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PCB Task Force Report

W. R. Corey

I saw Ed Burger today and was surprised to be handed a draft of the report for my perusal. He expects it to issue in about a week and promises to alert us prior to its release. Announcement will be made jointly by the regulatory agencies concerned--EPA, FDA and USDA. A news conference is possible but not yet determined. (We have known that Sarofim and others are preparing a report. Burger says this report is separate from the Task Force report. It will be issued in a few months by NIEHS and will deal with production and environmental impact, ^{Not} and with utility of PCBs.)

Here's what I noted and remember from the draft Task Force report:

Introduction

- Task Force will continue to assess new information as it becomes available. (Presumably the Task Force will survive.)
- Strong defense of electrical uses. Fire resistance important. PCBs in electrical applications are controllable.
- PCBs are widely spread in the environment.
- Monsanto reported to have reduced volume of production and distribution, limiting to electrical applications.
- NCR paper use stopped.

Conclusions and Recommendations

1. Use should be restricted to essential or nonreplaceable situations where human exposure is minimized. No data to indicate PCB now in the environment is a threat to human health but more experiments needed on low-level long-term effects.
2. PCB is ubiquitous in the environment. Total stoppage of use would not eliminate PCB from environment for years. Self-restrictions and care in use would lead to gradual elimination from the environment.

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3. There is some PCB in fish as a result of environmental contamination. Prohibition of discharges will reduce fish contamination. Packaging materials have led to food contamination but this problem will be handled satisfactorily under FDA proposals and doesn't constitute an imminent hazard anyway. Accidents have led to contamination but regulations will minimize these in future.
4. There are gaps in federal authority. No way to control manufacture at source, restrict use or distribution, control imports or collect information. Toxic Substances Control Act is needed.
5.  Housekeeping is important. EPA will propose that ^{new} discharges into water be allowed. Exact wording is "prohibition on all knowing discharges in liquid effluents". Water quality standard should be less than 0.07 ppb or with safety factor 0.01. Enforcement action will be taken against dischargers of PCB.
6. PCB should not be banned entirely. Electrical applications are worthwhile. Monsanto has been reported to be limiting sales to transformer and capacitor manufacturers.
7. Capacitors are ~~disposed~~ of in landfills. PCBs stay in place in the ground. Discharge into waters will be stopped. If material is incinerated it should be done only in high temperature systems.
8. PCB imports cannot be controlled without Toxic Substances Control Act. Task Force hopes for international agreements. Imports for non-electrical uses should be avoided.
9. More research is needed.

History

Production figures are cited. Section is lengthy but innocuous.

Properties

Straightforward discussion.

Benefits, Utility and Essentiality

Fire resistance is praised. No real alternatives exist. Detailed discussion regarding electrical applications. Much time and money required to re-engineer, manufacture, etc. items without PCB. "Lack of PCB would cause a major and lengthy disruption in nation's electrical system". Discussed with comment that "other satisfactory heat transfer fluids are commercially available and in use" without comment that they burn. 

Plasticizer substitutes are available.

PCB in the Environment

PCB enters atmosphere as a result of burning at less than 2000°, via vaporization from paints, etc. (Estimate 20% of PCB in paints, etc. may vaporize.) Enters water via sewers, spills, pesticide use (now prohibited), sludge dumping. Enters foods by migration from packaging. Most PCB in environment results from industrial and municipal discharges. Generally environmental information on PCBs is sparse. Sarofim estimates loss to environment last 40 years equals 30,000 tons to atmosphere, 60,000 tons to water, 300,000 tons to dumps.

PCB is wide-spread in fish, range 1 - 10 ppm. Low background in other animal foods. Reference to accidents in food plants, to silos. Most accident-contaminated foods kept off market. Food packaging PCB is decreasing and controllable, therefore, can be minimized. Two times a normal diet last year equalled less than 0.0001 mg/kg/day. This year equals that amount. For reference, DDT intake equals 0.0007. Noted that PCB can be reduced or eliminated. Air contains a few micrograms per cubic meter. Water less than 1 ppb. Sediments near outfalls, several hundred ppm. Are hundreds of ppm in some higher fish and birds. (One-eighth of an inch equals 1 trillionth of distance to moon. One ppm equals five steps on walk to Washington to San Francisco.) One-third of people have 1 ppm or more PCB in them. Water standard, to protect fish, should be less than 0.07 ppb or with safety factor less than 0.01.

Biological Effect on Man

Mentions Yusho and eating of contaminated fish. Some PCB in human fat. At levels found, PCB doesn't appear to present an imminent hazard. Monsanto's limited data indicates no cancer threat. Birth defect and mutagenic picture ill defined. Recommends toxicity studies on pure isomers of PCB and on purified impurities. Recommends "definitive mammalian elaboration of kinetics, absorption, distribution, metabolism and excretion". Recommends subcellular and intracellular action be studied. Recommends epidemiological studies.

Biological Effects on Animals

PCB lethal to fish at about 1 ppb. Must be viewed as potential problem at present environmental levels.

Appendices are as follows:

- "Chemical and Physical Properties" by Krayhill.
- "Use and Replaceability" by Broadhurst of NBS.
- "Electrical Applications" by NIFCC.
- "Environment" by Buckley.
- "Food" by Spauling and Wessel of FDA. (Speaks of effect of East Coast terminal, saying 1,200 tons of contaminated feed were distributed, 2,000 recalled.)
- "Biological Effects on Humans" by Fishbein of NIEHS.
- "Biological Effects on Animals" by Stickel of Patuxent.
- "Regulatory Action" by Davies of CEQ. (Says voluntary actions by Monsanto are not backed by force of law. If government disagreed with Monsanto on approved uses, government could not impose stricter limits.)

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