Bacteria Rout PCB's

Two bacterial strains that break down polychlorinated biphenyls into benzoic acid or its chlorides have been isolated in Japan. Workers at the government's Fermentation Research Institute near Tokyo found the microbes in a sludge sample taken from a Wisconsin lake.

Alcaligenes Y42 and *Acinetobacter* P6, the Institute says, convert PCB's into biphenyl or p-cholorbiphenyl in enzyme-catalysed reactions, then metabolise these intermediates to benzoic acid or its chlorides.

The bacteria can decompose most of the hundred-odd PCB isomers, the institute adds, though further work is needed before their practical use in destroying PCB stocks can begin.

The PCB-destroying bacteria were among samples returned to Japan last year after studies by institute staff members of mercury contamination effects in the US lake.

Japanese production of PCB's was banned in 1972, and Monsanto, the sole US producer, has restricted sales since 1970 to "controllable" uses - such as dielectric fluid for high-voltage capacitors and transformer coolant - in which PCB's are maintained in the electrical industry. Federal law requires PCB production to end in the US in 1978.

Like DDT, PCB's are highly stable but toxic materials that concentrate in the food chain once they are released in the environment. High-temperature incineration at sea has been considered the only practical method of destroying existing stocks.

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