

036232-036240: Dec. 29, 1969 — Q.E. Thompson

"Possibilities for expansion of the biphenyl product line" — "In view of a possible decline in Aroclor usage, opportunities for expanding the biphenyl line in other directions need to be explored."

~~one~~ options — a) new uses of biphenyl, + b) modify process to produce more terphenyls (goal: compete with Dowtherm).

other biphenyl products mentioned: resin for "wear-resistant surface coatings," preservatives, germicides, fungicides, dye intermediates, "Diphenyl may also be alkylated + sulfonated to produce wetting agents," etc.

036241: March 1, 1976, J. Coleman Weber, Mgr. Product Acceptability, Special Chemicals Division, letter to Dr. James R. Allen (U of Wisc.), declining to analyze PCB samples for PCDFs because "we are unable to obtain reliable information on the [PCDF] content of PCB mixtures." !!

036242-036259: c. 1976, flip chart or projection sheets on PCB production 1930-1975; uses, sales, chemistry (good diagrams), chronology of significant PCB events 1930-1976; ambient air, water, sediment, fish, + human milk levels (incl. Savage)

036260-036266 1975 Comm. from Richard L. Hauser, Electrical Union Company, re: PCB substitutes, flammability,

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* comm w/ David Wood, Monsanto ~~for~~ cc Dr. William Richard.

036267-68: Nov 7, 1975 David Wood to GE "Dr. Michael Modan" cover letter for numerous studies

036293-036297: 9/1/71 Albert C. Kolbye, Jr. M.D. Deputy Director Bureau of Foods "Current status of Toxicol. effects of PCBs" - esp. 036295 - discusses likelihood of synergism ~~with~~ therapeutic drugs + metab of hormones & pesticides.

036298-036299 - list of participants 20 Sept '72 PCB conference (in German), includes Monsanto Europe's H. R. Collett

036301-036314 - Report of the Subgroup on PCBs, working group on Disposal of Toxic + Haz Wastes (U.K.) undated c. 1973? H.A. Vodden (Monsanto Chem. Ltd) member

* 036454-036455 April 1970 Monthly Summary for functional fluids. ~~then~~ "we are preparing to determine the presence of dioxins in the presence of other chlorinated materials tetrachloro women will have interference from the components in Aroclor 1260." from Dietrick et al (Mieure?) Also bromines in Aroclor

036462-036484 March 5, 1973 speech by Richard J. Weichmann (API?) to Annual Tappi meeting,



re: defeating FDA rulemaking on PCBs in packaging.

036485-036488 - April 17, 1973 "Contact Report" Swiss
Federal Dep't of Public Health re: Swiss position
(ban) on PCBs + dioxins in Penta.

Mieure

Oct 26, 1970
036492-036493 - Papageorge to J.R. Savage re:

"J.P. Mieure's work" finding naphthalene in
biphenyl and anthracene or phenanthrene and
dibenzofuran in Santowax R used in mfg of Aroclors.

? ← Jan 27, 1971 memo M.W. Dietrich to W.R. Richard,
re: R.E. Kellers memo to Papageorge 10/20/70 on
Mieure's finding 1-3 ppm TCD 7 in Aroclor 5442.
Now inconclusive identification

036494-036495 Undated, no source, pp 10-11,
"Adverse Repro Outcome Discussion" - estrogens,
menstrual irreg., inabil. to maintain fetus, etc.

036496-036500 - Undated Life Systems Inc "PCBs
Minisymposium Issues" includes Dr Wm R Gaffey on
epi-health effects. Kimbrough, Safe, etc.

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→ 036504 - July 19, 1982 Rappe to ACS News Service
transmitting pr for presentation at 184th ACS
Natl Meeting, "PCDDs Dibenzofurans & other polynuclear
aromatics formed during incineration & PCB fires"

SLA P. 036509 not copied; extra copy here

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036512-036650 EPA April '79 voluntary EIS
on PCB ban

036651-036728 EPA May '78 Proposed rule
+ draft EIS.

036729-036750 Undated (1979?) excerpt from unidentified
paper (Rappe?) on formation of CDDs + CDFs
thru pyrolysis.

036751-036779 undated pp 261-289 of ? "Polychlorinated
Biphenyls" ("considered by the Working Groups in Lyon,
June 1974")

036780-036783 D.W.H. Casey Oct 5 1970 to
A.F. Regan (→ Papageorge). memo on meeting
in England 29th Sept 1970, on PCB Analytical
Methods + Wildlife. 036781: Chlophen + Pheneclov
findings of 2378 TCDD and 2378-TCDF.

036784-036786 Undated (1970? - see Miere stuff,
036492 ff) "Functional Fluids" discusses
GC/MS methods + analyses to identify/distinguish
CDF from tetrachloromethylbiphenyl.

