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Dow To Market Replacement For Some PCB's

A new and reportedly environmentally acceptable insulating fluid that may replace PCB's (polychlorinated biphenyls) in high-voltage capacitors has been developed by Dow Chemical Company, and tested by McGraw-Edison Company, a maker of capacitors who has established the fluid's effectiveness over the past three years.

Chemically, the new Dow fluid is known as monochloro-butylated-diphenyl oxide. The new alternative, introduced at a New York press conference last week and described by the two companies as a "timely and significant breakthrough," is purported to perform "as well or better" than PCB's.

PCB's were marketed about forty years ago and are widely used due to their insulating properties, inflammability and high stability. Since the late 1960's, reports of harm to man, fish and the environment have resulted in a three-year-old voluntary and ineffective restriction of PCB distribution to all industries other than those applying the chemicals in closed systems, as in power capacitors.

An official of Food & Drug Administration last week conceded that the agency is considering lowering the permissible levels of PCB in fish. The current standard allows five parts per million, almost twice the allowable limit now permissible in Canada. Japan has banned the toxic chemical and New York State has just reported that it will be holding public hearings on the increasingly popular issue this month.

The new fluid is reportedly capable of equal or superior electrical performance than PCB's, and to possess good insulating qualities. Although the initial costs will be higher than for PCB's, the overall costs to capacitor manufacturers and to electrical consumers are expected to be lower. The

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Dow to Market

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toxicity and ecological impact of PCB's cause higher manufacturing use and disposal costs, according to the joint announcement.

In response to the obvious need for a replacement, Dow commenced development of the fluid five years ago and soon was joined by McGraw-Edison in refinement of the product for the electrical power distribution industry. Capacitors are used to improve characteristics of electrical service under certain conditions.

Dow intends to make the new insulation fluid available commercially early next year, while McGraw-Edison plans to begin using it in its own capacitors by July 1976. Dow's initial capacity will be 1 million pounds annually.

The two companies cite the fluid's following health and environmental advantages over PCB's: at least 20 percent less toxic to fish; 20 percent less bioconcentratable in fish; less acutely toxic to mammals; more easily disposable; more biodegradable.

Dow Corning Corporation has reportedly developed a substitute for PCB's in transformers, and RTE Corporation has announced similar plans. Monsanto Company, the major producer of PCB's, also has an alternative out for evaluation. The product, which is still in the developmental state, will, according to Monsanto, serve the entire spectrum of capacitors, and not just high-voltage ones. The alternative is based on a synthetic hydrocarbon, and should be available in some quantity next year. The problem with all these new alternates, according to Monsanto, is that none is fire-resistant.

Dow estimates that the share of the estimated 40 million pounds of PCB's produced annually that are used in the capacitors is about 20 percent, while Monsanto feels this figure is somewhat inflated. Monsanto is attempting to find an alternative for PCB's in transformers as well, which it considers a much more complex task. Fire resistance is of utmost importance here, as transformers are found in such places as high-rise buildings, commuter trains, and hospitals.

Dow and McGraw-Edison believe there is a very real possibility that PCB's eventually may be banned completely. Some scientists have expressed concern that the chemical may have a much more longer life span than previously thought possible. PCB is able to withstand biodegradation of its components, thus creating lingering effects.

Field tests on lines of electric utilities around the country are now being prepared by McGraw-Edison. Capacitors without PCB's can be produced that are the same size or smaller than present-day units. Proper use of capacitors can reportedly result in fuel savings and deferrals of new generating equipment.

PCB's have caused liver cancer and reproductive failures in laboratory animals. Humans who have come into contact with the chemical have spoken of dizziness, nausea and skin rashes. Some 12,000 workers in the US are exposed to PCB's at work.

COKE & COAL CHEMICALS—Production and sales of aromatics via coke-ovens were both mixed in September, although most products showed gains in both areas, according to the most recent Bureau of Mines report.

Production of benzene rose 29.6 percent from August, reversing a sharp downward trend. Production in September was 5.56 million gallons. This is still down substantially from the 6.3 million gallons produced in September of last year.

Toluene production took a slight turn upward, some 3 percent to 746,000 gallons. Production a year ago was 911,000 gallons.

Xylene production plunged 21.4 percent in September, to 125,000 gallons. Production in September of last year was 911,000 gallons.

Crude light oil output rose slightly, to 14.6 million gallons, up .9 percent from August. As with the other aromatics, production is way off from the levels reached a year ago.

