Monsanto

FROM (NAME - LOCATION - PHONE): Charles P. Rader - Research Laboratories - AKRON 1010

DATE: July 6, 1979 7/9/79 CC: R. W. Wise

SUBJECT: EPA Final Rules on Handling an Disposal of PCBs.

REFERENCE:

TO : H. J. Young
AKRON-1010

Jim Finch - FYI + return

EJY

The enclosed summary on recently promulgated EPA rules on PCBs was generated by our environmental staff in St. Louis.

They are for your use and assistance in handling the PCBs presently at our facility.

Pages 8 and 11 of this document will be of most interest to you.

Charles

Charles P. Rader

CPR/fr

Enclosure

PCB-ARCH-EXT0382791

All U. S. Site Location Managers

Final regulations implementing the Toxic Substances Control Act (TSCA) banning the manufacture, processing, distribution in commerce and use of polychlorinated biphenyls (PCBs) were published in the Federal Registered on May 31, 1979, and become effective on July 2, 1979. This action will prohibit the manufacture, processing and distribution in commerce unless specifically exempted, and "non-totally enclosed" (open to environment) uses of PCBs unless specifically authorized by the EPA. "Totally enclosed" uses (contained and therefore exposure to PCBs is unlikely) will be allowed to continue for the life of the equipment. Transformers, capacitors, and magnets are considered totally enclosed.

The new regulations are not significantly different from previous EPA action. Two exceptions are as follows:

1. All Spill Prevention Control and Countermeasure (SPCC) Plan provisions requiring reporting to the Coast Guard and/or EPA have been dropped. The regulation does not exempt any person from the actions and liability of other statutory authorities including Section 8(c) of TSCA, Section 311 of the Clean Water Act and RCRA. While the SPCC plan reporting provisions have been lifted from all sections of this final rule, a SPCC Plan is required for storage containers for liquid PCBs awaiting disposal.

2. The concentration of PCBs in substances which constitute a PCB mixture has been reduced from 500 ppm to 50 ppm. The new definition is, PCBs subject to these regulations are those substances containing PCBs at a level of 50 ppm or more.

   One exception to this definition is waste oils. Waste oils cannot be used as sealants, coating or dust control agents if they contain any detectable concentrations of PCBs.

   Transformer fluids do not require labeling when the level is known to be below 500 ppm PCBs. Also, analysis is not required unless there is reason to believe a transformer contains PCB dielectric fluid or otherwise has 500 ppm PCB or greater, it may be assumed to have 50 to 500 ppm PCB.

The regulations do specifically address PCBs stored for disposal but not for use. It is highly recommended that all of the requirements for PCBs stored for disposal be followed when dealing with PCBs stored for use.

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The regulations specifically require annual analysis of fluids in heat transfer and hydraulic systems to determine PCB levels.

To facilitate the uniformity in obtaining information to assess the PCB situation and to assist your location in complying with the new regulation, a packet of materials is enclosed. They are:

I. Synopsis of the Regulation
II. An Index to the Regulation
III. An EPA report dealing with questions and answers concerning the regulation.
IV. The Regulation.

Although a synopsis of the regulation is provided, it is strongly recommended that the full regulation be thoroughly read and understood by personnel responsible for its implementation.

Also the EPA Report, "EPA's Final PCB Ban Rules: Over 100 Questions & Answer to Help You Meet These Requirements" is provided for information only. This document is not part of the regulations and does not impose additional rules on our facilities. The answers are merely documented EPA 'opinion' on the regulations.

The forms needed for record keeping were distributed previously and for this reason have been omitted from this packet. Additional labels are available from the previously publicized source.

SYNOPSIS OF PCB REGULATIONS

This synopsis is not intended to be a substitute for the regulation. The information should be used to help gain a quick overview and as a guide or reference in connection with use of the regulations (FR 44 (106) 5/31/79, pp 31514 to 31568).

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TOXIC SUBSTANCES CONTROL ACT - SECTION 6(e)
PCB MARKETING AND DISPOSAL RULE

I. GENERAL

Rule promulgated on May 31, 1979 and effective (and superseding current PCB Disposal Rules) on July 2, 1979 (44 FR 31514).

Any appeals of rule must be filed with appropriate Federal court of appeals before July 31, 1979 (TSCA - Section 19).

II. PENALTIES

Civil and Criminal - Any person who violates an exemption or authorization may be liable for a civil penalty of up to $25,000 per day of violation. In addition, a person who knowingly or willfully violates an exemption or authorization may also be fined up to $25,000 per day of violation and may be imprisoned for up to one year, or both (TSCA - Section 16).

