Monsanto CED	Workplace Exposure Control Guideline	GUIDELINE NO. HCG 7.8
Title PCB HANDLING GUIDELINE		PAGE 1 OF 55
By A. E. PETERSON	ISSUE NO. 1	DATE 11-86

SCOPE: This guideline is intended to summarize and clarify existing EPA regulations and internal Monsanto procedures applied to the handling of Polychlorinated Biphenyls (PCBs). This guideline is not intended to provide detailed design information or to be a substitute for the related regulations. The information should be used to gain an understanding of the regulations and to provide information on the proper response to the regulations.

PROBLEM DEFINITION: The manufacturing, processing, distribution in commerce, use, marking, storage and disposal of PCBs and PCB items are now governed by a federal regulation.[1] Other federal regulations also affect the discharge of PCBs to navigable waters.

Key concerns for those responsible for handling and disposing of PCBs or PCB containing fluids are:

- What are the legislative bases for regulation of PCBs?
- What constraints established by the regulations are difficult/easy to meet?
- What has to be done at a facility which uses or stores PCBs or PCB containing fluid.

In other words what is the person responsible for a facility to do in event he has PCBs, PCB containing fluids or PCB contaminated materials on his site?

Guideline Table of Contents

Topic	Page
Scope	1
Problem Definition	1
Recommendations	4
A. Legislative Background	4
B. Spill Reporting & CERCLA	5
1. Spill Reporting under TSCA	5
2. Spill Reporting under Hazardous Substances Regulations	5
C. Spill Prevention and Containment	6
1. Storage Tanks	6
a. Level Indication and Alarms	6
b. Secondary Containment	6
c. Pumps	6
2. Operating Tanks	7
3. Loading and Unloading Facilities	7
4. Heat Exchangers and Coils	7
5. Transformers & Electromagnets, Circuit Breakers	7
a. General	7
b. Secondary Containment	8
c. Transformer Servicing	8
d. Electromagnets switches and voltage regulators servicing	9
e. Circuit breakers, reducers and cable servicing	9
6. Heat Transfer and Hydraulic System Servicing	9
7. Capacitors	9
8. Compressors and liquids in natural gas pipelines	10

Appendix A - List of References 18
Appendix B - PCB Definitions 19
Appendix C - Hazardous Substances Spill Reporting 22
Appendix D - Corporate Position Regarding Sale of PCB 25
Appendix E - EPA Approved Landfills 26
Appendix F - Material Safety Data Sheet 27
Appendix G - Summary of Critical Dates 33
Appendix H - List of Key Personnel 35
Appendix I - Forms for Preparation of PCB Inventory and PCB Annual Document 36
Appendix J - Packaging Requirements for PCB Shipments 48
Appendix K - Summary of Disposal Methods 54
Appendix L - Summary of Inspection Requirements 55

Persons who import or generate inadvertent PCBs in excluded manufacturing processes must report to the EPA if the PCB concentration is greater than 2 micrograms per gram for any resolvable gas chromatographic peak. If the quantity of PCBs generated exceeds 0.0025 percent of the sites rated capacity as of October 1, 1984, a report to the EPA is required.

Formal Spill Prevention Control and Countermeasure (SPCC) plans are required for PCB disposal storage tanks containing PCBs at a concentration of 50 ppm or above and for PCB temporary disposal storage facilities for containers holding liquid PCBs with concentrations between 50 and 500 ppm and permitted by section 761.65(c)(1) and (7). These SPCC plans are to be made in accordance with the EPA Oil Pollution Prevention regulations[15] except that the exemptions for storage capacity and amendment of plans by the Regional Administrator shall not apply.[11]

The EPA has issued final regulations on the "Determination of Reportable Quantities of Hazardous Substances" discharged or spilled to a navigable water in a 24 hour period.[16] For PCBs, the quantity, subject to certain exemptions, is 10 pounds or more.

Federal laws and regulations concerning PCBs specify certain spill reporting, prevention, control and containment, marking, storage and disposal requirements. Failure to comply with these requirements may result in substantial penalties.

Two types of exceptions to the regulations are provided by TSCA.[2] One is an authorization by EPA which is good for a period determined on a case basis. The other is an exception good for a year which may be renewable annually. The authorization applies to using PCBs in a non-totally enclosed activity and the exception relates to the ban on manufacture or processing and distribution in commerce.[11]

Under Section 16 of TSCA, any person who violates the 40 CFR part 761 rules may be liable for a civil penalty of up to $25,000 per day of violation.[2] The method of calculating civil penalties is described in the EPA Guideline published on September 10, 1980.[17] In addition a person who knowingly or willfully violates the 40 CFR part 761 rules may also be fined up to $25,000 per day of violation and maybe imprisoned for up to one year or both.

Any person who violates such rules may be subject to court injunctive enforcement relief to restrain the violation or to compel him to follow the rule.[2] In addition, penalties can be assessed for a PCB spill to navigable water under Section 311 regulations.[18] Actions taken to mitigate the effects of the spill will be considered by the agencies in determining the magnitude of the fine to be imposed. Willful negligence can result in a fine of $250,000.

B. Spill Reporting & CERCLA

The reporting of spills of PCBs is required under certain specified circumstances by EPA regulations on hazardous substances and CERCLA[16][19] location reporting procedures should be prepared in accordance with the regulations and company policy guidance.

With certain exceptions, spills of PCBs of 10 pounds or more within a 24 hour period to navigable waters must be reported to the U.S. Coast Guard National Response Center at telephone number 1-800-8802 and any state or local agencies legally requiring such reporting. The reporting must be made in conformance with the specific plant reporting procedures prepared in accordance with the guidance given by the Monsanto Environmental Policy Staff/Corporate Law letter which also specifies the reporting exceptions. The letter is attached as Appendix C. Failure to report may result in a fine of up to $10,000 and 6 years imprisonment.

2. Operating Tanks

The PCB regulations do not address operating tanks or vessels. However, it is essential that spill prevention precautions similar to those required for disposal storage tanks be provided. The tanks should be curbed or diked with an impervious material such as Portland cement concrete. The floor between the dike and the tank should also be of impervious material. The volume contained within the diked area should contain at least 110% of the tank volume and an allowance for rainwater if located outdoors. The tank overflow should be directed inside of the dikad area and preferably to a sump constructed of impervious material. Removal of non-contaminated rainwater from the diked area maybe by means of a portable pump or a tamperproof timer limited permanent pump. However, when discharging rainwater someone should be in attendance at all times. The discharge line should terminate above the sewer drain so that the discharge may be observed.

