Monsanto

SPECIALTY & PROCESS CHEMICALS DIVISION

MONSANTO INDUSTRIAL CHEMICALS CO.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166
Phone: (314) 694-1000

October 3, 1975

The General Electric Company of
~~Malaysia Sendirian Berhad~~
Magnet House, P. O. Box 256
2 & 4 Jalan Campbell
Kuala Lumpur 01-09

Attention: J. A. Joyce

Dear Sir:

Subject: Pyroclor A13B3B

We refer to your letter dated 14th August addressed to Mr. David Tucker in our London office. Your letter has been passed to me for response.

Monsanto manufactures fire resistant transformer coolants both in England and America. Those manufactured in England are sold under the tradename, Pyroclor. Those manufactured in America are sold under the name, Pyranol, which is a trademark of the General Electric Company. The suffix A13B3B-3 is a definition of a Pyranol grade, not of Pyroclor. I attach a copy of our Askarel Handling and Maintenance Guide which gives formulation details for Pyranol A13B3B-3.

I would like to clarify our policy for sales of these materials. The chlorinated biphenyls are extremely stable materials and are persistent in the environment. It is for this reason that measures have been taken to avoid entry of the materials in to the environment. We restrict our sales of chlorinated biphenyls to manufacturers of capacitors and transformers which are sealed equipment where their continued use of chlorinated biphenyls has been recognized to be beneficial and necessary. We ask that manufacturers wishing to purchase these materials sign a letter indicating that they appreciate the environmental persistence of the product, and are aware of the sensible handling precautions required to prevent their creating problems in the

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environment. I attach a copy of the agreement letter for your reference.

You mention that you have doubts about the advantages of this type of liquid. Fortunately, many electrical engineers do not share your doubts. There is considerable use of the liquid in transformers in many countries.

Installation savings in low voltage cable coolants can be achieved by location of the transformer at the electrical load center. Where the siting of a mineral oil cooled transformer in the load center would prove to be a fire risk, the installation of a Pyroclor-filled transformer, even allowing for the additional cost of the fluid, still offers economic advantage. In many instances if this were not the case, there would not be a market for the product. Askarel transformers find their major use in secondary distribution networks and are used to advantage in such areas as car assembly plants, steel mills, etc. where external siting of the transformer would result in a need to use extensive low voltage cable runs. We do not pretend that an Askarel transformer offers economic benefit in every case. In fact, Askarel transformers probably represent no more than 10% of low and medium voltage units.

Askarel is no more difficult to contain than standard transformer oil. Normally, Askarel transformers are of a welded construction as much to offer the ingress of moisture than the leakage of Askarel.

If the fluid is broken down by high temperature or electric arc, the gases emitted are chiefly hydrogen chloride. In the case of mineral oil, the breakdown product would be hydrogen and hydrogen carbon gases which are highly flammable and explosive. In your context, your use of the description dangerous for the gases must relate to the preferred risk. Hydrogen chloride has a sharp acrid vapor and it is detectable below the danger level.

You state that Pyroclor or Askarel has become very costly. Its price is still such that many transformer manufacturers find it profitable to make and sell Askarel units. If this were not the case, we would be out of business. The current price for supply of material to Malaysia in 10 ton quantities would be $1130 per metric ton, CIF Malaysia. The minimum shipment for export is

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1 ton, hardly a bulk quantity.

I hope that my comments and the attached literature will clarify some of the problems that have been of concern to you. If you have further specific questions, please let me know.

Yours sincerely,

David Wood
Market Manager
Dielectrics

/deb
Attachments

cc: Monsanto Far East Ltd.
116 Jalan Semangat
P. O. Box 1043
Jalan Semangat
Petaling Jaya

IDS 002950

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Dear Sir:

As you have probably heard, Monsanto is engaged in a voluntary program to limit sales of products containing polychlorinated biphenyls to uses as a dielectric in manufacture of transformers and capacitors from which escape of PCB's to the environment can be prevented by our customers.

This action has been taken because of Monsanto's concern about certain studies which indicate PCB's may be accumulating in the environment, and in some instances, have been found in food or in the food chain. As a purchaser of PCB-containing products, we feel certain you are aware of the interest and concern being demonstrated around the world by scientists about this problem. Nevertheless, we call to your special attention the attached article on PCB's by Carl G. Gustafson of the United States Federal Water Quality Administration appearing in "Environmental Science and Technology."