III. ENFORCEMENT

Injunctions - Any person who violates an exemption or authorization may also be subject to court injunctive enforcement relief, both to restrain his violation of TSCA and to compel him to follow the exemption or authorization (TSCA - Section 17).

IV. RECORD KEEPING

See attached memorandum from P.H.S. to M.A.P., dated December 19, 1978.

See Annex VI, Section 761.45.

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December 19, 1978

EPA TOSCA-PCB Marking and
Disposal Inspection Manual

M. A. Pierle

D. E. Cayard
W. R. Corey
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P. C. Krizov
J. E. Lipe
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R. S. Nelson
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J. C. Weber

You have requested a review of Section 1 - Legal Authority - of the above. In Section 1, the EPA instructs its inspectors to enter, at reasonable times, premises covered by the PCB marking and disposal regulation and inspect, copy, photograph and sample matters bearing upon whether the regulation requirements have been met by the inspected establishment. The EPA references Section 11 of the Toxic Substances Control Act ("Act") as authority for these instructions.

Section 11 of the Act, in essence, authorizes the Administrator of the EPA, or his duly authorized representative, to enter premises covered by the PCB regulation and inspect records, files, papers, processes, control and facilities covered by the PCB regulation to determine compliance. Read literally, Section 11 mentions only inspection and does not seem to cover such matters as sampling, copying records or photographing the premises. On the other hand, the legislative history tends to support the EPA interpretation, stating that the inspection right in Section 11 is intended to permit inspectors to record the results of inspection, for example, by photocopying records to photographing the premises.

Notwithstanding the legislative history, in the event a request is made to copy or photograph information or facilities, the inspector should be urged to do so in a manner that avoids disclosure of confidential information. For example, confidential information on a paper to be copied could be covered, or a photograph of facilities could be taken from an angle that does not disclose confidential information. If an inspector continues to insist upon being allowed to copy confidential information or photograph confidential facilities, he should be requested to put the request in writing for consideration by management.

Peter H. Smith

RETYPED FROM ORIGINAL FOR REPRODUCTION CLARITY

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DEFINITIONS - PCB REGULATIONS

"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:

1. "Small Capacitor" means a capacitor which contains less that 1.36 kg (3 lbs) of dielectric fluid.
2. "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 above.
3. "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.

"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 § 761.41.

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

"Fluorescent Light Ballast" means a device that electrically controls fluorescent light fixtures and that includes a capacitor containing 0.1 kg or less of dielectric.

"Incinerator" means an engineered device using controlled flame combustion to thermally degrade PCBs and PCB Items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers.

"Leak" or "leaking" means any instance in which a PCB Article, PCB Container, or PCB Equipment has any PCBs on any portion of its external surface.

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"PCB" and PCBs" mean any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. (See § 761.1(b) Applicability for applicable concentrations of PCBs). PCB and PCBs as contained in PCB items are defined in §761.2(x).

"PCB Article" means any manufactured article, other than a PCB Container that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB Article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end use functions(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB Article.

"PCB Article Container" means any package, can, bottle, bag, barrel, drum, tank or other device used to contain PCB Articles or PCB Equipment, and whose surface(s) has not been in direct contact with PCBs.

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

"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.

"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 PCBs at a concentration of 50 ppm or greater.

"PCB Transformer" means any transformer that contains 500 ppm PCB or greater.

"PCB-Contaminated Transformer" means any transformer that contains 50 ppm or greater of PCB but less than 500 ppm PCB (See § 761.31(a)(5) for provisions permitting reclassifying PCB Transformers to PCB-Contaminated Transformers).

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

"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.

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761.2 Definitions

1. "Disposal" means intentionally or accidentally discard, throw away or otherwise complete and 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.

2. "Chemical Waste Landfill" means a landfill for PCB's and PCB items as specified in Par. 761.41.

3. "Incinerator" means an engineered device using controlled flame combustion to thermally degrade PCB's and PCB items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers.

760.10 Disposal Requirements

1. PCB's must be disposed of in an incinerator which complies with Annex I (Para. 761.40).

2. Mineral oil dielectric fluid from PCB contaminated transformers containing a PCB concentration of 50 - 500 ppm must be disposed of in one of the following:

   a. An incinerator which complies with Annex I (Par. 761.40)

   b. A chemical waste landfill which complies with Annex II (Par. 761.41) provided it does not exceed 500 ppm PCB and is not ignitable as described in 761.41 (b)(8)(iii) of Annex II.

   c. In a high efficiency boiler meeting the detailed specifications listed.