The recommendations on level control and alarms given under storage tanks C. 1.a. (pg. 4) and pumps C. 1.c. (pg. 5) of this guideline should be followed.

3. Loading and Unloading Facilities

Loading and unloading facilities must be designed to minimize the possibility of spills. Tank cars and tank trucks must be pump unloaded preferably from the top of the tank. If it is impossible to pump unload from the top of the tank, bottom unloading may be used. In this case a remotely operable fire safe/fire close valve must be connected to the tank outlet. Pressure unloading must not be used, only top unloading should be used. The tank car or tank truck loading or unloading area must be protected by a berm of impervious material with a height sufficient to contain the entire contents of the vessel. The bermed area should drain to a sump sized for the area to be drained plus an allowance for rainfall. If the sump cannot be adequately served by a portable pump, then a permanent pump may be installed to remove rainwater from the sump. A tamper-proof timer should be included so that the device only operates long enough to remove the rainwater. However, when discharging rainwater someone should be in attendance at all times. The end of the pipe should terminate above a sewer drain so that the discharge may be observed. Any spillage must be carefully contained and disposed of in accordance with the PCB regulation of July 10, 1984.[17]

For drum loading and unloading an impervious curbed area and floor must be employed to prevent any spillage or leakage from escaping. Any spillage or leakage must be cleaned up and disposed of in accordance with disposal regulations summerized under D. Disposal in this guideline.

4. Heat Exchangers and Coils

These devices could leak and create a spill where a positive pressure exists between the PCBs and the heating or cooling medium. Proper

materials of construction, fabrication and installation techniques are essential. A separator should be installed in the heating or cooling return lines if cross contamination can occur and the fluid should be periodically monitored for contamination.

5. Transformers, Electromagnets, Circuit Breakers and Related Equipment

a. General

Transformers and electromagnets are classed by the July 10, 1984, PCB regulations by the PCB (concentration) of the fluid that they contain. The following comments for transformers also apply to electromagnets.

The labeling requirements for transformers have not been changed significantly. Only PCB transformers, containing 500 ppm or greater PCB, are required to be labeled. PCB contaminated transformers, containing between 50 and 500 ppm PCB, are not required to be labeled. An unmarked transformer is automatically assumed by EPA to be a PCB contaminated transformer. However, if a transformer has no nameplate information but there is a reasonable suspicion that the PCBs may be present above 500 ppm . . . the transformer should be labeled as a PCB transformer until the PCB content can be verified.

d. Electromagnets, Switches and Voltage Regulators Servicing

1. Routine servicing may be performed for the useful life of the equipment. Any servicing of these devices with a PCB concentration of 500 ppm or greater which requires the removal or rework of the internal components is prohibited.

2. These devices, if classified as PCB contaminated, (PCBs between 50 and 500 ppm) may be serviced and rebuilt. However, only fluid with a PCB content of less than 500 ppm can be used. These devices may be converted to PCB contaminated or a non-PCB classification by draining and refilling in accordance with requirements.

e. Circuit Breakers, Reclosers and Cable Servicing

1. Circuit breakers, reclosers and cable may be used with PCBs at any concentration. They may only be serviced as per the requirements for electromagnets, switches and voltage regulators if they have a PCB content of 50 ppm or greater.

2. Circuit breakers, reducers and cable can only be serviced with a fluid containing less than 50 ppm PCBs.

* PCB "potential transformers" are include in this category.

6. Heat Transfer and Hydraulic System Servicing

a. These systems may be operated with fluids containing less than 50 ppm PCBs. Addition of fluids with a PCB content above 50 ppm is prohibited.

b. Employers must provide Viton gloves for all persons who work on these systems and the regulations specifically require the workers to wear the Viton gloves while doing maintenance work on the systems.

7. Capacitors

a. General

Nearly all liquid filled capacitors manufactured from the mid-1930s until the mid-1970s used PCBs as the dielectric fluid. A PCB capacitor may discharge PCB containing fluids by leaks or a catastrophic failure. Wherever PCB capacitors are installed, it is essential that there be no floor drains or sewers in the area. If a failure occurs over soil or chat, the area should be immediately cleaned up and the soil, debris, rags and the PCB capacitor disposed of in the manner prescribed in the regulations. These requirements are summarized under Disposal (pg. 8) in this guideline.

b. Use Conditions

After October 1, 1984, the use and storage for reuse of large PCB high or low voltage capacitors which pose a risk to food and feed are

3. Any non-liquid PCB at concentrations of 50 ppm or greater in the form of contaminated soil, rags, or other debris shall be disposed of in one of the following:
   a. An EPA approved incinerator.
   b. An EPA approved chemical waste landfill. Liquid PCBs shall not be processed into non-liquid forms to circumvent incineration requirements. Likewise dilution of PCB or PCB contaminated fluids is also prohibited.

4. All dredged materials and municipal sewage treatment sludges that contain PCBs at concentrations of 50 ppm or greater shall be disposed of in the manner given in 3a and 3b above or by special permission by the Regional Administrator.

5. PCB Transformers shall be disposed of in accordance with either of the following:

   a. An EPA approved incinerator.
   b. An EPA approved chemical waste landfill provided it is drained of all liquid, filled with a solvent (kerosene, xylene, toluene, etc.) and allowed to stand 18 hours and then drained thoroughly with proper disposal of the liquids.

6. PCB Contaminated transformers shall be disposed of by draining of all free flowing liquid from the transformer and by proper disposal of the liquid. The disposal of the drained transformer is not regulated.

7. Small PCB Capacitors (those containing less then 3 lbs of dielectric fluid) may be disposed as a municipal solid waste in a sanitary landfill.

8. PCB Large High and Low Voltage Capacitors (more than 3 lbs of dielectric fluid) which contain 500 ppm or greater PCBs, shall be disposed of in an EPA approved incinerator. They may also be disposed of in an EPA approved chemical waste landfill if a notice is published to that effect by the Assistant Administrator for Pesticides and Toxic Substances. Capacitors that contain between 50 and 500 ppm PCBs shall be disposed of in an incinerator or an EPA approved chemical waste landfill.

9. PCB hydraulic machines containing PCBs at concentrations of 50 ppm or greater may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free flowing liquid and the liquid is disposed of as provided in 1 and 2 above. If the machine contains PCBs above 1000 ppm it must be flushed prior to disposal with a fluid with a PCB content less than 50 ppm and the solvent properly disposed of as in 1 and 2 above.

10. Other PCB Articles must be disposed of in accordance with either of the following:

    a. An EPA approved incinerator.
    b. An EPA approved chemical waste landfill, provided all free flowing liquids have been thoroughly drained from the Articles and the drained liquids incinerated in an EPA approved incinerator.

