AROCLOR ANALYTICAL STUDIES

1/70

CONFIDENTIAL

PROJECT	PROBLEM	ANALYTICAL WORK	FINDINGS
1. Toxicity	Bio-Test Feeding Studies - Rats, Chickens, Fish	Residue Detns - PCB Content	Aroclor builds up in fatty tissue. Isomer distribution unchanged after high level exposure for short time. Fish exposure studies non-conclusive.
2. Environmental Residues			
a. Water & Sediment	US, UK, Escamba (Pensacola Bay) & Portage, Wisc. River Waters	Residue Detns - PCB Content	River water at manufacturer/user sites contains Aroclors germaine to that site (ppb to % levels).
b. Wildlife	Fish from Pensacola, Anniston	Residue Detns - PCB Content	Aroclor found in fish from rivers at manufacturer/user sites. [redacted]
c. Air	R&D Laboratory & Anniston Plant	Residue Detns - PCB Content	Laboratory levels sometimes high enough to change method accuracy. Plant air contains relatively high levels as expected.
Soil	Florida Test Plots Available	Residue Detns - PCB Content	No work done.
3. Plant Process			
a. Discharge Streams (Water & Oil)	Anniston, WGK Pensacola, Portage, Wisc.(NCR), Mich. (GM)	Residue Detns - PCB Content	Water contains ppb-ppm levels. Oil contains 0.01 to percentage levels.
b. Detergent Manufacture	Phosphates and components from Inorganic Division	Residue Detns - PCB Content	Finish, Electrosol, All contain ppb-ppm Aroclor 1248. Monsanto manufactured inorganic components contain <1 ppt.

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4. Existing Product			
a. Composition	Production Grade Aroclors 1221 thru 1260	Characterization and Composition	Up to 61 components separated by GC and 48 identified by mass based on MW, cl/molecule ratio and fragmentation pattern. Specific isomers not identified.
b. Degradability;	R&D Laboratory River Water	Composition/ Structure Changes	Trichlorobiphenyls and lower chlorinated biphenyls degrade at rates proportional to chlorination level (trichloro<dichloro <monochloro<biphenyl).
Biological	Bacteriological Studies		Biphenyl may trigger degradation.
Thermal	Laboratory Combustion Study	Residue Detns - PCB Content	Volatile combustion products contain intact Aroclor 1242 used in study.
5. New Products			
Brominated Biphenyls; Etc.	Laboratory Prepared Materials	Composition and Structure	No work done.

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