toxicology
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R. Emmet Kelly, M.D.
Medical Director
Monsanto Chemical Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

Re: Frequency rate burn-out PCB ballast

Dear Dr. Kelly:

As you and the recipients of copies of this correspondence probably realize, my co-workers (in EPA) and I (on my own) have been at work evaluating the potential hazards of PCBs including ballasts burning out in fluorescent lights.

We are writing a first report of planned air sampling beneath a ballast burning out spontaneously.

In trying to present the history of this matter accurately, I am trying to trace the origin of statements quoted by Drs. Yip and Nies to the effect that only one in a hundred million ballasts burn out or otherwise fail. Dr. Yip attributed these to Monsanto. I have seen similar statements quoted elsewhere also. Our own use experience indicates a much higher burn-out rate and preliminary surveys support a burn-out rate at least a million times greater than the cited one at least during the entire life of the ballast.

I would greatly appreciate your furnishing me with any citable statements your company has issued about the relative frequency of failure including, if possible, separate rates for overheating or burn-outs of capacitors in general and/or ballasts for fluorescent lights specifically.

Our series of three papers on this subject is being planned for SCIENCE. This journal requests the names of up to six consulting editors to be named by the authors willing to review the manuscript for the journal before publication. Out of fairness to Monsanto, we would like to have either you or anyone else your company designates to serve as consulting editor for this manuscript to assure accuracy of fact and logic of opinions expressed therein.

To dispell the credulity of the 1 in 100 million frequency of burn-outs in other people's experience besides ours, they should consult such documents as follows:

The Role of Polychlorinated Biphenyls in Electrical Equipment, published by General Electric Co., Feb. 4, 1972, pages 2 and 5, "Failures are limited to approximately 0.02% of the units in service per year". The units referred to here include Askarel-filled transformers and capacitors.

p. 29 - G.E. indicates for ballasts an annual replacement rate of about 10%.

Failures are quoted as "considered negligible" also on p. 51 of the Interdepartmental Task Force Report on PCBs, May, 1972, entitled Polychlorinated Biphenyls and the Environment, giving two references 13 and 15, both of which are private communications from the Tennessee Valley Authority and the Department of Power & Water

in Los Angeles. Surely these latter two references pertain to much larger capicators than ballasts.

We need the exact date in 1968 and complete citation after which ballasts had to have thermal controls as required by the Manual of National Electric Code 1971 of which we have seen no copy or satisfactory reference.

As a related but separate question, I would appreciate your responses on the opinions of Häkkinen et al. (Arch Environ Health 26, 70, Feb 1973) that Monsanto failed to appreciate the comparative occupational toxicity of diphenyl being incorporated into fruit wraps. Also we would appreciate as soon as possible your afterthoughts on the 1968 TLV of 1 mg/M³ for diphenyl. This last is most important since our findings of PCB emissions for 4½ hours from a burning (starting after 5 minutes) ballast has been below the same level 1972 TLV for PCB (Aroclor 1242). We suspect that during some shorter time, say 0 to 15 or 30 minutes after start of burn-out, that air concentration would be much higher than the TLV.

Repeating my interests of minimizing any adverse effects of recent developments in toxicology on Monsanto, it would be appreciated if you could provide any helpful data and responses as requested above.

Very truly yours,

Griffith E. Quinby M.D.

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GEQ:ldh

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