We believe if you are fully advised of the potential problems associated with the continued use of PCB-containing products

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(in these applications) you can, by the exercise of care and appropriate cautionary warnings to your customers, and the exercise of care on their part, assure that PCB's purchased by you do not escape into the environment.

Monsanto would like to continue to sell you its PCB-containing products for use as a dielectric fluid on its normal sales conditions, but must make such sales subject to the undertakings requested below. You will appreciate that we must also reserve the right to change our sales policy as additional facts may become known about PCB's.

The undertakings with which we would request you to agree are as follows:

1. You agree to use Monsanto's PCB-containing products only as dielectric fluids in capacitors and transformers.
2. You acknowledge that you have been advised by us and that you are aware of the potential harm to the environment and to food and the food chain by the escape of PCB's into the environment.
3. You agree to take all care in handling use and disposal of PCB's to ensure they do not enter the environment and to so advise your customers.

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4. You acknowledge receipt of the attached handling precautions for Monsanto's PCB-containing products.

5. You agree to notify your customers of the hazards of PCBs.

If you agree to the above, would you kindly sign and return to us the enclosed duplicate of this letter where indicated. To enable us to give you satisfactory servicing on your future orders, your prompt reply would be appreciated.

Very truly yours,

We agree to the foregoing

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THE GENERAL ELECTRIC COMPANY OF MALAYSIA SENDIRIAN BERHAD
UNITING THE ACTIVITIES OF THE G.E.C., A.E.I., AND ENGLISH ELECTRIC COMPANIES IN MALAYSIA
Magnet House, P. O. Box 256, 2 & 4, Jalan Campbell, Kuala Lumpur. 01-09
Telegrams GECLUMPUR KUALALUMPUR TELEX
Telex KL 335 Telephone 84291 (10 Lines)

OUR REF C/P.R.18/5512
YOUR REF

D. Wood - St. Louis

Xerox for AA
done 21/8/75

14th August, 1975

Monsanto Limited,
10-18, Victoria Street,
LONDON SW1H 0NQ

Attention : Mr. David G. Tucker

Dear Sirs,

Pyroclor A13 B3B

With reference to your letter dated 28th August 1974, advising that you are unable to supply Pyroclor A13 B3B as we did not hear anything further from your European or local offices, we contacted Monsanto Far East Ltd. at Petaling Jaya, Selangor, Malaysia. We have now heard from them that they are unable to supply us with this liquid. This is apparently due to the fact that they would have to enter into a special agreement with their parent company in the U.S.A. because of the toxic characteristics of the liquid. They are reluctant to undertake this procedure because of the small volume required.

We are somewhat disillusioned about the use of Pyroclor filled transformers in Malaysia. First of all because of the difficulty in obtaining a supply. Secondly doubts about the advantages of this type of liquid.

Recently we had discussions with the Technical Director of a well known British manufacture of transformers (not in the G.E.C. group of companies) on the subject of Pyroclor transformers. From what we were told, it appears that Pyroclor filled transformers are loosing favour for the following reasons :-

1) Pyroclor or Askarel have properties which are toxic, therefore there are problems of handling and leaks could be detrimental to the environment.

David Wood, please handle this now account.

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2) Pyroclor or Askarel is very difficult to contain and more difficult to stop it leaking from transformers than standard transformer oil.

3) In the event of a fire in the vicinity of the transformer, although the liquid does not support combustion, it is liable to give off dangerous toxic fumes.

4) Pyroclor or Askarel has become very costly and suppliers will only accept orders for large bulk quantities.

The Technical Director also stated that some countries were considering loaning the use of Pyroclor because of its toxic characteristics.

We would like to have your comments on the above remarks and advise whether you supply any other grades of non inflammable liquids to the U.K. transformer market.

We would also like to have technical data on the testing and treatment of Pyroclor should it become contaminated or has absorbed moisture. In particular, we would like to know whether it is susceptable to absorbing moisture having regard for the high humidity prevailing in Malaysia.

We would appreciate an early reply on these points.

Yours faithfully,
for THE GENERAL ELECTRIC COMPANY OF MALAYSIA
SENDIRIAN BERHAD

J.A. JOYCE
Chief Engineer, Power Equipment

c.c. Monsanto Far East Ltd.,
116, Jalan Semangat,
P. O. Box 1043,
Jalan Semangat,
PETALING JAYA.

JAJ/ksp

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