

GENERAL ELECTRIC

CORPORATE RESEARCH AND DEVELOPMENT

P. O. 1
SCHENECTADY, N. Y.

DIAL COMM 8-235-

Building K-1, Room 3B15
September 11, 1981

Dr. S.B. Hamilton, Jr.
Mgr - Environmental Research Initiatives
FAIRFIELD

Dear Steve,

Fred Hileman has sent me preliminary numbers from the dioxin and PCDF analyses on used transformer oils. The results are somewhat complicated by the interference of chlorinated diphenyl ethers which appear as PCDF's in the mass spec thru the loss of Cl₂. However, these values may be quoted with confidence as maximum concentrations; the resolution of the interference can only produce equivalent or lower PCDF levels.

Sample #	Service (yrs)	Dioxin (ppb)			PCDF (ppb)		
		tetra	penta	hexa	tetra	penta	hex
3	41	<10	<15	<20	100	200	800
23	34	<10	<15	<20	20	200	400
44	43	20	40	120	40-60	200	1600
45	42	<10	<15	<20	40-60	200	400
1254 (pure)	-	<10	<15	<20	20	200	400

Fred estimates his accuracy at + 30% but emphasises the ether interference could be responsible for larger errors. For our interests though, these results are very reassuring. All of these numbers are less than those quoted by Rappe and others for electronic grade PCB from Monsanto. Clearly if PCDFs or dioxins are formed in use the rate must be on a geologic time scale!

A final report will be delayed by the ether problem but as soon as I get corrected values I'll get that out to you.

Till later,

R.A. Bell

cc: JF Brown

783280

GENP 010467

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, RESEARCH AND DEVELOPMENT CENTER, P.O. BOX 8
SCHENECTADY, NEW YORK 12301, Phone (518) 385-2211

R/D 17 C1
CORPORATE
RESEARCH AND
DEVELOPMENT

Building K-1, Room 3B15
June 24, 1981

Dr. Fred Hileman
Monsanto Research Corporation
1515 Nicholas Road
Dayton, Ohio 45418

Dear Fred,

It was good to hear your chipper voice again the other day. As per our conversation four samples of transformer fluid and one of virgin 1254 are now enroute. Analysis for PCDF's and PCDD's will be most interesting. These transformers have been in service for thirty to forty years and may contain significant amounts of tri- and tetrachlorobenzenes in addition to PCB's. As soon as the chlorobenzene and PCB analyses are in I'll give you a ring.

On the synthesis front, lab construction is beginning and orders for chemicals and equipment are flying from my office. I'm hoping to be ensconced by mid-August. If this is accurate standards should be appearing about the end of October, in time for me to take a much needed skiing holiday! Keep Vermont in mind for December or January.

Till later,

R.A. Bell

783281

GENERAL