11. PCB Articles with a PCB concentration between 50 and 500 ppm must be disposed of by draining all free flowing liquid from the article and disposing of the liquid in an incinerator, approved chemical waste landfill or a high efficiency boiler.

12. PCB containers, unless decontaminated as specified in Par. 761.79 of the July 10, 1984 regulation or as provided in 13 below, a PCB container with PCB concentrations at 50 ppm or greater shall be disposed of as in 10a and 10b.

a. Time Limit

Any PCB Article or PCB Container stored for disposal shall be removed from storage and disposed of within 1 year from the date they were stored. To be certain that this requirement is met, it is essential that the PCBs be transferred to the disposer within 270 days.

b. PCB Storage Facilities

PCB storage facilities cannot be located at a site that is below the 100 year flood water elevation. Except for bulk storage in fixed roof tanks, the storage area must have a roof and walls to prevent rainwater from contacting the stored items. The floor and curb around the area must be constructed of a continuous smooth and impervious material such as Portland cement concrete or steel. (A galvanized swimming pool is acceptable.) The curb must be at least 6 inches in height and the containment volume enclosed must be at least twice the internal volume of the largest PCB container or 25 percent of the total internal volume of all PCB Articles or PCB containers stored therein, whichever is greater. The floor and the curb cannot contain any drains, valves, floor drains, expansion joints, sewer lines or other openings that would permit liquids to flow from the curbed area.

The storage area must be marked as covered under the section on Marking.(pg. 7) No movable equipment used for handling PCBs and PCB Items that comes into direct contact with PCBs shall be removed from the area until it has been decontaminated as specified in part 761.79 of the July 10, 1984 PCB regulations.[1]

c. Inspection

All PCB Articles and PCB Containers in storage for disposal must be checked for leaks at least once each 30 days. Any leaking PCB Articles or Containers must be transferred immediately to non-leaking containers and the area cleaned up and the PCB contaminated materials and residues disposed of in an EPA approved incinerator or a chemical waste landfill. Inspection of special storage areas are required weekly. See subsection F.2.f of this guideline (pg. 11).

d. PCB-Containers

Containers used to store liquid and non liquid PCBs must conform to Department of Transportation (DOT) specifications required under section 761.65(c)(6).[17] For further details see the Corporate Distribution Department standard No. VII-A-1 (revised 11/84).

Larger containers are permissible if they are constructed and operated in compliance with Occupational Safety and Health Standards, 29 CFR 1910.106 and a Spill Prevention and Countermeasure (SPCC) plan as described in 40 CFR 112 is provided and implemented.[3][15] In complying with 40 CFR 112 the word PCB(s) shall be substituted for oil(s) whenever it appears. The exemptions for storage capacity and the amendment requirements shall not apply unless some fraction of the liquid stored in the container is oil as defined by Section 311 of the CWA.[3]

e. Temporary Storage

Certain PCB Items may be stored for up to 30 days in an area that does not comply with the permanent storage requirements provided that a notation is attached to the item indicating the date it was removed from service. The items that qualify are:

High or Low Voltage Capacitors.[1] The records must be kept for 5 years after the facility ceases use or storage of PCBs and PCB items. The information collected is used to prepare an annual document by July 1 of each year covering the previous calendar year.

A standardized corporate form to facilitate record-keeping and preparation of the annual report is presented in Appendix 1.

2. Specific Requirements

The following information must be included in the annual document.

a. Dates when PCBs and PCB Items are removed from service, placed in storage for disposal and placed in transport for disposal. The quantities of the PCBs and PCB Items must be indicated according to the following breakdown.

   1. Total weight in kg of any PCBs and PCB Items in PCB Containers including identification of the container contents.
   2. Total number of PCB Transformers and total weight in kg of any PCBs contained therein.
   3. Total number of PCB Large High Voltage or Low Voltage Capacitors.

b. For PCBs and PCB Items removed from service, the location of the initial storage facility and the name of the owner or operator of the facility.

c. Total quantities of PCBs and PCB Items remaining in service at the end of the calendar year using the following breakdown.

   1. Total weight in kg of any PCBs and PCB items in PCB containers including identification of the contents.
   2. Total number of PCB Transformers and total weight in kg of any PCBs contained in the transformers.
   3. Total number of PCB Large High and Low Voltage Capacitors.

3. Disposal and Storage Facilities

Additional recordkeeping is required for the owners and operators of disposal or storage facilities. They must prepare annually by July 1 of each year a document which requires the following information.

a. Date of receipt of any PCBs and PCB Items and identification of the facility, owner or operator from which the PCBs were received.

b. Date when PCBs and PCB Items were disposed of or transferred to another storage or disposal facility and identification of the specific types of PCBs and PCB Items.

c. A summary of the total weight in kg of PCBs and PCB Articles in containers and the total weight of PCBs in transformers that have been handled the previous year. The summary must provide the totals of PCBs and PCB Items that have been received, transferred to other facilities and retained during the year. The contents of the PCB containers shall be identified. When PCB Containers and PCBs contained in a transformer are transferred to other storage or disposal facilities, the identification of the new facility shall be included. The total number of PCB Articles or PCB Equipment not in PCB Containers received, transferred to other storage or disposal facilities during the calendar year or remaining on the facility site must be indicated. Whenever the PCBs are transferred to a new site, the new site must be identified. The identification of the specific types of PCB articles and PCB equipment received transferred or remaining on the facility site must be indicated.

I. Forms

Forms to facilitate recordkeeping were distributed by CED to Company Environmental Control Managers for distribution to the plants in both 1978 and 1979. Sites not under Company EC Managers were contacted directly.

The forms were approved for use by the Corporate EC Committee for use at all domestic Monsanto locations. New forms to facilitate record keeping and preparation of annual reports have been developed and used since 1981 to assist in preparation of the annual document. Copies are given in Appendix I.

J. Personnel Protection

The 8 hour time weighted average ACGIH TLV® for Aroclor 1254 is 0.5 mg/m^3 and 1.0 mg/m^3 for Aroclor 1242. Calculations show that these levels can be achieved in a confined space with no air changes when the temperatures of the fluid and the surrounding atmosphere are at 35°C and 1°C respectively. In open air installations or in well ventilated areas, the concentration should be well below the prescribed TLV® when the aroclor fluid is at ambient temperatures. The designer can determine the conditions that exist in his system using the design procedures given in HCG 9.1 and 3.2.

