EAST HAMPTON, N. Y.
STAR
W. 8,128

MAY 26 1977

What Are They?

Polychlorinated biphenyls were discovered in 1881 but were not utilized until 1929 when industrial uses were found for the compound. Before their use was restricted in 1971, PCBs were added to adhesives, plastics, paints, varnishes, sealants, carbonless carbon paper, and other surface coatings.

PCBs are also used in coolant insulation fluids in electrical transformers and capacitors. Monsanto Industrial Chemicals Company is the sole United States manufacturer of the compound, which is very similar to DDT. There are more than 100 different kinds of PCBs being produced by Monsanto. The United States also imports many varieties of PCBs, which are not use-restricted.

According to Federal Environmental Protection Agency estimates, the U.S. imports 500,000 pounds a year and an unknown amount in PCB-containing products. In addition, the EPA calculates that since 1929, the U.S. has produced 1.4 billion pounds, half of which has already entered the environment through the air, water and land.

PCBs persist in the environment for lengthy periods of time. The only known method of disposing of the compound is a special incinerator that burns the PCBs at temperatures of at least 2400 degrees F. They are highly toxic. PCBs were responsible for the deaths of five people in Japan in 1968 when rice oil contaminated with the compound was consumed. Thousands suffered PCB intoxication as the part per million quotient was over 1000.

PCBs have been found in Arctic polar bears. While short-term exposure to PCBs is unlikely to produce severe effects, scientists are currently investigating long-term, low-level effects. The EPA estimates that half the U.S. population has from one to three ppm PCBs in their fat tissues.

Scientists disagree just how PCBs most significantly enter the human body; some point to food, others point to the air. What the scientists do agree on, however, is that PCBs will remain a problem for perhaps as long as 20 to 30 years, because of the compound's relative omnipresence and indestructibility.

The U.S. is phasing out the use of domestic PCBs at the end of 1977 and industry is looking for substitutes for the product. The Japanese have banned all production and imports of the product and are using a Dow Corning silicone product for transformers.

Because of their proliferation in the environment, it is believed that PCBs have serious effects on bird and mammal births, as was the case with DDT, once it infiltrated the food chain.

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