POLYCHLORINATED BIPHENYL EXTERNAL REVIEW QUESTIONS

There will be a series of numbers and a series of paragraph answers under these responses.

1. The document does ~~an exceptionally poor job of~~ not documenting industrial exposure related effects of PCB. It also does not ~~an equally poor job of~~ defining clinical tests which could be used to monitor for potential adverse effects of PCB exposure among the industrial population. The document dwells at great length upon the effects observed in a population of Japanese citizens who were accidentally exposed to an acute dose of PCB in a cooking oil. No relation is established between this accidental acute exposure (through ingestion) to a relatively high concentration of PCB to industrial type dermal and inhalation exposures. No relationship is established defining relative body burdens resulting from acute oral exposure versus other routes of exposure that are more likely to occur in an industrial environment. The PCB in the contaminated rice oil contained an unusually high concentration of chlorinated dibenzofurans. Certain chlorinated dibenzofurans are known to be unusually toxic and may have been responsible for a number of the effects originally reported to be caused by ~~do to~~ PCBs. ~~In~~ Another study given seemingly unwarranted consideration, involved ~~in~~ an unpublished report of an epidemiological study conducted among a group of research workers with some unknown previous exposure to PCB. It is suggested that efforts be extended to accurately assess the clinical health of U.S. workers exposed to PCB.

Must include statement attacking allegation of PCB as carcinogen

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2. In studies with rodents and subhuman primates the most sensitive target organ was usually found to be the liver. In these studies the dietary level which did not produce an effect on the liver was between 1 and 10 ppm. Based upon these studies the most probable toxic effect of excessive PCB exposure would be chronic hepatic injury.

3. From the manner in which the document is put together it is impossible to tell if the recommended standard is based upon a logical scientific extrapolation of the information cited. Specifically, no attempt is made to relate ~~to~~ the body burdens which would result from an industrial inhalation or dermal exposure to those obtained from animal experimentation or the usual data following oral administration.

4. a) To be supportable a standard must be based on the application of a safety factor to experimental animal data or upon the utilization of previous work history exposure concentration and clinical worker monitoring data. Which of these--if either--was used in establishin this standard is not clear.

b) NEED Ans. — Pagageorge will supply.

5. No comment. Ans.

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6. To exclude biological monitoring in a standard for a material known to accumulate in fatty tissues would not appear advisable.

7. No comment.

8. No comment.

9. No comment.

10. No comment.

11. In experimental studies with animals using high levels of PCB most studies have confirmed that the target of chronic toxic effects is the liver. However, the direction of the medical examinations toward neurologic liver, liver function and skin condition appears to inappropriately narrow the medical exam. It is recommended that a comprehensive medical examination be given annually. Special clinical tests to assess liver function may then be suggested.

12. No comment. Is adequate scientific support for warnings??

13. No comment. Is adequate support for warnings?

14. No comment.

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15. No comment.

16. No comment. Current procedures adequate? See Bruce's ans.

17. No comment. What about part time for epidemiological studies??

18. Additional research is needed in the following areas:

a. Comparative data on the PCB body burden resulting from oral, dermal and inhalation exposures.

b. Comparative metabolism studies of an homologous series in humans, non-human primates and rodents. These studies should include both a characterization of the metabolites formed and kinetic studies to determine the rates of mobilization and excretion.

c. Clinical evaluation including liver function tests on industrial populations with previously documented PCB exposure.

d. Epidemiological studies on major population of PCB exposed workers.

19. No comment.

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