Monsanto's Department of Medicine and Environmental Health (DMEH) recommends that personnel involved in transferring PCBs to or from drums or when handling leaking PCB containers or PCB Item wear neoprene boots, neoprene gloves, neoprene apron, chemical goggles, face shield and a hard hat. If the fluids are hot, personnel should wear NIOSH/MSHA approved full face respirator masks fitted with a NIOSH/MSHA approved organic vapor cartridge or canniater.

When personnel are involved in the clean-up of extensive spills, DMEH recommends that personnel wear neoprene boots with disposable covers, neoprene gloves, Saranex® laminated Tyvek disposable coveralls or an impermeable rainsuit, goggles, face shield and hard hat. If the PCBs are hot, (above ambient temperature) personnel should wear a NIOSH/MSHA approved full face mask fitted with organic vapor cartridge or canniater instead of chemical goggles. Literature on suitable disposable protective clothing may be obtained from M. B. McGinn in DMEH. A Monsanto Material Safety Data Sheet is given in Appendix F.

K. PCB Analysis

Monsanto's Environmental Sciences Center in St. Louis can provide analysis to determine PCB contents of fluids,water, soils, etc. Information on their services and shipping requirements can be obtained from Mason Hughes.

Appendix B

PCB Definitions from 40 CFR 761

DEFINITIONS PCB REGULATIONS

1. "Capacitor" means a device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric. Types of capacitors are as follows:

   a. "Small Capacitor" means a capacitor which contains less then 1.36 kg (3 lbs) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectic fluid is unknown. A capacitor whose total volume is less than 1.639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.30 kgs (3 lbs) of dielectric fluid and a capacitor whose total volume is more than 3.278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg (3 lbs) of dielectric fluid. A capacitor whose volume is between 1.639 and 3.278 cubic centimeters may be considered to contain less than 1.36 kg (3 lbs) of dielectric fluid if the total weight of the capacitor is less than 4.08 kg (9 lbs).

   b. "Large High Voltage Capacitor" means a capacitor which contains 1.36 kg (3 lbs) or more of dielectric fluid and which operates at 2000 volts (a.c. or d.c.) or above.

   c. Large Low Voltage Capacitor" means a capacitor which contains 1.36 kg (3 lbs) or more of dielectric fluid and which operates below 2000 volts (a.c. or d.c.).

2. "Chemical Waste Landfill" means a landfill at which protection against risk of injury to health to the environment from migration of PCBs to land, water, or the atmosphere is provided from PCBs and PCB items deposited therein by locating, engineering, and operating the landfill as specified in 761.75.

3. "Disposal" means to intentionally or accidentally discard, throw away, or otherwise complete or terminate the useful life of PCBs and PCB items. Disposal includes spills, leaks and other uncontrolled discharges of PCBs as well as actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCBs and PCB Items.

4. "Excluded manufacturing process" means a manufacturing process in which quantities of PCBs as determined in accordance with the definition of inadvertently generated PCBs, calculated as defined, and from which releases to products, air, and water meet the requirements of (1) through (5) of this definition, or the importation of products containing PCBs as unintentional impurities, which products meet the requirements of (1) and (2) of this definition.

   (1) The concentration of inadvertantly generated PCBs in products leaving any manufacturing site or imported into the United States must have an annual average of less than 25 ppm, with a 50 ppm maximum.

   (2) The concentration of inadvertently generated PCBs in the components of detergent bars leaving the manufacturing site or imported into the United States must be less than 5 ppm.

   (3) The release of inadvertently generated PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm.

   (4) The amount of inadvertently generated PCBs added to water discharged from a manufacturing site must be less than 100 micrograms per resolvable gas chromatographic peak per liter of water discharged.

   (5) Disposal of any other process wastes above concentrations of 50 ppm PCB must be in accordance with Subpart D of this part.

19. "PCB Contaminated Electrical Equipment" means any electrical equipment, including but not limited to transformers (including those used in railway locomotives and self-propelled cars), capacitors, circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), electromagnets and cable, that contain 50 ppm or greater PCB, but less than 500 ppm PCB. Oil-filled electrical equipment other than circuit breakers, reclosers, and cable whose PCB concentration is unknown must be assumed to be PCB-Contaminated Electrical Equipment. (See §761.30(a) and (h) for provisions permitting reclassification of electrical equipment containing 500 ppm or greater PCBs to PCB-Contaminated Electrical Equipment).

20. "Posing an exposure risk to food or feed" means being in any location where human food or animal feed products could be exposed to PCBs released from a PCB Item. A PCB Item poses an exposure risk to food or feed if PCBs released in any way from the PCB Item have a potential pathway to human food or animal feed. EPA considers human food or animal feed to include items regulated by the U.S. Department of Agriculture or the Food and Drug Administration as human food or animal feed; this includes direct additives. Food or feed is excluded from this definition if it is used or stored in private homes.

21. "Qualified incinerator" means one of the following:
    (1) An incinerator approved under the provisions of §761.70. Any concentration of PCBs can be destroyed in an incinerator approved under §761.70.
    (2) A high efficiency boiler approved under the provisions of § 761.60(a)(3). Only PCBs in concentrations below 500 ppm can be destroyed in a high efficiency boiler approved under §761.60(a)(3).
    (3) An incinerator approved under section 3005(c) of the Resource Conservation and Recovery Act (42 U.S.C. 6925(c)) (RCRA). Only PCBs in concentrations below 50 ppm can be destroyed in a RCRA-approved incinerator. The manufacturer seeking to qualify a process as a controlled waste process by disposing of wastes in a RCRA-approved incinerator must make a determination that the incinerator is capable of destroying less readily burned compounds than the PCB homologs to be destroyed. The manufacturer may use the same guidance used by EPA in making such a determination when issuing an approval under section 3005(c) of RCRA. The manufacturer is also responsible for obtaining a reasonable assurance that the incinerator, when burning PCB wastes, will be operated under conditions which have been shown to enable the incinerator to destroy the less readily burned compounds.

22. "Recycled PCBs" are defined as those intentionally manufactured PCBs which appear in the processing of paper products or asphalt roofing materials as PCB-contaminated raw materials and which meet the requirements of (1) through (5) of this definition.
    (1) The concentration of Aroclor PCBs in paper products leaving any manufacturing site or imported into the United States must have an annual average of less than 25 ppm with a 50 ppm maximum.
    (2) There are no detectable concentrations of Aroclor PCBs in asphalt roofing materials.
    (3) The release of Aroclor PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm.
    (4) The amount of Aroclor PCBs added to water discharged from a processing site must at all times be less than 3 micrograms per liter (ug/l) for total Aroclors (roughly 3 parts per billion (3ppb)).
    (5) Disposal of any other process wastes above concentrations of 50 ppm PCB must be in accordance wit Subpart D of this part.

