mailed to Dave Langworthy 1/27/83

Monsanto

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Mr. Hugh Powers
Associate Editor
THE HOUSTON CHRONICLE
801 Texas Street
Houston, TX 77002

Dear Mr. Powers:

The country continues to be concerned with possible health hazards associated with man-made chemicals -- witness the current Missouri dioxin episode. News accounts of troublesome chemicals often involve PCBs, fire-retardant liquids still found in much heavy-duty electrical equipment. Many people consider PCBs to be deadly chemicals run amok.

However, recent studies, which have received little press attention, indicate that PCBs are not a grave threat to human health. Enclosed for your consideration as editorial material is an article by Monsanto Company's top environmental official which summarizes these studies and attempts to put the risks of PCBs in proper perspective. I'm submitting it exclusively to the Chronicle.

Sincerely,

Laurence J. O'Neill
Environmental Communications Manager

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Enclosure

MONS 003961

PCBs: MISUNDERSTOOD, MALIGNED

by
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A bad reputation is tough to live down -- for people, for chemicals. Once a compound has been labeled a "deadly toxicant" or a "cancer-causing substance," no amount of scientific evidence to the contrary seems capable of redeeming it. At least this has been the case with polychlorinated biphenyls or PCBs, oily liquids used mainly to cool, insulate and prevent fires in heavy-duty electrical equipment.

At the time they were developed more than 50 years ago, PCBs were regarded by the electrical industry and safety officials as a chemical godsend because of their flame-resistant properties. Fire and building codes often required the use of PCB fluids in electrical gear for safety reasons.

But the color of the hat worn by PCBs began changing from white to black in the late 1960's as scientists began finding parts-per-million quantities of them in fish, wildlife and in the environment in many parts of the world. Fears about the health effects of PCBs were further aroused in 1968 when they were thought to be the cause of serious illness among more than 1,000 Japanese in Yusho who ate PCB-contaminated food oil.

Because of these events and a growing public concern about chemical safety, the Toxic Substances Control Act of 1976 called for a ban on future manufacture, distribution and use of PCBs. In 1979, the Environmental Protection Agency issued rules to put these prohibitions into effect.

In the meantime, PCBs -- still very much with us in existing electrical equipment, in storage and disposal sites, and "free" in the environment -- became synonymous with the problem of unanticipated chemical hazards. Today, many people and the media continue to regard PCBs as chemical public enemy no. 1, a sort of synthetic John Dillinger skulking about the environment, looking for an opportunity to mug someone's health.

Recent scientific studies, however, suggest that much of PCBs' renown as a potent health threat is undeserved, that PCBs, while not harmless, are not the "mad dog" chemicals (to quote one headline) that many people consider them to be.

Studies during the past two years include:

-- a March 1982 review of PCB health-effects studies done for the Edison Electric Institute by an Arlington, Virginia toxicology consulting firm (Drill, Friess, et al.). It concluded that: "At human exposure levels as high as those previously encountered in occupational settings, PCBs can cause chloracne and increases in the levels of one or more liver enzymes. Neither effect represents a serious or life-threatening health problem. From present evidence, no firm associations can be made between PCB exposure and any other human health effects, even after long-term occupational exposures."

-- a November 1981 review of PCB risks done for the Chemical Manufacturers Association by a Buffalo, New York environmental consulting firm (Ecology and Environment, Inc.) It found that: "There is no evidence of an excess in total mortality or in mortality due to cancer, cardiovascular disease, or nervous system

disease associated with occupational exposure to PCBs. PCBs have not been linked to any human cancer, and studies to date indicate it is highly unlikely future studies will establish such a link."

-- a May 1982 review of PCB epidemiologic (human exposure) research by Monsanto Company's epidemiology chief, Dr. William Gaffey. It stated that: "The preponderance of evidence . . . showed that occupational exposure was associated with dermatitis and mild liver function abnormalities in the absence of clinical disease . . . Studies of non-occupationally exposed populations have found neither dermatitis nor other clinical evidence of exposure-related effects."

Among the studies examined by Gaffey was 1981 research by the National Institute of Occupational Safety and Health (Brown and Jones) on 2,567 workers exposed to PCBs while manufacturing electrical equipment. This study said: "All-cause mortality was lower than expected as well as all cancer mortality." The study did report excess rectal and liver cancers but noted that these were "not statistically significant."

As to the poisoning incident at Yusho, Japan, one of the original medical investigators (Masanori Kuratsune) reported in follow-up work in 1980 that the "various signs and symptoms complained of by Yusho patients can hardly be explained by the current levels of PCBs in their bodies alone." Similarly, a more rscent investigation of "Yusho disease" among 15 Taiwanese (Kashimoto et al., 1981) found that their maladies were "disproportionately severe and persistent for the observed blood levels of polychlorinated biphenyls." In other words, both

studies indicate that the severity and length of Yusho illness cannot be explained by body burdens of PCBs. The culprit, according to these studies, may be other chlorinated contaminants present in the food oils that were eaten.

Skeptical environmentalists have dismissed some of this work, specifically that done by independent consulting firms under contract to industry, as just so much corporate propaganda. But this narrow-minded viewpoint overlooks the fact that most of the research reviewed by these scientific consultants was done not by industry but by domestic and foreign government departments, universities and medical schools. All of this work is available in the original, so the dubious can judge for themselves the accuracy of the appraisals done for industry.

The point of this discussion is not that PCBs are benign or that we ought to return to the "good old days" when industry's gaze fixed almost exclusively on profits and the environment was considered someone else's problem.

Monsanto, formerly the major U.S. producer of PCBs, has no intention of re-entering the PCB business. Substitute coolants exist, such as silicone and mineral oils, which are not PCBs' equivalent in fire-protection, but seem to be more compatible with environmental protection.

Like others, we are concerned with limiting exposure to PCBs and with destroying and disposing of them in an orderly, reasonable fashion. But concern is not the same as hysteria, and to date much of the public's and the news media's involvement with PCBs has been of the irrational variety.

PCBs are not "mad dog" chemicals. In fact, the weight of scientific evidence suggests that PCBs, if a dog, are better described by the "bark worse than bite" metaphor.

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