036787 Oct 21, 1975 letter from Paul L. Wright to
James Allen (Wisc.) agreeing to analyze Allen's PCB
samples for PCDF. cc: Levinson Bcc: Papageorge

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D.V.N. Hardy, "Product Toxicology - Aroclors"
036788 - 036797 April 28 - May 1 1969 summary
(to Keller, Wheeler, Kelly, Richard + Bergen Monsanto St. Louis,
"contamination [of environment] ^{commenced} ~~begin~~ in 1944." (036788)
war-releases (036791), "considerable ^{Monsanto} effort" needed
to deal "with this threat to our commercial operations:"
seals + fish in Scottish waters, bioconcentration 1000
in 6 wks! (036792)

"played down suggestions that [Aroclors] are used as
media for insecticides + in jet engine lubricants." 036794
human volunteers - benzene vapour 8 hrs/day at
Shell lab Tunstall Labs Kent England, refers to
British report on dangers of Aroclors in food packaging
and in lacquers for cans 1953-4. 036795.
PCB in human lungs, 036795.

036801 - 036811 R.E. Keller May 25 1970 "Aroclor
Environmental Program, Detailed Report on European
trip covering analytical programs"
disposal practices + analytical work in Wales,
Scotland, Sweden etc., also food cont. from
paper containers.

036834 - 036842 9/28/72 J. Haggart notes
of 9/20/72 PCB conference Utrecht, Holland. to
Papageorge + C. Paton. Toxicity - immunosuppression,
liver damage, acne, oedema, porphyria.

036875 - 036879 May 8, 1981 Jack T. Garrett to Emmet Kelly. Re: formation + toxicity of CDDs + CDFs. Read this. ★ — "possible to find these materials in practically anything that is associated with the parent compounds." "It can be assumed on a worst case basis that the chlorofurans are as bad as the corresponding chlorodioxins."

→ 036880 Oct 20, 1970 R.E. Keller to Papageorge
"Furans in Aroclor Products" + attached 10/20/70 Mieuire memo. 1-3 ppm in Aroclor 5442.

"On this basis, the Aroclor 1200 series sent for feeding studies at BioTest appears free (<1-5 ppm) of furan contaminants that might bias the results."

→ 036881 Oct 20, 1970 J.P. Mieuire to R.E. Keller (attached to 036880) summarizing results (not attached).

→ 036882 July 15, 1970 M.W. Dietrich to R.E. Keller,
"Status of Analysis for Dioxins in Monsanto Products"
"eight projects ... in various stages of completion"
"summarized below" [no attachment!] Dr. J. Mieuire has overall responsibility for completion of these projects

→ 036888 June 30, 1970 R.E. Keller to Papageorge, cc to Dietrich (Mieuire's boss?). Re: CDFS - PCBs, request for reference chl. naphthalenes from Vos.
"we will look at Aroclor products used at Bio-Test ... and compare results with those used for current production grade"

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036889-036904 Vos paper attached to 036888.

6-24-70. manuscript, Toxic Impurities in technical PCB preparations. finding ~~TCDD~~ TCDD, HxCDD, as well as furans in Chlophen + Phenochlor. 036896

036905-907 12/70 J.P. Miewre, M.W. Dietrich, "Determination of Chlorinated dibenzofurans in Aroclor products" - methodology described, no results.

036909 Undated (1990?) Walter Weyzen, "Toxicology of PCB & PCB combustion products"

036916 July 6 1983 Jacques Gwertin EPRI to Carl McMullan (Monsanto) re: EPRI study dioxins & furans in PCB & PCB cont oil, Monsanto's role.

036917-036923 EPRI "statement of work" attached to 036916: calls for analysis of "Aged mineral oil containing 500 ppm PCB & 500 ppm T/TCB."

036924-0369²⁸~~25~~ Barry Dellinger, U. of Dayton to Fred Hileman Monsanto May 10, 1984 re: cost estimate for thermal degradation studies

036929³⁰ CMA ~~is~~ list of documents in EPA Docket OPTS 62035 PCB (fires).

036931 Dec 14 1983 Robert Westin (Versor, Inc) to Denise Kechner (EPA) re: PCB capacitor ~~failure~~ explosion in Finland" (no attachments here).
 nothing "surprising in light of what we have seen & experienced in One Market Plaza & Binghamton. Apparently banks of capacitors can act just like transformers."

036932 Fed Reg. Mar 23 '84 PCBs banned in commerce etc

036947 Douglas Hall (U of Dayton) Oct 3, 1985 to John H. Craddock Monsanto re: thermal decomposition" study, without attached "interim report."

036948 Nov 13, 1984 MRI to Monsanto re: pyrolysis studies

036949 - 036952 - Chem Reg. Reporter 9/14/79, sources of dioxins, furans in combustion products

036953 - 037029 slide (overheads) presentations on PCDF in PCBs.

037030 - 037036 undated, Nagayama et al
 "Chlorinated dibenzofurans in Kanachloro & Rice oils used by patients of Yusho"