23. "Storage for Disposal" means temporary storage of PCBS that have been designated for disposal.

24. "Waste Oil" means used products primarily derived from petroleum, which include, but are not limited to, fuel oils, motor oils, gear oils, cutting oils, transmission fluids, hydraulic fluids, and dielectric fluids.

Appendix C

Hazardous Substances Spill Reporting

Under Section 311, Clean Water Act (cont)

The thrust of the above described exemption is that routine discharges from manufacturing processes are not reportable even though a "reportable quantity" of a "hazardous substance" may be discharged during a 24-hour period. On the other hand, a non-routine discharge of a hazardous substance, such as that resulting from a spill which runs into navigable water, is reportable if the quantity reaching the water exceeds the reportable quantity during a 24-hour period. Such spills also place additional obligations on the discharger, including clean-up and avoiding environmental damage.

These regulations eliminate the need to consider filing of permit modifications as noted in previous correspondence on earlier Section 311 regulations. Also, there is no compliance requirement at this time to modify plant SPCC plans to include hazardous substances.

Any questions concerning the application of the new Section 311 regulations to a specific situation should be raised directly with P. S. Perk, Environmental Counsel, at 314-694-2807.

M. A. Pierle

Phocion S. Perk

jf

Enclosure

Appendix D

Corporate Position Regarding

Sale of PCB Contaminated Equipment

Monsanto

FROM : J. E. Craddock - St. Louis G3WA 4-4764

DATE : October 8, 1980

SUBJECT : CORPORATE POSITION REGARDING SALE OF PCB CONTAMINATED EQUIPMENT

REFERENCE :

TO :
C. F. Callis - B3CA
W. D. Carpenter - C2NA
P. E. Hobson - G5WG
R. W. Kienker - E2SA
C. J. Larsen - 5040
W. S. Papageorge - G4WA
W. R. Robirds - F2WA
R. E. Soden - AA2E

cc:
D. R. Bishop - A3WB
J. R. Condray - C2SA
G. L. Jessee - C2SA
R. S. Nelson - G3WA
J. B. Schneider - AA2C
M. C. Throdahl - D1D
B. J. Wander - C2SA

This memorandum will confirm the procedure established in a memorandum of December 22, 1978, from G. L. Jessee to P. E. Hobson; namely, that after July 1, 1979, there is to be absolutely no sale by Monsanto of equipment contaminated with PCB. This is the position adopted jointly by the Environmental Policy Staff and the Corporate Law Department.

Recent questions regarding the possible sale of PCB contaminated surplus equipment, i.e., parts of the old WGK PCB incinerator, prompted a review of this guideline. Subsequent discussions with several persons, including Bill Papageorge, Clayton Callis, Dan Bishop and Barney Wander, confirmed my initial reaction that this is still a reasonable guideline in today's climate.

Please transmit this information within your operating unit. In addition, I'll ask Barney Wander to see that this guideline is included in the EPS Health and Environmental Policies Manual.

J. E. Craddock

jb

Appendix F

Monsanto MATERIAL SAFETY DATA

MONSANTO PRODUCT NAME
Polychlorinated Biphenyls (PCBs)

MONSANTO COMPANY
800 N. LINDBERGH BLVD.
ST. LOUIS, MO 63167
Emergency Phone No.
(Call Collect)
314-694-1000

PRODUCT IDENTIFICATION

The following materials contain 99.9% or greater PCBs. For information about other ingredients in formulations containing PCBs, contact the manufacturer of those ingredients.

Synonyms:	PCBs Chlorodiphenyl (__% Cl) Chlorinated biphenyl Polychlorinated biphenyl Chlorinated biphenyls (approx. __% Cl)
Trade Names *(Commonly used Monsanto products)*	Askarel® Aroclor® Series 1016, 1221, 1232, 1242, 1248, 1254, 1260 Therminol® FR Series
CAS No.:	001336363, 053469219, 012672296, 011097691, 011096825 and others

WARNING STATEMENTS

Federal regulations under the Toxic Substances Control Act require PCBs and PCB items to be marked. (Check regulations for details.)





PRECAUTIONARY MEASURES

Care should be taken to prevent entry into the environment through spills, leakage, use, vaporization, or disposal of liquid or containers. Avoid prolonged breathing of vapors or mists. Avoid contact with eyes or prolonged contact with skin. If skin contact occurs, remove by washing with soap and water. Following eye contact, flush with water. In case of spillage onto clothing, the clothing should be removed as soon as practical, skin washed, and clothing laundered. Comply with all federal, state, and local regulations.

MATERIAL SAFETY DATA

Polychlorinated Biphenyls (PCBs)

G-1048 /983

MONS 216303

Monsanto MATERIAL SAFETY DATA

FIRE PROTECTION INFORMATION

Fire and Explosion: PCBs are fire-resistant compounds. They may decompose to form CO, CO_2, HCl, phenolics, aldehydes and other toxic combustion products under severe conditions such as exposure to flame or hot surfaces.

At temperatures in the range of 600-650°C in the presence of excess oxygen PCBs may form polychlorinated dibenzofurans (PCDFs). Laboratory studies under similar conditions have demonstrated that PCBs do *not* produce polychlorinated dibenzo-p-dioxins (PCDDs).

PCBs in electrical equipment have been reported to produce both chlorinated dioxins (PCDDs) and furans (PCDFs) during fire situations. These combustion products may result all, or in part, from non-PCB components of the dielectric fluids or other combusted materials. Consult the equipment manufacturer for information regarding composition of the dielectric fluids in electrical apparatus.

Standard fire fighting wearing apparel and self-contained breathing apparatus should be worn when fighting fires that involve possible exposure to chemical combustion products. Fire fighting equipment should be thoroughly cleaned and decontaminated after use.

If a PCB transformer is involved in a fire-related incident, the owner of the transformer may be required to report the incident. Consult and follow appropriate federal, state, and local regulations.

REACTIVITY DATA

PCBs are very stable, fire-resistant compounds.

HEALTH EFFECTS SUMMARY

Skin Contact: PCBs can be absorbed through intact skin. Local action on skin is similar to that of common organic solvents where contact leads to removal of natural fats and oils with subsequent drying and cracking of the skin. A potential exists for the contracting of chloracne.

Eye Contact: The liquid products and their vapors are moderately irritating to eye tissues.

Ingestion: The acute oral toxicities of the undiluted compounds are: LD_{50} rats—8.65 gm/kg for 42% chlorinated, and 11.9 gm/kg for 54% chlorinated—"slightly toxic."

Inhalation: Animal experiments of varying duration and at different air concentrations show that for similar exposure conditions, the 54% chlorinated material produces more liver injury than the 42% chlorinated material.

