AROCLOR ANALYTICAL STUDIES
1/70

Aroclors FF

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, ~~Escambia (Pensacola Bay)~~ River Waters	Residue Detns - PCB Content	River water at manufacturer/~~user~~ sites contains Aroclors germaine to that site (ppb to % levels. Warf Studies
b. Wildlife	Fish ~~from Pensacola, Anniston~~ from rivers	Residue Detns - PCB Content	Aroclor found in fish from rivers at manufacturer/~~user~~ sites. Cl_3 and lower per molecule - not reported in literature.
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.
~~d. Soil~~	~~Florida Test Plots Available~~	~~Residue Detns - PCB Content~~	No work done.
3. Plant Process			
a. Discharge Streams (Water & Oil)	Anniston, WGK, Pensacola	Residue Detns - PCB Content	Water contains ppb-ppm levels. Oil contains 0.01 to percentage levels.
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.
b. Degradability; Biological	R&D Laboratory River Water Bacteriological Studies	Composition/Structure Changes	Trichlorobiphenyls and lower chlorinated biphenyls degrade at rates proportional to to chlorination level (trichloro<dichloro <monochloro<biphenyl). Biphenyl may trigger degradation.

MONS 075706

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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 MORE RIVER WATERS UNDER STUDY	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.
d. 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.

MONS 075707

PROJECT	PROBLEM	ANALYTICAL WORK	FINDINGS
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 Bacteriological Studies	Composition/ Structure Changes	Trichlorobiphenyls and lower chlorinated biphenyls degrade at rates proportional to chlorination level (trichloro<dichloro<monochloro<biphenyl). Biphenyl may trigger degradation.
, Biological			
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.

MONS 07508