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Materials to replace PCBs are

being evaluated by electrical manufacturers in the U.S.A., says Monsanto Co. of St Louis, MO. The company gave no information on the new dielectric compounds; it simply described them as "non-PCB replacement products." Monsanto's move to phase down production of polychlorinated biphenyls comes at a time when researchers are finding increasing amounts of PCBs in the environment. Monsanto has been the sole maker of PCBs in North America for many years, and has voluntarily reduced output by 50% since 1970. Nowadays, PCBs are permitted solely for use in closed electrical systems (capacitors, transformers) because of their superior properties. Lately, however, biologists have been accumulating strong evidence that polychlorinated biphenyls are non-biodegradable, that they are building up in the environment, and that they enter the food chain to the detriment of animal life. PCBs, say researchers can inflict several ailments on humans. One new example of PCB contamination was detected recently: coho salmon in Lake Ontario were found to contain approximately 5 parts per million of PCB, enough to cause the Ontario Health Ministry to warn against eating the fish.

PCBs have been around since 1929 when they emerged from the lab as unique non-conducting fluids for the electrical industry, especially as fire-proof transformer coolant. The unusual properties of PCBs have been hard to match with a material that would be biodegradable. But Monsanto suggests that replacements will soon be approved and marketed. Monsanto says it will stop production of PCBs once alternate material(s) become available. However, Monsanto may soon be without a market for

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PCBs because many governments are preparing to ban them completely.

The PCB problem has served to focus attention on chlorinated aromatics in general and on the effects of chlorinating raw water in patricular. Some researchers have found that raw water contains trace amounts of aromatics that become persistent in the environment after the water is treated with chlorine. Like the PCBs, it only takes parts per billion of these compounds to open up a pathway to their being concentrated by animals in the food chain, and hence become a potential hazard to man. This finding has led others to probe further the composition of trace materials in potable water. Still other researchers are seeking to develop water clean-up processes that do not use chlorine, for example, those processes that use ozone or ionizing radiation (gamma rays or ultra-violet light).

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