Other: There are literature reports that PCBs can impair reproductive functions in monkeys. A study reported in the literature with female rats using Aroclor® 1260 stated that Aroclor 1260 caused liver cancers. Monsanto sponsored animal feeding studies of Aroclor 1242, 1254 and 1260. These compounds, fed to both sexes of rats, did not produce cancers. The National Cancer Institute performed a study in 1977 using Aroclor 1254 with both sexes of rats. NCI stated that the PCB, Aroclor 1254, was not carcinogenic under the conditions of their bioassay.

(Health Effects Summary Continued On Next Page)

Appendix F

Monsanto MATERIAL SAFETY DATA

SPILL, LEAK & DISPOSAL INFORMATION

Disposal of liquid PCBs and other PCB items is strictly regulated by the federal government. The regulations are found at 40 CFR Part 761. Consult these regulations as well as applicable state and local regulations prior to any disposal of PCBs, PCB items, or PCB-contaminated items.

If PCBs leak or are spilled, the following steps should be taken immediately:

All non-essential personnel should leave the leak or spill area.

The area should be adequately ventilated to prevent the accumulation of vapors.

The spill/leak should be contained. Loss to sewer systems, navigable waterways and streams should be prevented. Spills/leaks should be removed promptly by means of absorptive material, such as sawdust, vermiculite, dry sand, clay, dirt or other similar materials, or trapped and removed by pumping or other suitable means (traps, drip-pans, trays, etc.).

Personnel entering the spill or leak area should be furnished with appropriate personal protective equipment and clothing as needed. See Occupational Control Procedures section of this MSDS.

Personnel trained in the emergency procedures and protected against the attendant hazards should shut off sources of PCBs, clean up spills, control and repair leaks and fight fires in PCB areas.

All wastes and residues containing PCBs (e.g., wiping cloths, absorbent material, used disposable protective gloves, clothing, etc.) should be collected, placed in proper containers, marked and disposed of in the manner prescribed by EPA regulations (40 CFR Part 761) and applicable state and local regulations.

Various federal, state, and local regulations may require reporting of PCB spills and may also define spill clean-up levels. Consult your attorney or appropriate regulatory officials for information relating to spill reporting and spill clean-up.

ADDITIONAL COMMENTS

Polychlorinated Biphenyls

For regulatory purposes, under the Toxic Substances Control Act the term "PCBs" refers to a chemical substance limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contain such substance (40 CFR Part 761).

Chemically, commercial PCBs are defined as a series of technical mixtures, consisting of many isomers and compounds that vary from mobile oily liquids to white crystalline solids and hard non-crystalline resins. Technical products vary in composition, in the degree of chlorination and possibly according to batch.

The mixtures generally used contain an average of 3 atoms of chlorine per molecule (42% chlorine) to 5 atoms of chlorine per molecule (54% chlorine). They are used as components of dielectric fluids in transformers and capacitors. Prior to 1972, PCB applications included heat transfer media, hydraulic and other industrial fluids, plasticizers, carbonless paper, paints, inks and adhesives. Federal regulations specify that non-totally enclosed PCB activities are permitted only if specifically exempted or authorized. (40 CFR Part 761).

CAS No. 001336363: For general class of compounds

(Additional Comments Continued On Next Page)

Appendix G

Summary of Critical Dates

Date	Item
4/17/78	PCB large high voltage capacitors to be labeled at time of installation from this date on.
7/1/78	PCB must be stored for disposal in the prescribed manner.
7/2/78	Recordkeeping for PCBs disposition begins.
10/1/78	PCB transport vehicles must be marked on each end and side.
1/1/79	Transformers containing 500 ppm of PCB or greater and PCB large high voltage capacitors to be labeled.
7/1/79	Annual reports complete on PCB use and storage annually thereafter.
7/2/79	PCB final regulations prohibiting the manufacture, processing or distribution became effective.
10/1/79	PCB item containing 50 ppm or more PCBs to be labeled. Transformers with less than 500 ppm PCBs are exempt.
11/1/79	Test of fluids in heat transfer and hydraulic systems for PCB concentration required by this date and at least annually thereafter.
11/1/79	Use of PCBs in heat transfer systems for the manufacture or processing of any food, cosmetic or device as defined in Section 201 of the Federal FDCA is prohibited.
1/1/80	Until this date rebuilding of PCB motors as PCB motor was permitted for continuous mining equipment.
5/1/80	Export of PCBs and PCB items for disposal prohibited.
3/1/81	PCB Large High Voltage or Low Voltage Capacitors may be disposed of in an EPA approved chemical waste landfill until this date.
1/1/82	Until this date PCBs may be used in mining equipment and processed and distributed for this purpose.
1/1/82	Diarylide and phthalocyanin pigments that contain 50 ppm or greater PCBs may be processed, distributed in commerce and used in a manner other than a totally enclosed manner until this date except that after 7/1/79, processing and distribution in commerce of diarylide or phthalocyanin pigments that contain 50 ppm or greater PCBs is permitted only for persons who are granted an exemption under TSCA SECTION 6(e)(3)(3).
1/1/83	Non-leaking and structurally undamaged PCB large high voltage capacitors and non-drained PCB contaminated transformers may be stored on pallets next to a PCB storage facility until this date provided certain conditions are met.
1/1/84	PCB Articles or PCB Containers stored for disposal prior to 1/1/83 must be disposed of prior to this date.

Appendix H

List-of-Key-Personnel

Function	Person
Corporate - PCB Coordinator	J. H. Craddock/P. R. Michael
Department of Medicine & Environmental Health -	
Emergency Medical Information	J. Spreul, M.D.
Ind. Hygiene	J. L. Renshew, CIH
Respiratory Protection	M. B. McGinn, CIH
EASC - (PCB Analysis)	Mason Hughes
Waste Disposal, Contracts, Landfills and Incineration	A. J. Heinze
Environmental Law	P. H. Smith
Packaging Requirements, Labeling, Marking	A. A. Lazdins

APPENDIX I (Cont)

4. Files of all transportation manifests and receipts and certificates of disposal for disposal of any items in No. 1, above.

5. Records of all required inspections of PCB electrical equipment in use including "Interim Measures Program."

6. Records of all required monthly inspections of PCB storage facility.

7. Records of all required inspections (drainings/flushings), etc., for PCBs in heat transfer, hydraulic systems, electromagnets, etc.

8. Any other PCB records required by TSCA.

9. Any notes, calculations and assumptions used to identify, classify, characterize and/or make judgments about PCB materials used, handled, stored and/or disposed of.

