Pure PCB Isomers!

Polychlorinated biphenyls (PCB's) have recently been recognized as contaminants of our environment. PCB's have been detected in a very large variety of aquatic and non-aquatic animal and plant life including human milk and adipose tissue.

Many hundreds of thousands of tons of PCB'S have been produced (353,000 tons in the US since 1960 and much of this will stay a part of our environment since PCB's are chemically inert and thermally stable. They act in many ways like the persistent organochlorine pesticides. As to their biological effect, it is almost completely unknown, except for suspicions regarding links with birth defects,[1,2].

The wide-spread occurrence of the PCB's coupled with the lack of data as to their effects on us and our environment, presents an open and fertile field to the investigator.

There are 209 isomers of chlorinated biphenyls possible.[3] The contaminants arising from the commercial mixtures have been resolved into more than 50 GC peaks. Of the 209 isomers, 23 have been examined by GC for their retention time and electron-capture detector response relative to p,p' DDE,[4].

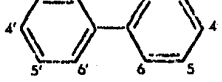
A few studies have been made on the physiological effects of PCB, but these have of necessity been carried out on the complex commercial mixtures. Nothing is known about the biodegradibility metabolism and toxicity of the individual isomers-data which is essential to the evaluation of the toxicity of PCB mixtures, since each isomer can be expected to have biological activity quite different from other isomers. For example a 2-year study showed effects on reproduction of animals by the low-chlorine PCB's and long-term liver damage by the high-chlorine mixtures.[5]

Analabs is now supplying you with a kit of Monsanto's Aroclors® 1232, 1242, 1248, 1254 and 1260. The first two digits represent the number of carbons (12 for biphenyl) the last two digits, the percentage of chlorine which can be converted to the numbers of chlorines (average)

Number of Chlorines	1	2	3	4	5	6	7	8	9	10
% Chlorine	18.7	31.8	41.9	48.5	54.3	58.9	62.8	66.0	68.8	71.1

Most important of all, we can now supply you with a growing number of the individual isomers (99% minimum purity by GC, single spot by TLC). Each isomer is synthesized separately and unambiguously to attain the single, pure isomer.

1. Nippon Hoigaku Zasshi, 23, 415-20 (1960),
2. CA: 72: 131233n (1970).
3. H. Hays, R. W. Risebrough, Natural History, 80, 38-47 (1971)
4. Institute of Analytical Chemistry, University of Stockholm, private communication.
5. V. Zitko, O. Hutzinger and S. Safe, Bulletin of Environmental Contamination & Toxicology, 6, 160-3 (1971).



Numbering system used for naming PCB's.

MONS 084096

99% Pure PCB Isomers

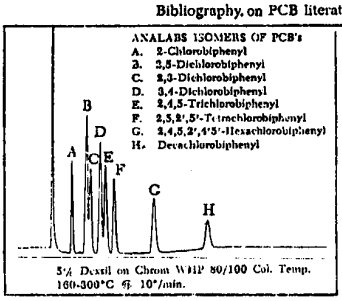
For clarity we have kept the position numbering separate for each ring. For C... Abstracts nomenclature transpose numbers listing lowest number first.

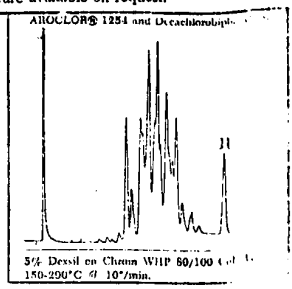
		Price
PC1102	2-Chlorobiphenyl	7.00/1...
PC1103	3-Chlorobiphenyl	7.00/1...
PC1101	4-Chlorobiphenyl	7.00/1...
PC2116	3, 3'-Dichlorobiphenyl	18.00/1...
PC2111	4, 4'-Dichlorobiphenyl	18.00/1...
PC2204	2, 3-Dichlorobiphenyl	14.00/1...
PC2201	2, 4-Dichlorobiphenyl	14.00/1...
PC2205	2, 5-Dichlorobiphenyl	14.00/1...
PC2202	2, 6-Dichlorobiphenyl	14.00/1...
PC2203	3, 4-Dichlorobiphenyl	14.00/1...
PC2206	3, 5-Dichlorobiphenyl	14.00/1...
PC3302	2, 4, 5-Trichlorobiphenyl	22.00/1...
PC3301	2, 4, 6-Trichlorobiphenyl	26.00/1...
PC3219	3, 4, 2'-Trichlorobiphenyl	28.00/1...
PC4221H	2, 3, 2', 3'-Tetrachlorobiphenyl	28.00/1...
PC4221A	2, 4, 2', 4'-Tetrachlorobiphenyl	28.00/1...
PC4221K	2, 5, 2', 5'-Tetrachlorobiphenyl	28.00/1...
PC4221D	3, 4, 3' 4'-Tetrachlorobiphenyl	28.00/1...
PC4221I	2, 3, 2', 5'-Tetrachlorobiphenyl	35.00/50
PC4221F	2, 5, 3', 4'-Tetrachlorobiphenyl	35.00/50
PC4403	2, 3, 5, 6-Tetrachlorobiphenyl	20.00/50
PC5321R	2, 3, 4, 2', 5'-Pentachlorobiphenyl	45.00/50
PC5501	2, 3, 4, 5, 6-Pentachlorobiphenyl	28.00/100
PC6337	2, 4, 5, 2', 4', 5'-Hexachlorobiphenyl	36.00/100
PC6331A	2, 4, 6, 2', 4', 6'-Hexachlorobiphenyl	32.00/50
PC8446	2, 3, 5, 6, 2', 3', 5', 6'-Octachlorobiphenyl	32.00/5...
PC0551	2, 3, 4, 5, 6, 2', 3', 4', 5', 6'-Decachlorobiphenyl	26.00/1...
PC0001	Aroclor Kit (1 gram each of 1232, 1242, 1248, 1254 and 1260)	6.00/Kit

Discount on single order of any 5 PCB's-10%
10 PCB's-15%

Other isomers will be available soon — Please inquire as to your specific requirements.

Bibliography on PCB literature available on request.





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