

41-68F TECHNICAL SURVEY
WRLY.

OCT 8 1977

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1800
Two bacterial strains that break down PCB's into benzoic acid or its chlorides have been isolated in Japan. Workers at the govt'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-chlorobiphenyl in enzyme-catalyzed reactions, then metabolize these intermediates to benzoic acid or its chlorides.

The bacteria can decompose most of the 100-odd PCB isomers, but further work is needed before their practical use in destroying PCB stocks can begin. 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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