From experience gained in several Monsanto PCB enforcement inspections, all of these records should be stored, filed and cataloged and placed in one central site location, preferably readily available to the environmental supervisor.

If other copies are needed by other groups, e.g., the electrical maintenance department, etc., these could be made available. However, the original records (in ink!) should be centrally located with the site environmental supervisor.

If you have any questions, contact the Environmental Control Manager for your operating unit or John Craddock (Ext. 4764, St. Louis).

APPENDIX I (Cont)

FORM D (CONT'D)

Item

12 Site identification. Any local identification, e.g., PCB warehouse, old "doorknob" storage tank, etc.

*13 Mailing address of site. If different from Item 10, e.g., P.O. Box number, city, state, zip code.

14 Identification number. Each PCB item/container in storage should be assigned a unique, permanent identification number. (This number when cross-checked with the date placed in storage (Item 16) should provide positive identification of the item.) The system currently used at the site may be sufficient.

If a site identification numbering system does not exist, the following simple system is recommended, e.g.,

WGK - 80 - 0001 or

Q - 80 - 0203 or

TX - 79 - 1234

1234 — 4 digits - serially listing items as placed in storage in a given year

79 — 2 digits indicating year placed in storage

WGK / Q / TX — code letter(s) denoting plant/facility

CRL could be Corporate Research Labs
WGK could be W. G. Krummrich Plant
Q could be J. F. Queeny Plant
TX could be Texas City Plant

This unique identification number should be permanently affixed (painted, etc.) to the item along with the date placed in storage (Item 16). Subsequent correspondence, etc., could then identify a specific item/container in the future until its final disposition. Examples of usage include identification on RCRA type or other shipping manifests, etc.

*15 Date item removed from service.

*16 Date item placed in storage.

Note - These dates may frequently be the same.

APPENDIX I (Cont)

FORM D (CONT'D)

Item

21 • Intact used transformer fluid containing PCBs at 40% level

• Contaminated rags, soil, piping from spill

22/23 Received from. (22) Location / (23) Unit - Location of source of item before being sent to storage, e.g., unit, process plant location; e.g., Plant Analytical Lab Building A; Power House; Capacitor Bank; Department 123; Phenol Unit, etc.

*24 Disposition/Shipped To - Company/location of site.

*25 Disposition/Shipped To - Full address of site (not P.O. Box).

26 Intended method of disposal, e.g., landfill, incineration, etc.

*27 Date shipped for disposal.

28 Certification - Signature of person responsible for preparing this summary portion of the annual document. Include date and title of signer.

*These items are required by TSCA regulations.

APPENDIX I (Cont)

FORM F AND G

INSTRUCTIONS FOR COMPLETION

Item

1 Page number F- and G- of total number of pages in form. Prefix F, G, etc., denotes exact form.

*2 Period Covered - Insert calendar year covered in report. Regulations specify reporting on calendar year basis.

3 Insert name of person preparing this summary.

4 Insert title of person preparing this summary.

5 Insert phone number (include area code, extension, state location as appropriate, e.g., 4-4764 St. Louis).

6 Insert location of person preparing report, e.g., General Offices - G3WA; Delaware River Plant - Administration Building; etc.

*7 Insert date this summary prepared.

Regulations specify preparing this summary before July 1 of each year for the preceding calendar year.

*8 Monsanto operating unit name, e.g., Monsanto Industrial Chemicals Co., Monsanto Enviro-Chem, Monsanto Corporate Research Laboratories, etc.

*9 Insert site/location covered in this report, e.g., W. G. Krummrich Plant, Corporate Research Laboratory, Akron Research Laboratory, etc.

*10 Address of site. Include number, street, city, state, zip code covered in this report. (Do not use P.O. Box here.)

*11 Storage facility location at site, e.g., building number, unit name, warehouse number, etc.

APPENDIX I (Cont)

FORM F AND G (CONT'D)

Item

17 (This provides information for you, your successor, your designee or any other responsible personnel to reconstruct and defend your summary, e.g., in case of an EPA inspection/audit of facilities.)

*18 This section includes liquid PCBs in containers, e.g., drums.

*19 This section includes small PCB capacitors (contain less than 1.36 kg (3 pounds) of PCBs in containers, e.g. drums.

*(26) This section includes solid (non-liquid) PCB debris, e.g., earth, gloves, absorbent material, rags, etc., in containers, e.g., drums.

*20 This section includes transformers having PCB fluid concentration range 50-499 ppm. (These are defined by EPA as "PCB Contaminated Transformers.")

*21 This section includes transformers having PCB fluid concentration range equal to or greater than 500 ppm. (These are defined by EPA as "PCB Transformers.")

(27) This section includes drained transformer shells awaiting disposal.

*22 This section includes PCB high- and low-voltage capacitors containing 1.36 kg (3 pounds) of PCBs or more.

*23 This section includes "other" PCB items - List all items not included above that contain PCBs. Use a separate line for each type of item, e.g., magnets, motors, microwave ovens, vacuum pumps, etc.

26 Totals - Total all columns.

25 Certification - Signature of responsible for and person preparing this summary portion of the annual document. Include date and title of signer.

26 See guideline after Item 19 above. This item appears only on Form F.

27 See guideline after Item 21 above. This item appears only on Form F.

*These items are required by TSCA regulations.

MONSANTO COMPANY
INVENTORY REPORT - SUPPORT PART II
(FORM C)

1. Page C-___ of C-___

PCBs AND PCB ITEMS IN SERVICE (INCLUDING SPARES)

* 2. Period Covered - January 1, ___ to December 31, ___
3. Prepared By _____
*4. Date Prepared __/__/__
* 8. Monsanto Operating Unit _____
4. Title _____
* 9. Monsanto Site/Location _____
5. Phone No. _____
*10. Address _____ 13. Mailing Address _____
6. Location _____
*11. Storage Facility Location _____
12. Identification # Site _____

	*14. Total Weight PCBs in Kg	15. Volume (Gal.)	16. No. Items (Containers)	17. Identification/Reference
PCB Item				
18. PCBs in Containers (Liquids)				
19. PCB Capacitors in Containers*				
PCB Transformers				
20. PCB Fluids - 50-499 ppm PCBs				
2E. PCB Fluids - 500 Or More ppm PCBs*				
PCB Capacitors				
22. Large High- or Low-Voltage*				
Other (List, e.g., Meters, Magneto, Hydraulic Systems, Etc.)				
23. _____				
_____				
_____				
24. TOTALS				

*Other items are required by EPCA regulations.

