

In our manufacturing area, we have taken a number of significant steps to prevent loss of PCBs to the environment. In essence, we have made the department a "concrete bathtub." Drainage is directed to trenches and piping, and then to one of two 3,000-gallon settling basins. This insures PCB containment in case of accidental spill or equipment failure.

We have also installed an incinerator to safely dispose of PCBs. This is accomplished through incineration at or above 2000° +F. Use of the incinerator and other technical assistance is available to our customers on a continuing basis.

When small quantities of PCBs are collected into the settling basins in the manufacturing area they are later pumped into drums, and eventually incinerated. In the incinerator area itself, drainage is directed to trenches and piping which flow into a 10,000-gallon basin. Recovered PCBs are periodically pumped to storage, or incinerated.

In the manufacturing area, we have also rerouted relief valve lines and atmospheric vents through catch tanks, or redirected them to settling basins.

We also provide nitrogen blanketing on storage tanks to eliminate any "breathing" of the tanks and resultant PCB escape.

We have installed mist eliminators in vapor lines - once again to eliminate the possibility of PCBs leaving the manufacturing area through these lines.

Finally, we have replaced underground sewers with above-ground sewers, and repaired or combined others, so that we can monitor

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the effluent from the department. In addition, this will prevent any unknown buildup of PCBs in our sewer systems or any contamination of PCBs into other sewers.

Much of the success of our efforts also depends on maintaining a high housekeeping level in the department itself. Among the housekeeping responsibilities our operators have assumed are these:

- All pumps are checked for leakage on every shift.

Drip pans that collect leaks are emptied into scrap PCB drums.

- All leaks are reported and documented so that corrections can be made and settling basins observed.

- "Floor Dry" is used to absorb any PCBs that have spilled or leaked. If it becomes necessary to flush PCBs to the settling basin, a minimum amount of water is used.

- Sampling drums and scrap-PCB drums are quickly palletized, labeled and transferred to the incineration area.

Through these kinds of programs, we feel we have literally built a "concrete bathtub" to catch and safely dispose of PCBs at our manufacturing location.

Q4. Could you describe disposal policies regarding spent PCBs?

A4. Guidelines for handling and disposal of capacitor and transformer grade PCBs were prepared in 1972 and have been approved by the American National Standards Institute. These guidelines are intended to restrict the release of PCBs into the environment. They provide standards for incineration as well as for disposal by other than burning. Incineration facilities must meet the applicable requirements of the state in which they are located. In addition, certain landfill sites have been classified by state governments and the federal government as suitable for the disposal of toxic and hazardous liquids. Where these "environmental" landfills exist, they may be used for the disposal of liquid PCB wastes.

Q5. How are requests for incineration handled by Monsanto?

A5. Arrangements for all return shipments of PCB containing material to Monsanto are handled individually. Instructions are forwarded for each consignment to customers to ensure that they are aware of any changes in procedure. Monsanto supplies pre-addressed drum return labels marked "Disposal Only." All drums used must meet DOT 17E specifications as to construction. Monsanto supplies an identification number for each shipment to be placed on the bill of lading and on each drum.

Monsanto does not accept solids such as sawdust, rags or sludge. These items can not be handled in the incinerator. A letter is provided by Monsanto to be attached to the driver's copy of the bill of lading. The subject of the letter is to be brought to the driver's attention. Included are instructions to the driver to prevent introduction of the liquid into the environment. Included in the letter are phone numbers of Monsanto Company officials and the shipper.

- Q6. Could Monsanto reach the "zero" discharge level being proposed by EPA?
- A6. No. "Zero" discharge at a facility producing some 40 million pounds per year would be technically impossible. Measurable losses from the Sauget Village treatment plant to the environment are approximately one to two pounds per day, which equates to approximately one to two parts per trillion PCBs in the Mississippi River at average flow rates. (One part per trillion is the equivalent of one penny out of 10 billion dollars). While there presently are no formal PCB discharge limits, proposals under consideration call for ambient water concentrations at levels not to exceed one part per trillion. The level of PCBs in the atmosphere is less than Threshold Limit Values (TLV) using sampling and analytical techniques currently available. TLV refers to airborne concentrations of substances and represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after

day without adverse effects. We presently are manufacturing about 80,000 pounds per day of PCBs.

In our manufacturing area we have acted to prevent loss of PCBs in the environment by literally making the department a "concrete bathtub." Drainage is collected in an isolated PCB sewer system with settling basins to insure PCB containment in case of accidental spill or equipment failure with the capability of monitoring the effluent from the department. Storage tanks are blanketed with nitrogen to eliminate tanks "breathing," and mist eliminators have been installed in vapor lines to eliminate the possibility of PCBs leaving the manufacturing area. The key to our success in controlling PCBs is our ability to maintain a high housekeeping level.

A Monsanto chemical waste treatment facility, to be completed in late 1976 will be further steps in reducing PCB effluents.

Q7. In addition to Monsanto's own incineration service, are there other locations where PCBs can be disposed or properly?

