with the remaining paper coaters and anticipate that they also will be changed over prior to the end of this month. All the old Therminol FR Series products are being returned to W. G. Krummrich and will be incinerated at no cost to the customer.

2) A revised list of approved users has now been prepared and plugged into the Division's Customer Order Processing System. Orders from customers not appearing on this approved list will not be accepted under any circumstances.

(At this time we are not 100% sure that our approved list is complete and therefore on an interim basis no orders are being accepted without written approval from the Director of Sales Specialty Products Group.)

THE FOLLOWING PLAN WILL BE IMPLEMENTED IMMEDIATELY (8/16/71)

1) No new customers for Therminol FR Series products will be accepted. A letter has been sent to equipment manufacturers advising them not to recommend Therminol FR Series products and stating categorically that we will not accept any future orders from them for these products. (See Exhibit A attached.)

2) Orders from existing customers for replacement fill or "top up" will be querried and the customer contacted either by telephone or by a visit to persuade him to change over to Therminol 55 or 66 as an alternate product. To encourage him to take this action he will be offered a replacement quantity of new fluid at 30% discount and we will agree to incinerate the old material at no cost.

In cases where the customer is able to convince us that he has a serious fire hazard and it is absolutely vital to continue to use Therminol FR Series products, he will be given the following proposal:

a) the price of Therminol FR Series products will be increased from 28¢/lb. to 43¢/lb. (This is to cover the cost of significantly reduced volume production.)

b) he will be asked to sign a letter which makes it clear that he completely understands the hazards of using these products and of the need for ensuring leak

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proof operation and prevention of escape to the environment. The letter will also hold Monsanto harmless in case of any incidents involving claims or lawsuits. (See Exhibit B attached.)

3) A new label is being designed for dielectric Aroclors and Therminol FR Series products giving additional warnings that this material must not be allowed to contaminate food, feed, or any other product likely to come into contact with human beings or animals.

4) A further letter is being sent to manufacturers of transformers and capacitors using dielectric Aroclors warning of the hazards of using these materials, particularly in the light of recent incidents with chickens and milk. (See Exhibit C attached.)

JOHN MASON

/jf

Attachments

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LETTER TO ALL THERMINOL®FR USERS

Office of President
XYZ Company

Dear Customer:

We are contacting your firm as a user of one or more of the Therminol®FR series heat transfer fluids. The Therminol®FR series includes Therminol®FR Lo-Temp, Therminol®FR-0 and Therminol® FR-1. As indicated on the labels attached to the containers, the Therminol®FR series contains polychlorinated biphenyls (PCB) of various types.

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, an environmental contaminant and, possibly, injurious to certain forms of bird, aquatic and animal life. Accordingly, it is very important that PCBs be kept out of the food chain.

We would like to take this opportunity to remind your firm of the extreme care that must be taken by all users of PCB-containing products to prevent any entry into the environment through spills, leakage, use, disposal, vaporization or otherwise. Some specific applications where the use of the Therminol®FR series should definitely be avoided are in heat transfer systems involving food or food-related products, animal feeds, pharmaceutical products,

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packaging materials involving any of those items, and buildings where any of those items are manufactured or stored.

If your system involves food, feed, packaging or any of the other mentioned applications or if your system is such that entry into the environment cannot be prevented, then we urge you to replace the Therminol®FR series with heat transfer fluids which do not contain PCB, such as Monsanto's Therminol®55 or T-66. Would you please contact your Monsanto Fluid Specialist if you determine that the Therminol®FR fluids should be replaced.

We recommend that you give very careful study to eliminating any possibility that the Therminol®FR fluids in your systems may reach the environment. For your reference we are enclosing a copy of our technical bulletin entitled "How to Keep Your Therminol®FR System Leak-Free"; that bulletin includes the shipping instructions for return of Therminol®FR fluids to Monsanto for incineration.

