Monsanto

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FROM (NAME & LOCATION) R. E. Keller - Technology Department - S. Second Street

DATE October 13, 1970

SUBJECT BIODEGRADATION TEST PROGRAM

REFERENCE

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The attached table summarizes our biodegradation test program as it now stands in Applied Sciences. The table is prepared as a working matrix for entry of data denoted in the right hand columns. We have attempted to include all the MCL, Ruabon and Monsanto, St. Louis projects for chlorinated biphenyl products.

This summary is sent for your use on project planning. Recipients of this note are asked to please advise me about changes that should be made in this program.

REK

R. E. Keller

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Attachment

DSW 147854

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BIODEGRADATION TEST PROGRAM

Immediate objectives: Provide degradation rates for parent compounds - no detailed identification of degradation products

Business Group	Product (In order of priority set by business group)	Test	Location	Method of Analysis	Target Dates: Start Test	Target Dates: Complete Test	Mean Disappearance Rate, %: For Total	For Halogen Homologues	For 1 and 2 Isopropyl Groups	For 1 and 2 Hydrogenated Rings	Other
FUNCTIONAL FLUIDS	Aroclor 1242	1. Activated Sludge	St. Louis	EC/GC	8/10	10/31-11/30					
		2. River Die-Away	St. Louis	EC/GC	10/9	12/4					
		3. Shake Flask	Ruabon	EC/GC	Underway	?					
	Aroclor 1254	1. Activated Sludge	St. Louis	EC/GC	8/10	10/31-11/30					
		2. River Die-Away	St. Louis	EC/GC	10/9	12/4					
	MCS 1016	1. Activated Sludge	St. Louis	EC/GC	8/10	10/31-11/30					
		2. River Die-Away	St. Louis	EC/GC	10/9	12/4					
		3. Shake Flask	Ruabon	Ruabon	Underway	?					
	Fractionated Aroclor 1150 (MCS 1043)	1. Activated Sludge	St. Louis	EC/GC	8/10	10/31-11/30					
		2. River Die-Away	St. Louis	EC/GC	10/9	12/4					
	Aroclor 5432	1. Activated Sludge	St. Louis	Under Development	10/16-10/30	11/13-12/31					
		2. River Die-Away	St. Louis	"	"	12/31					
	Aroclor 5442	1. Activated Sludge	St. Louis	"	"	11/13-12/31					
		2. River Die-Away	St. Louis	"	"	12/31					
	Arobromochlor 1232	1. Activated Sludge	St. Louis	EC/GC	10/12-10/19	11/9-12/7					
		2. River Die-Away	St. Louis	EC/GC	10/23	12/18					
	Trichlorobenzene	1. Activated Sludge	St. Louis	EC/GC	10/12-10/19	11/9-12/7					
		2. River Die-Away	St. Louis	EC/GC	10/23	12/18					
	Gulf 200 Bright Stock	1. Activated Sludge	St. Louis	FID/GC	10/12-10/19	11/9-12/7					
		2. River Die-Away	St. Louis	FID/GC	10/23	12/18					
	MCS 717	Shake Flask	Ruabon	EC/GC	Underway	?					
	MCS 762	Shake Flask	Ruabon	EC/GC	Underway	?					
	Selected Hexachlorobiphenyls	Shake Flask	Ruabon	EC/GC	Underway	?					
	Selected Pentachlorobiphenyls	Shake Flask	Ruabon	EC/GC	Underway	?					
	MCDPP Cresyldiphenyl Phosphate Tributyl Phosphate Tricresyl Phosphate Keville Unielor 40 Diphenyl Sulfone Tolyl Xylyl Sulfone ~~Mixed Pentachlorodiphenyl~~ Ether Mixed Di- and Trichlorodiphenyl Ether	Tests on these products will begin when activated sludge units and analytical support being used in the above tests becomes available. Expected starting date - January 1971									
PLASTICIZERS	MIPB	1. Activated Sludge		UV & FID/GC	5/27	10/30					
		2. River Die-Away		UV & FID/GC	8/31	10/26					
	BB-40	1. Activated Sludge		UV & FID/GC	5/27	10/30					
		2. River Die-Away		UV & FID/GC	8/31	10/26					
	Aroclor 5460	1. Activated Sludge		Under Development	10/16-10/30	11/13-12/31					
		2. River Die-Away			10/16-10/30	12/31					
	Aroclor 1221	1. Activated Sludge		EC/GC	10/12-10/19	11/9-12/7					
		2. River Die-Away		EC/GC	10/12-10/19	11/9-12/7					
	IN-825	When test units and analytical support becomes available.									
	IN-820										
	Santicizer 711										

2, 2' Dichloro-biphenyl Ether

2. Dichloro-1-phenyl-1, 3, 3-trimethylindane

Bromochloro 1 phenyl-1, 3, 3-trimethyl indane

Monobromotrichlorobenzene

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Business Group	Product (In order of priority set by business group)	Test	Location	Method of Analysis	Target Dates Start Test	Target Dates Complete Test	Mean Disappearance Rate, % For Total	For Halogen Homologues	For 1 and 2 Isopropyl Groups	For 1 and 2 Hydrogenated Rings	Other
FOOD AND FINE CHEMICALS	3,4,4'-Trichlorocarbanilide	1. Activated Sludge 2. River Die-Away	St. Louis St. Louis	UV UV	7/27 8/28	8/20 10/23					
	3,3',4-Trichlorocarbanilide	River Die-Away	St. Louis	UV	8/28	10/23					
	3,3',4,4'-Tetrachlorocarbanilide	River Die-Away	St. Louis	UV	8/28	10/23					
	Santophen I	River Die-Away	St. Louis	UV	8/28	10/23					
TEXTILES DIVISION	Hexabromobiphenyl Brominated Triphenyl	1. Activated Sludge 2. River Die-Away	St. Louis St. Louis	EC/GC EC/GC	11/1-11/15 11/1	12/1-12/31 12/31					
EXPLORATORY PROGRAM (St. Louis)											
A. Enrichment Tests	Objective: Shorten the time for achieving constant disappearance rate in activated sludge units.										
	Aroclor 1242	Activated Sludge Enrichment Via Nutrient Withdrawal		EC/GC	10/12-10/19	12/31					
	Aroclor 1242	Activated Sludge Enrichment Via Biphenyl Acclimation		EC/GC	10/12-10/19	12/31					
B. Characterization of Degradation Products											
	MIFB HB-40 Aroclor 1242	Explore feasibility of isolating and characterizing the polar, water soluble degradation products produced in activated sludge units.			11/1 11/1 11/15-12/1	? ? ?					
C. Specialized Cultures	Objective: Determine feasibility of developing special cultures capable of rapidly degrading given products.										

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