Medical Department

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Status of Toxicity Studies and Needs--Aroclors and Substitutes

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Confirming our discussions, I have attached copies of tables showing the information available and what we we may need if the current plan for continued sales for some members of the Aroclor family and substitutes for others is to be implemented. The enclosed may not be a complete listing and will have to be reviewed and updated occasionally. Particularly lacking may be references to non chlorinated plasticizer materials.

Premises on which the "needs" are based include:

1. The determination that the chlorinated terphenyls can and will be found in environmental samples.

2. Biodegradation of the chlorinated terphenyls is virtually impossible.

3. Escape to the environment cannot be prevented in all proposed applications (including disposal of products containing them).

4. The lower chlorinated biphenyls may be biodegradable (metabolized in the mammalian species) with more toxic effects than the higher chlorinated PCB's--or at least at lower levels of insult.

5. Nothing more than acute data would be obtained for mixtures of the lower chlorinated biphenyls and the chlorinated terphenyls.

6. No chronic (two year studies) would be anticipated.

7. No sub-acute or chronic data would be obtained on non-halogenated substitute products such as phosphate esters, glycols, etc.

DSW 380609

For budgetary purposes fairly definite costs are indicated. The total of the costs are as follows:

I. Those studies I feel we cannot avoid--$191,300

II. Studies to be deferred for the time being--$287,000

In the case of Item I, we can make arrangements to pre-pay Industrial Bio-Test prior to the end of 1970 for any amount you have available. The remainder can be paid whenever you wish in 1971. We can also include next year any portion of the costs for the studies to be deferred as time and circumstances dictate.

Elmer P. Wheeler

EPW:ju

Enclosure

DSW 380610

STLCOPCB4100674

11/3/70

AROCLOR TOXICITY DATA

Toxicity Data	Cost	AROCLOR 1221 Have	Need	Date Begin	Date End	MCS 1016 Have	Need	Date Begin	Date End	AROCLOR 5432 Have	Need	Date Begin	Date End	AROCLOR 5442 Have	Need	Date Begin	Date End
Acute																	
Rat-LD_{50}	$ 200	X	$ (200)*	11/15 1970	12/31 1970		$ 200	11/15 1970	12/31 '70	X	$	11/15 1970	12/31 '70	X	$ (200)*	11/15 1970	12/31 '70
Rabbits-MLD (dermal)	250	X	(250)*	"	"		250	"	"	X		"	"	X	(250)*	"	"
Skin Irr. (rabbit)	100		100	"	"		100	"	"	X		"	"		100	"	"
Eye Irr. (rabbit)	125		125	"	"		125	"	"	X		"	"		125	"	"
Vapor Inhalation (Rats)	200		200	"	"		200	"	"			"	"			"	"
Fish (2 species)	600		600	"	"		600	"	"		600	"	"		600	"	"
Sub-acute																	
90-day rat **	6,000		6,000	1/2/71	6/1 '71		6,000	1/2/71	6/1 '71		6,000	1/2/71	6/1 '71		6,000	1/2 '71	6/1 '71
90-day dog	10,000		10,000	"	"		10,000	"	"		10,000	"	"		10,000	"	"
Fish (30-90 day)	3,000 (est.)		3,000				3,000				3,000				3,000		
Reproduction																	
Rats	17,000		Defer				Defer				Defer				Defer		
Chickens	8,000		Defer				Defer				Defer				Defer		
Teratology																	
Rabbits	4,500		Defer				Defer				Defer				Defer		
TOTAL:	$49,975																
NEED NOW:			$20,475				$20,475				$19,600				$20,275		
DEFERRED:			$29,500				$29,500				$29,500				$29,500		

* (Repeat)
** Control group cost $2,100

DSW 380611

STLCOPCB4100675

AROCLOR TOXICITY DATA

Toxicity Data	Cost	AROCLOR 1254 Have	Need	Date Begin	Date End	AROCLOR 5460 Have	Need	Date Begin	Date End	HB-40 Have	Need	Date Begin	Date End	MIPB Have	Need	Date Begin	Date End
Acute																	
Rat-LD_{50}	$ 200	X				X				X				X			
Rabbits-MLD (dermal)	250	X				X				X				X			
Skin Irr. (rabbit)	100	X				X				X				X			
Eye Irr. (rabbit)	125	X				X				X				X			
Vapor Inhalation (Rats)	200	X				X											
Fish (2 species)	600	X'					$ 600	12/15 1970	1/31 '71		$ 600#	12/15 1970	1/31 '71		$ 600#	12/15 1970	1/31 '71
Sub-acute																	
90-day rat **	6,000										6,000#	11/2/70	2/15 '71		6,000#	11/2 '70	2/15 '71
90-day dog	10,000																
Fish (30-90 day)	3,000 (est.)		$ 3,000														
Reproduction																	
Rats	17,000	X					Defer										
Chickens	8,000	X				X											
Teratology																	
Rabbits	4,500		4,500	11/15 1970	2/15 '71		Defer										
TOTAL:	$49,975																
NEED NOW:			$ 7,500				$ 600				$ 6,600#				$ 6,600#		
DEFERRED:							21,500										

