

Dow develops substitute for PCBs in capacitors

by Adrian Wright

Dow Chemical in the US has announced the development of a substitute for polychlorinated biphenyls (PCBs) for use as an insulating fluid in high-voltage capacitors — monochlorobutylated — diphenyloxide. PCBs have been under attack over the past five years or so as a persistent chemical in the environmental food chain, and its use has been voluntarily controlled by Monsanto, the only producer in the US, to controllable applications such as capacitors.

Dow says that the new fluid could replace 6.8 million lb of the 40 million lb/year of PCBs produced by Monsanto in the US. The company is building a plant at Midland, Michigan that will come on stream next year, with an initial capacity of one million lb/year.

The spokesman said that there were no plans at present to market the new material in Europe. In the US, the marketing will be carried out by McGraw-Edison, a major producer of capacitors, and it will be the middle of 1976 before McGraw-Edison will be using Dow's product in their own capacitors, and the end of the year before it is being sold to other capacitor producers.

The price of the new material will be somewhat more than PCBs, but Dow says that there are other savings to be made. It is used in capacitors is the major market area so far evaluated.

PCBs have been under attack for a number of years because of its persistence in the environment. Much of the early controversy was centred in the UK, and in response to the discoveries of the materials persistence, Monsanto, a major European producer, as well as sole US producer, limited its sales of PCBs to controlled applications in the European market as well.

Other European PCB producers include Bayer; Proleco in France, a joint venture of Rhône-Poulenc and Ugine Kuhlmann Coquima, a Rhône-Poulenc company in Spain, and Calferro in Italy.

There have been voluntary restrictions in the US, also, on

the use of PCBs products.

Recently, however, there has been further concern in the US because some PCB material has been finding its way into uncontrolled applications such as handsoaps and copying inks, and from there into the general environment, in spite of the restrictions imposed by Monsanto. This material is understood to be imported from Europe to customers in the US.

In response to this, the US Environmental Protection Agency is apparently considering a variety of moves to control PCB, but a complete ban of the material would necessarily be

dependent on the effectiveness of any substitute.

Any move by Dow Chemical to introduce the material into Europe as a PCB substitute would also presumably need clearance from bodies such as the OECD on the material's safety.

The joint statement from Dow and McGraw-Edison claimed that the product was 'environmentally safe'. Its toxicity, biodegradability and other relevant characteristics had been evaluated, leading to the conclusion that the product would have a 'far lower potential impact on health and the environment' than PCBs.

BP rail contract

Railfreight has won a contract with BP Chemicals International for the movement of acetic acid, ethanol and isopropanol between their plants near Hull and at Baglan Bay near Swansea.

A ten year contract has been signed which provides for up to two train movements a week — up to 100 000 tonnes/year — between the plants and is a classic rail 'conveyor-belt' operation.

On the journey from Hull, the train, made up of privately-owned 45 ton tank wagons, will convey acetic acid, for vinyl acetate production for paints and adhesives. On the return journey it will carry ethanol and isopropanol used in the production of lacquers and inks, food essences, pharmaceuticals and cosmetics.

David Binnie, executive director, freight, British Rail,

stated that this is exactly the type of traffic-flow he hoped would be attracted to rail. Inter-works movements of raw materials and finished products in bulk are a natural market for Railfreight and this movement, across the densely populated Midlands, by not adding to road congestion, or being affected by it, highlights the important contribution Railfreight is making to industry — and to the community.

For BP Chemicals, Bob Fenning, BP Chemicals director of sales and commercial services, saw the advantage as a speedy and environmentally sound method of moving large quantities of raw materials between two of the country's largest chemical factories. It was, he said, BP Chemicals' declared aim to move such traffic onto the railways wherever possible.

Caprolactam imports

India is likely to import another 2000 tonne of caprolactam during the remaining months of 1975-76 to meet the requirements of nylon spinning industry. Earlier during the year about 4000 tonne were imported.

In addition, there would be some imports of the material under export incentive schemes.

That apart, Indian pro-

duction of caprolactam has recently improved and is now stabilising around 1300 to 1400 tonne / month. Some time back the GSEFC caprolactam plant had closed down for about two months on account of technical trouble. Even so, it is hoped that about 14 000 tonne of indigenous caprolactam will be available this year against only about 5200 tonne last year.

In Brief...

Chemapol, Czechoslovak chemicals foreign trade organisation, estimates that during the five year plan period 1976-80, imports from western countries will rise by about 50% from present level. The largest part of the increase is likely to occur towards the end of the period. Exports to the west are in grow by about 5% p.a. Imports from socialist countries are to go up by 33%, exports to these markets should rise by 50%.

According to the Ministry of Agriculture and Food, Hungarian industry will be able to meet 65% of the country's requirements for insecticides in 1976. Imports with an equivalent value of \$58 million will be needed.

Takeda Chemical Industries has filed an application with the Japanese Health and Welfare Ministry for approval to produce and market a new cure for haemorrhoids using technology from Chiba-Geigy. The Japanese company hopes to start marketing the drug in 1977.

The Post (UK) has announced general price increases for its range of fluorocarbon resins in the UK effective from 2 January, 1976, increases range from 10-15%.

Reuben and Haas, has appointed Fisons as exclusive selling agent for its Whitmoyer range of animal health and hygiene products in the UK and Republic of Ireland from 1 January, 1976.

Polaed has offered India increased supplies of urea and sulphur and 1976 under the terms of a trade protocol signed recently in New Delhi.

Another of India's East European trade partners, Czechoslovakia, has agreed to supply 40 000 tonne of urea in 1976 against this year's delivery of 10 000 tonne.

Norway has given India a grant of Rs 40 million to cover the import of fertilisers from the Scandinavian country in the coming year.