A7. Disposal service companies, meeting American National Standard Guidelines relating to the disposal of PCB containing materials, are located in at least nine states and include both incineration services and environmental landfills. States where these facilities

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are located include the following: California, Delaware, Illinois, Kentucky, Louisiana, New York, New Jersey, Texas and Washington.

- Q8. Mr. Train indicated that Japan had banned PCBs and that EPA will conduct a thorough review of the Japanese experience. If a highly industrial nation like Japan, with widely acknowledged electronic technology can get along without PCBs, why can't the U.S. electrical power industry?
- A8. Monsanto and the U.S. electrical industry are often asked this question. In the first place, it should be pointed out that the major uses for PCBs in Japan were not electrical but rather "open applications," particularly for carbonless paper. The Japanese power distribution industry, less advanced than the U.S. technically, had never actually gotten around to taking advantage of fire resistant transformers to the extent they have been used in this country. Most of their transformers were either using mineral oil or were dry-type units. The Japanese capacitor industry on the other hand was only in the beginning stage of converting its equipment to the more reliable PCB dielectrics when the ban was announced. Reliability standards for capacitors in the U.S. are much more stringent than they are in Japan or anywhere else in the world. So the Japanese ban really did not materially impact that country's electrical power distribution industry.

- Q9. Mr. Train has repeatedly said he will never be able to control PCBs effectively without Toxic Substance Control Legislation. What is Monsanto's reaction to this?
- A9. We really don't understand his reasoning here. Mr. Train has said that Monsanto's plant is not the source of PCB pollution and that he would not ask Monsanto to stop production of PCBs because that would "shut down the country." So we doubt that he has Monsanto or PCBs, per se, in mind when he speaks of the need for Toxic Substance Control Legislation. We therefore can only assume that he is referring to sources of pollution and/or imported material which, we are told, is being used in "open applications." (Figures released in December, 1975, by Rep. Les Aspin, D.-Wis., indicate PCB imports may have been as high as 385,000 pounds in 1975 -- up 40 per cent since 1972).
- In Monsanto's opinion, the EPA has all the authority it needs under Section 504 of the Federal Water Pollution Control Act to control PCB imports and limit PCB discharge into the environment.
- Section 504 (Emergency Powers) of this Act reads as follows:
- "Notwithstanding any other provision of this Act, the Administrator upon receipt of evidence that a pollution source or combination of sources is presenting an imminent and substantial endangerment to the health of persons or to

the welfare of persons where such endangerment is to the livelihood of such persons, such as inability to market shellfish, may bring suit on behalf of the United States in the appropriate district court to immediately restrain any person causing or contributing to the alleged pollution to stop the discharge of pollutants causing or contributing to such pollution or to take such other action as may be necessary."

Q10. What is Monsanto's position regarding Toxic Substances Control Legislation?

A10. Monsanto Company's corporate policy supports government actions whenever such actions are clearly in the public's best interest and are needed to protect human health and the environment. We recognize that there are certain gaps in existing regulatory controls, and that safeguards may be needed to fill those gaps. Consequently, we do not oppose enactment of reasonable legislation that would provide for the testing and regulation of chemical substances which present unreasonable risks. At the same time, we object emphatically to any prospective legislation that would impose broad, sweeping controls that overlap and duplicate existing laws.

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Q11. Are your replacement products fire resistant? If not, won't this expose the public to some new hazards?

A11. Our replacement capacitor fluid candidate is far from the category of "flammable liquids," but it will burn more easily than PCBs. To give a familiar analogy, it has about the same flash point as the ethylene glycol used in automotive anti-freeze. We hope and expect that capacitor manufacturers can modify designs to minimize any potential fire hazard, but to some degree there will have to be a trade-off between maximum fire safety and environmental compatibility.

Q12. You stated that there is no accepted standard for fire-resistance for transformer fluids. What is Monsanto doing about it?

A12. We feel that the proper agency for establishing such a standard would be an underwriters group or the Bureau of Standards. EPA might be able to help here by focusing the attention of appropriate government agencies on this problem as well.

Q13. Why is Monsanto introducing a replacement dielectric fluid before environmental and toxicological testing is complete?

A13. In a sense, that kind of testing is never really complete, because there are so many different kinds of tests, and some take several years to run. The data we have developed so far encourages us to believe that the new product is better than PCBs: that is - more biodegradable, not subject to biomagnification, relatively non-toxic - and this lends urgency to getting on with a replacement program.

Q14. Assuming the U.S. capacitor industry makes a successful and complete transition to a non-PCB alternate, what effect would this have on Monsanto's U.S. production?

A14. A successful changeover by the capacitor industry would effectively reduce Monsanto's total U.S. production of PCBs for all electrical uses (it currently averages about 40 million pounds) by some 16 million pounds per year. Another 13 million pounds of capacitor and transformer dielectrics is exported to other countries where we apply the same restricted sales policy used in the U.S. The remaining 11 million pounds of annual U.S. production is consumed by the domestic transformer industry.

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