(Repeat)

* Control group cost $2,100

\# Already paid

DSW 380612

STLCOPCB4100676

AROCLOR TOXICITY DATA

Toxicity Data	Cost	MCS 1043 Have	MCS 1043 Need	MCS 1043 Date Begin	MCS 1043 Date End	Mono-Chloro Mono-Bromo Biphenyl Have	Mono-Chloro Mono-Bromo Biphenyl Need	Mono-Chloro Mono-Bromo Biphenyl Date Begin	Mono-Chloro Mono-Bromo Biphenyl Date End	Mono-Bromo Dichloro Diphenyl Have	Mono-Bromo Dichloro Diphenyl Need	Mono-Bromo Dichloro Diphenyl Date Begin	Mono-Bromo Dichloro Diphenyl Date End	AROCLOR 6062 Have	AROCLOR 6062 Need	AROCLOR 6062 Date Begin	AROCLOR 6062 Date End
Acute																	
Rat-LD_{50}	$ 200		$ 200	3rd qtr. '71	1st qtr. '72		$ 200	3rd qtr. '71	1st qtr. '72		$ 200	3rd qtr. '71	1st qtr. '72	X			
Rabbits-MLD (dermal)	250		250	"	"		250	"	"		250	"	"	X			
Skin Irr. (rabbit)	100		100	"	"		100	"	"		100	"	"	X			
Eye Irr. (rabbit)	125		125	"	"		125	"	"		125	"	"	X			
Vapor Inhalation (Rats)	200		200	"	"		200	"	"		200	"	"				
Fish (2 species)	600		600	"	"		600	"	"		600	"	"				
Sub-acute																	
90-day rat **	6,000		6,000	"	"		6,000	"	"		6,000	"	"				
90-day dog	10,000		10,000	"	"		10,000	"	"		10,000	"	"				
Fish (30-90 day)	3,000 (est.)		3,000	"	"		3,000	"	"		3,000	"	"				
Reproduction																	
Rats	17,000		Defer				Defer				Defer						
Chickens	8,000		Defer				Defer				Defer						
Teratology																	
Rabbits	4,500		Defer				Defer				Defer						
TOTAL:	$49,975																
NEED NOW:			$20,475				$20,475				$20,475						
DEFERRED:			$29,500				$29,500				$29,500						

(Repeat)

* Control group cost $2,100

DSW 380613

STLCOPCB4100677

AROCLOR TOXICITY DATA

Toxicity Data	Cost	Bromo-Chlorobenzene Have	Need	Date Begin	Date End	2,2 Prime Dichloro Diphenyl Ether Have	Need	Date Begin	Date End	Have	Need	Date Begin	Date End	Have	Need	Date Begin	Date End
Acute																	
Rat-LD50	$ 200		$ 200	3rd qtr. '71	1st qtr. '72		$ 200	3rd qtr. '71	1st qtr. '72								
Rabbits-MLD (dermal)	250		250	"	"		250	"	"								
Skin Irr. (rabbit)	100		100	"	"		100	"	"								
Eye Irr. (rabbit)	125		125	"	"		125	"	"								
Vapor Inhalation (Rats)	200		200	"	"		200	"	"								
Fish (2 species)	600		600	"	"		600	"	"								
Sub-acute																	
90-day rat **	6,000		6,000	"	"		6,000	"	"								
90-day dog	10,000		10,000	"	"		10,000	"	"								
Fish (30-90 day)	3,000 (est.)		3,000	"	"		3,000	"	"								
Reproduction																	
Rats	17,000		Defer				Defer										
Chickens	8,000		Defer				Defer										
Teratology																	
Rabbits	4,500		Defer				Defer										
TOTAL:	$49,975																
NEED NOW:			$20,475				$20,475										
DEFERRED:			$29,500				$29,500										

(Repeat)

* Control group cost $2,100

DSW 380614

STLCOPCB4100678