Sincerely,

J.R. Fallon, Product Manager
Heat Transfer, Dielectrics,
and Process Fluids

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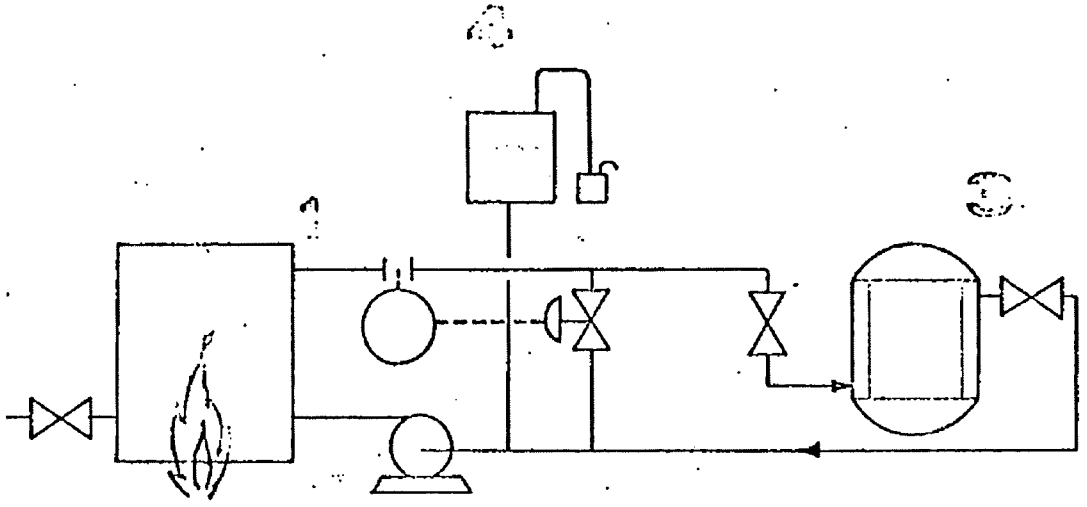
How To Keep Your Therminol® FR System Leak-Free

Therminol FR is a stable, long-lasting chemical. Consequently, measures to avoid environmental contamination through spillage, leakage or careless disposal should be observed.

Since your Therminol FR heat transfer system is a non-pressurized, closed system, fluid leakage is easily controlled. If a leakage problem does occasionally occur, here are some suggestions that will help you control it. (If leakage has caused an accumulation of fluid, please refer to "How To Dispose Of Therminol FR" on the back of this bulletin.)



CHECK THESE SOURCES FOR LEAKAGE

Generally, there are four sources of leaks in a system:

FITTINGS: Weld all connections. Flange fittings where accessibility is desired.

PUMP SEALS: Canned pumps and pumps without seals or glands are the best protection against leakage. If mechanical seals are used, enclose them or provide a drip pan with a drain to a collection sump.

USER SEALS: Direct all drains to a collection sump. Install drip pans at rotary joints.

EXPANSION TANK VENT: Direct vent to either a cold seal tank, catch pot or drum to contain vapor condensation and light ends.

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WHEN YOUR SYSTEM IS UNDER DESIGN or construction, specify check valves at selected points. This will minimize fluid discharge in the rare case of a rupture at the using equipment or in the heater coil. Block valves will allow you to make repairs and changes without excessive draining.

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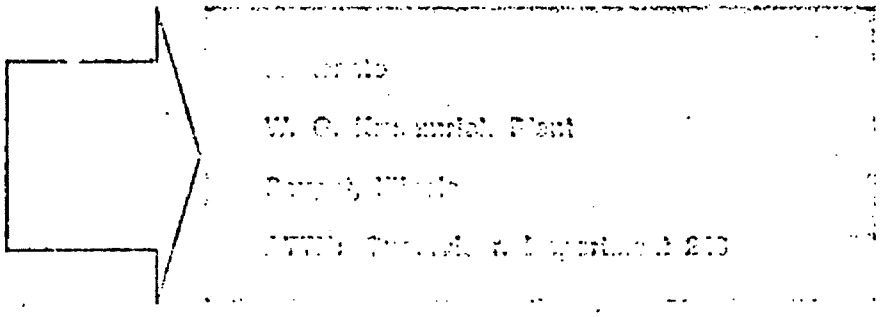
How To Dispose Of Therminol FR

If leakage does occur, collect the fluid and place it in drums. You may return the fluid to Monsanto for disposal. Or you may have the fluid reconditioned.

DISPOSAL: Return the drums prepaid to:



Please advise your Monsanto fluid specialist that material is being returned for disposal so proper papers can be prepared. You will be invoiced a nominal charge for this service.

RECONDITIONING: Therminol FR can be easily and quickly reconditioned for re-use if it is within certain limits on moisture, acid number viscosity and contaminants. Your Monsanto fluid specialist can refer you to an approved reclaimer.

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Monsanto Company / Functional Fluids / 800 North Lindbergh Blvd. / St. Louis, Missouri 63166

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LETTER TO CUSTOMERS OF AROCLOR®
CONTAINING PCB

Office of President
XYZ Company

Dear Customer:

We are contacting your firm as a user of Aroclor® 1232, 1242, 1248, 1254 and 1260. As indicated on the labels attached to the containers, those products contain polychlorinate biphenyls (PCB) of various types.

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, an environmental contanimant and, possibly, injurious to certain forms of bird, aquatic and animal life. Accordingly, it is very important that PCBs be kept out of the food chain.

We would like to take this opportunity to remind your firm of the extreme care that must be taken by all users of PCB-containing products to prevent any entry into the environment through spills, leakage, use, disposal, vaporization or otherwise. PCB-containing products should be used only in closed systems.

We recommend that you give very careful study to eliminating any possibility that any PCB-containing products will be discharged

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into the environment from your systems. Your system should be arranged so that in the case of an accidental leak or spillage the PCB-containing product can be collected and placed in drums for return to Monsanto for incineration; the drums should be forwarded to Monsanto Company, W.G. Krummrich Plant, Sauget, Illinois, Attention: Supervisor, Department 246.

