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OECD recommends restricted use of polychlorinated biphenyls

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THE member countries of the Organization for Economic Co-operation and Development (OECD) recently announced in a joint statement in Paris that they had reached agreement to control the manufacture and use of polychlorinated biphenyls (PCB's). These have been shown to have detrimental environmental effects in certain applications where losses to the environment have occurred.

A recommendation has been given by the OECD that the use of PCB's should be restricted from now on to those applications only where their non-flammability is an essential factor, and it also stresses that ultimately the dispersal of PCB's should be entirely eliminated.

The poisonous character of polychlorinated biphenyls first became apparent in 1966, according to the OECD, with the discovery of traces of the material in poisoned fish and wild birds. Chickens were poisoned through absorption of PCB's from their plastic wrappings.

Milk was also discovered to be contaminated due to feedstuffs being tainted with herbicides or contaminated in storage silos. However, the most serious accident involved human poisoning following the leakage of heat transfer fluid in a rice oil pasteurization plant in Japan in 1968.

As reported in *ECN* March 10, 1972, page 11, Bayer decided to discontinue the production and sale of its *Clophen* brand of PCB's for use in unsealed systems, such as plasticizers, after substitute products developed by the company had been customer evaluated.

Bayer's substitute products, known as *Leromoll* experimental products L 2279 and L 2280 are mixtures of entirely synthetic aliphatic and aromatic hydrocarbons of medium molecular weight, with similar persistency, compatibility and solubility to the *Clophen* products. Their intended use is in the production of chemical-resistant paints, sealing and joint-filling compounds and adhesives and printing inks, as a replacement for PCB-based compositions.

The lead in discontinuing sales of non-controllable applications of PCB's was taken by Monsanto in the UK, with effect from March 1, 1971. The sales lines which were discontinued, believed to account for over half of Monsanto's total PCB sales, were for applications in paints, lacquers, and resins and oil additives.

Sales of PCB-based products for use in fire-resistant hydraulic fluids were re-formulated by Monsanto in favour of phosphate ester materials, whilst its PCB-containing *Santotherm* FR range of heat-transfer fluids was replaced with the 55 and 66 series, which are PCB free.

The main applications of PCB's in sealed systems are in transformers as the dielectric cooler and in the condensers of fluorescent lighting tubes.

Other European PCB producers are Prodolec in France and Flix in Spain, besides some East Bloc production in the USSR, Poland and Czechoslovakia. The rest of the world's capacity is made up from the USA and Japan.

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