Crude coal tar output decreased 6.4 percent from last month's figure. The total of 47.6 million gallons is down about 7,000 gallons from levels reached a year ago.

Sales of benzene were up 18.4 percent, under the production rise, which led to an increase in stocks of 8.6 percent. Stocks at the end of September are 2.6 million gallons, while sales amounted to 5.4 million gallons.

Sales of toluene declined substantially in September, down 45.1 percent from August. This combined with the increased production led to higher stocks, of 840,000 gallons, which is more than September's output. The increase in stocks is 20.9 percent over a month ago.

Xylene sales jumped 62.8 percent, at 166,000 gallons. As a result of this surge, stocks were actually lower, by 21.1 percent. The only other aromatic that experienced lower stocks last month was crude light oil, down 12.5 percent from August, at 6.6 million gallons. This decrease came about despite lower sales of 12.5 percent from last month.

Sales of crude coaltar are down 8.5 percent from last month, at 21.1 million gallons. With a slightly lower decrease in production in September, crude coaltar stocks are down 2.2 percent from August, at 46.4 million gallons.

Some of the production decreases may be attributed in part to the smaller number of working days in the month. Generally, increases in production combined with lesser sales increases produced slightly higher stocks for aromatics in September.

Total production and sales of light oil, BTX and crude coaltar for the first nine months of 1975 and compared with the corresponding period in 1974 as reported by the Bureau of Mines is as follows:

	January-September 1975		January-September 1974	
	Prod.	Sales	Prod.	Sales
Benzene	50,114	50,021	62,774	64,699
Coal tar	492,295	519,669	524,934	754,469
Light oil	147,989	75,869	168,819	78,917
Toluene	7,447	7,788	10,538	10,756
Xylene	1,356	1,445	2,469	2,469

Source: Bureau of Mines. Figures are in thousands of gallons. Data for toluene are for specification grades, other data are for all grades.

BENZENE—Mobil Oil Company has notified its customers that it plans to increase benzene prices to the 80c.-per-gallon level, effective January 1. The price rise, according to the company, is necessitated by the continued increasing costs of raw materials.

The price action follows a similar increase announced on November 19 by Commonwealth Oil Refining Company.

BENZOYL CHLORIDE—Velsicol Chemical has announced price increases for this product, effective December 15. The increase of 2c. per pound for all categories raises bulk prices to 46c. per pound f.o.b. works, and to 58c. in drums.

BENZOTRICHLORIDE—Velsicol also announces an increase for this product, effective December 15. The company plans to have a new plant on stream in January. Bulk price is 45c. per pound, and refined drums 48c. Velsicol has not sold refined benzotrichloride for the past two years.

DICYCLOPENTADIENE—Velsicol announces a new price of 12½c. per pound, effective December 15, f.o.b. works.

STYRENE—Arco Polymers, Inc., a subsidiary of Atlantic Richfield Company, announced this past week that it was following increases by Monsanto and Cosden Oil on styrene monomer effective January 1.

Officials of the company noted that the

AROMATIC PRICE CHANGES

Week Ending December 5, 1975

ADVANCED

None

REDUCED

None

COMPARATIVE PRICE INDEXES

(1967=100 average)

Last Week	Prev. Week	Last Month	Dec. 8, 1974
200.18	200.18	200.18	200.32

Per Current Prices See Page 40.

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move was necessitated by higher feedstocks and production costs. The new f.o.b. price out of Houston will be 21c. per pound, up 2c., which is identical to the previous two announcements. Drum prices out of Kobuta, Pa. will be raised 2c. to 29c. per pound.

Several producers have indicated a hesitancy about making official announcements, but have said that they expect to be notifying their customers of increases when the time comes to do so.

DYES

DuPont Company has announced higher prices for organic dyes, effective January 5. The increases are necessary to cover in part higher cost of energy, raw materials, distribution and ecology-related expenses, according to a letter sent to customers.

Price increases include: "Latyl" Yellow 3G: to $4.20 per pound; "Latyl" Yellow 4RL to $2.90; "Ponsol" Brown RBT Paste, to $4.75; "Sevron" Blue NCN Solution, to $3.20. Most prices have been raised by 10c-20c. per pound.

Three new products have been added to the line: "Sevron Golden Yellow RL, "Merpacyl" Red LN Liquid; "Sevron" Red LMF. Three products have been withdrawn from the line: "Ponsol" Brown ARN Double Paste, Navy Blue D Paste, and "Sevron" Pure Blue 4G.

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