We realize that you have marketed or may now market transformers and other electrical equipment containing dielectric fluids which include these Aroclor® products. Although these fluids are sealed into such equipment, it is recognized that occasionally the fluid may be lost through leaks resulting from equipment misuse or equipment repair necessitating replacement of the fluid. Since the dielectric fluid contained in this equipment is only an incidental part of the overall unit manufactured by you, we are not notifying the purchasers of such equipment of the potential environmental contamination problem described in this letter. We do strongly recommend, however, that you notify such equipment users of this problem.

Sincerely,

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LETTER TO ORIGINAL EQUIPMENT MANUFACTURERS SUCH AS MANUFACTURERS OF HEATERS AND HEAT EXCHANGERS

Gentlemen:

We are contacting your firm as a manufacturer of equipment which may contain one or more of the Therminol®FR series heat transfer fluids. Therminol®FR series includes Therminol®FR Lo-Temp, Therminol®FR-0 and Therminol®FR-1. As you are probably aware, the Therminol®FR series contains polychlorinated biphenyls (PCB) of various types.

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, an environmental contaminant and, possibly, injurious to certain forms of bird, aquatic and animal life. Accordingly, it is very important that PCBs be kept out of the food chain.

Effective immediately, we are instituting a policy of restricting sales of the Therminol®FR series to existing heat transfer systems which are presently utilizing the Therminol®FR series and do not involve food or food related products. We would appreciate your discontinuing the use of the Therminol®FR series in any new equipment sales and discontinuing any recommendation of the Therminol® FR series in your literature. In accordance with this policy,

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the Therminol®FR series will no longer be available to your firm.

We would like to point out, however, that certain Monsanto products which are sold under the Therminol® trademark, namely, Therminol® 55, 66, 77 and 88 do not contain PCBs and will continue to be available for new heat transfer systems as well as for replacements of existing systems. While these are not classified as fire-resistent, proper design, operation and maintenance and the use of appropriate protective devices should minimize any added fire risks. We would appreciate your continued use and recommendation of Therminol®55, 66, 77 and 88 in both new and existing systems.

Should you have any questions, please contact your local Monsanto representative or me.

Sincerely,

J.J. Roder, Product Supervisor
Heat Transfer, Dielectrics and
Process Fluids

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LETTER TO THERMINOL®FR USERS NOT CHANGING TO T-55 OR T-66

Office of President
XYZ Company

Dear Customer:

We recently contacted your firm relative to our desire for your firm to discontinue the use of the Therminol®FR series heat transfer fluid and to replace them with a heat transfer fluid which does not contain polychlorinated biphenyl (PCB). The Therminol®FR series includes Therminol®FR Lo-Temp, Therminol®FR-0 and Therminol® FR-1. Your firm indicated that because of the fire-resistant characteristics of the Therminol®FR series, such a change could not be made at this time.

While we cannot make any assurances that Therminol®FR products will continue to be available, we are, for the present and because of your special need for a fire-resistant heat transfer fluid, willing to continue supplying Therminol®FR products to your firm on the following understanding:

1. Your firm acknowledges that it is fully aware that in some studies certain PCBs have been found to be persistent, an environmental contaminant and, possibly, injurious to some forms of bird, aquatic and animal life. Accordingly, it is very important that PCBs be kept out of the food chain.

2. Your firm shall use Therminol®FR products only in existing heat transfer systems which are presently utilizing Therminol®FR

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products. In no event shall your firm use any Therminol®FR product in any system associated with, related to, or in connection with food, food-related products, animal feeds, pharmaceutical products, packaging materials involving any of those items and buildings where any of those items are manufactured or stored.

3. In the use of Therminol®FR products, your firm shall use its best efforts to prevent entry of PCBs into the environment through spills, leakage, use, disposal, vaporization or otherwise.

4. Your firm shall indemnify and save Monsanto harmless against any and all losses, damages, costs and expenses (including cost of defense and reasonable attorneys' fees) which Monsanto may suffer, incur or pay out by reason of any claims, actions or demands arising out of or resulting from any pollution, contamination, toxicity or environmental matters which involve or are in any way associated with any of the Therminol®FR products supplied to your firm. Your firm shall not assert any claims against Monsanto arising out of or resulting from any such pollution, contamination, toxicity or environmental matters.

It must be recognized that this letter in no way obligates Monsanto to continue to sell Therminol®FR products to your firm. Monsanto reserves the right at any time to suspend, curtail or terminate the sale of Therminol®FR products to your firm.

If the foregoing is acceptable, please have one of the copies of this letter signed by an authorized officer of your firm

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and returned to the undersigned. We appreciate your cooperation in this matter; if there are any questions or comments, please contact us.

Sincerely,

ACCEPTED AND AGREED TO:

_____

BY_____

TITLE_____

DATE_____

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