25. Certification:
Signature _____
Title _____
Date _____

APPENDIX I (Cont)

MONS 216313

APPENDIX J (Cont)

Monsanto
CORPORATE DISTRIBUTION DEPARTMENT

STANDARD NO. VII-A-1
Page 2 of 6
Issue 4 | Date 11/84

D. PCB CONTAINER means any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB's or PCB Articles and whose surface(s) has been in direct contact with PCB's.

E. PCB EQUIPMENT means any manufactured item, other than a PCB Container or a PCB Article Container, which contains a PCB Article or other PCB Equipment, and includes microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

F. PCB ITEM is defined as any PCB Article, PCB Article Container, PCB Container, or PCB Equipment, that deliberately or unintentionally contains or has as a part of it any PCB or PCB's at a concentration of 50 ppm or greater.

G. MARK means the descriptive name, instructions, cautions, or other information applied to PCB's and PCB Items, or other objects subject to these regulations.

H. MARKED means the marking of PCB Items and PCB's storage areas and transport vehicles by means of applying a legible mark by painting, fixation of an adhesive label, or by any other method that meets the requirements of these regulations.

I. DISPOSAL means to intentionally or accidentally discard, throw away, or otherwise complete or terminate the useful life of PCB's and PCB Items. Disposal includes actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCB's and PCB Items.

J. TOTALLY ENCLOSED MANNER means any manner that will ensure that any exposure of human beings or the environment to any concentration of PCB's will be insignificant; that is, not measurable or detectable by any scientifically acceptable analytical method.

MATERIAL REQUIREMENTS

1. Strong outside container.

   A. For sample shipments only:
      - Fiberboard box, (DOT Spec. 12A, 12B)
      - Wooden box (DOT Spec. 15A, 16A)
      - Metal drum (DOT Spec. 37A - Full open head)

   B. For disposal and sample shipments
      - Metal drum (DOT Spec. 5B, 6D, 17E - Tight head for liquids)
      - Metal drum (DOT Spec. 5B, 17C - Full open head for solids)

2. Adequate inside container sized to quantity to be shipped.
   - Glass, earthenware or compatible plastic bottles, or
   - Metal pails or cans.

APPENDIX J (Cont)

Monsanto
CORPORATE DISTRIBUTION DEPARTMENT

STANDARD NO. VII-A-1
Page 4 of 6
Issue 4 | Date 11/84

6. Fill void with vermiculite or Kimpak.

7. Place the prepared inside container in the selected outside container.

8. Tightly secure the outside container and attach the address label.

9. Stencil or otherwise permanently apply the words "THIS SIDE UP" on all containers to indicate the upward position of the inside container.

10. Mark shipping name and identification number on exterior of container.

11. Apply a PCB, 2709/53, 2711/53 or 2710/53 label to that part of the package bearing the consignee's name and address. (See pages 5 and 6)

12. When inside container is glass, and the shipment is by mail, mark the outside of the container "FRAGILE".

B. Specific Package and Quantity Limitations

Shipments Via Surface Modes, Passenger or Cargo Aircraft

1. Use inside container which must be:

- Glass, earthenware or compatible plastic bottles not over 1 gallon capacity.
- Each bottle to be wrapped in Kimpak, or encased in vermiculite, placed in a plastic bag and must be packed in a metal can to prevent breakage and leakage.

2. Use outside container which must be:

- DOT Spec. 12A or 12B fiberboard box.
- DOT Spec. 15A or 16A wooden box.
- DOT Spec. 37A metal pail.

3. Stencil or otherwise permanently apply the words "THIS SIDE UP" on all containers to indicate the upward position of the inside container.

4. Use a metal drum which must be:

For Liquids: Use as is. Tight Heads

- DOT Spec. 5B
- DOT Spec. 6D PE/steel composite
- DOT Spec. 17E
  for 20/18 ga. limit net wt. to max. of 525 lbs.
  for 18 ga. limit net wt. to max. of 675 lbs.

For Solids: Use as is. Full Open Heads

- DOT Spec. 5B
- DOT Spec. 17C

APPENDIX C (Cont)

Monsanto
CORPORATE DISTRIBUTION DEPARTMENT

STANDARD NO. VII-A-1
Page 6 of 6
Issue 6 Date 11/84

If the PCB Article for Equipment is too small to accommodate this size, the mark may be reduced in size, see figure #2.

In the event that the two labels shown in figures 1 and 2 are too large for the PCB Article, PCB Equipment, or PCB Container, the 2709/53 label shown in figure 3 may be used.

These labels are available from the Labeling Section, St. Louis.

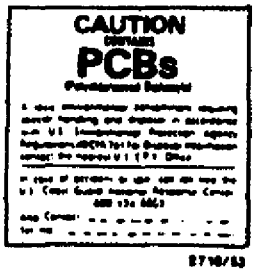

FIGURE 2



FIGURE 3

SHIPPING PAPERS

In addition to the general information required all shipping papers, including Air Non-Restricted Articles Certificate, must have the following statement added:

"IMPORTANT

This product contains POLYCHLORINATED BIPHENYLS (PCB's) which some studies have shown may be persistent, an environmental contaminant and possibly injurious to certain forms of bird, aquatic and animal life. Prevent any entry into the environment through spills, leakage, disposal, vaporisation, re-use of containers or otherwise. Spills, leakages and waste product must be collected.

During shipment avoid spills and leakage into inland waterways and the sea.

Keep away from food, animal foodstuffs and pharmaceuticals."

Monsanto will furnish four large 2711/53 (see figure #1) PCB labels to each carrier who will be transporting PCB containers that contain more than 45 kg (99.4 lbs.) of PCB's in the liquid phase or with one or more PCB transformers. The driver is to place a label on each end side of the transport vehicle.

APPENDIX L

SUMMARY OF FEDERAL INSPECTION REQUIREMENTS

EQUIPMENT	FREQUENCY INSPECTION	EFFECTIVE DATES	NOTES
PCB Transformers*	Quarterly	8/81 to Present	Frequency reduced to annually if 100% secondary containment or PCB 60,000 ppm.
PCB Transformers, Leaking*	Daily	8/82 to Present	Required for uncorrected active leaks with PCBs running or about to run off surface.
PCB Contaminated Transformers*	Weekly	8/81 to 9/82	Inspection requirements suspended 9/82.
PCB Storage Areas, Permanent	Monthly	7/79 to present	
PCB Storage Areas, Temporary	Monthly	7/79 to present	

Written inspection records must be maintained. The categories marked with an (*) must record: (1) location; (2) inspection and leak detection dates; (3) inspector name; (4) leak location; (5) fluid lost in leak; (6) date of cleanup containment, repair or replacement; (7) description of cleanup, repair, or containment; and (8) results of containment efforts.