3. Liquids, other than mineral oil dielectric fluid containing a PCB concentration of 50 - 500 ppm shall be disposed of in one of the following:

   a. An incinerator which complies with Annex I (Par. 761.40)

   b. A chemical waste landfill which complies with Annex II (Par. 761.41) provided it does not exceed 500 ppm PCB and is not ignitable as described in 761.41(b)(8)(iii) of Annex II.

   c. In a high efficiency boiler meeting the detailed specifications listed.

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4. Any non-liquid PCB's in the form of contaminated soil, rags, or other debris shall be disposed of in one of the following:

   a. In an incinerator which complies with Annex I (Par. 761.40).

   b. In a chemical waste landfill which complies with Annex II (Par. 761.41) except liquid PCB's shall not be processed into non-liquid forms to circumvent high temperature incineration requirements.

   c. It should be noted that dilution of PCB or PCB contaminated fluid is prohibited.

5. When storage is desired prior to disposal, PCB's shall be stored in a facility which complies with Annex III (Par. 761.42).

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

   a. In an incinerator that complies with Annex I (Par. 761.40).

   b. In a chemical waste landfill which complies with Annex II (Par. 761.41) provided that it is drained of all liquid filled with solvent (kerosene, xylene, toluene, etc.), and allowed to stand 18 hours and then drained thoroughly with proper disposal of the liquid.

7. PCB Contaminated Transformers shall be disposed of by draining all free-flowing liquid from the transformer and proper disposal of liquid. The disposal of the drained transformer is not regulated by this rule.

8. PCB Capacitors

   a. PCB Small Capacitors (less than 3 lbs. of dielectric fluid) may be disposed as municipal solid waste.

   b. PCB Large High or Low Voltage Capacitors (more than 3 lbs. of dielectric fluid) may be disposed in an Incinerator that complies with Annex I (Par. 761.40); or until 1/1/1980 in a chemical waste landfill which complies with Annex II (Par. 761.41).

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

   a. In an incinerator that complies with Annex I (Par. 761.40).

   b. In a chemical waste landfill that complies with Annex II (Par. 761.41) provided all free-flowing liquids have been thoroughly drained from the articles and the drained liquids disposed of in an incinerator that complies with Annex I (Par. 761.40).

10. PCB Containers, unless decontaminated in compliance with Annex IV (Par. 761.43), shall be disposed of in accordance with

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the following:

a. In an incinerator which complies with Annex I (Par. 761.40).

b. In a chemical waste landfill that complies with Annex II (Par. 761.41) if first drained of all free-flowing liquids and the PCB liquid disposed in an incinerator that complies with Annex I (Par. 761.40).

11. Any PCB container containing PCB's at a concentration less than 500 ppm in a liquid state shall be drained and the container disposed as municipal solid waste and the liquid disposed in an incinerator that complies with Annex I (Par. 761.40).

12. Spills and other uncontrolled discharges of PCBs constitute the disposal of PCBs. PCBs resulting from spill clean-up and removal operations shall be stored and disposed of in accordance with this section (Par 761.1). In order to determine if a spill has resulted in a contamination levels that is 50 ppm of PCBs or greater in soil, gravel, sludge, fill, rubble, or other land based substances, the regulations suggest consulting the appropriate EPA Regional Administrator to obtain information on sampling and analysis procedures. Based on Monsanto's sampling and analytical expertise contacting EPA authorities is unnecessary. Information on sampling and analytical procedures is available within Monsanto from D. G. Glasgow of MRC's EASC located in Dayton.

This paragraph does not exempt any person from the actions and liability of other statutory authorities including Section 8(e) of TSCA, Section 311 of the Clean Water Act and RCRA. Since EPA has deleted the special notification requirements proposed in Annex VII, this final rule does not impose any new spill notification requirements.

The rules requires the use of labels which include a number to notify in case of a spill. However, the authority under the regulation does not require the Coast Guard to be notified except for loss of oil into or onto navigable waterway in accordance with the requirements of section 311 of the Clean Water Act. Notification of the EPA Administrator is required if the spill meet the requirements of section 8(e) of TSCA. Monsanto has established a formal procedure for reporting this type information. It is suggested that the person reponsible at each plant for spill control plans notify the proper authorities, internal or external, in the event of a spill. His name and telephone number can be added to the PCB label.

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Transformers

The new PCB rules and regulations provide three categories for transformers. The catefories are:

1. PCB Transformer - PCB content of the dielectric fluid over 500 ppm. The transformer is assumed to be a PCB Transformer if:

   A. Nameplate indicates PCB.

   B. Owner has reason to believe the transformer contains PCB dielectric fluid.

   C. Test has shown over 500 ppm PCB is dielectric fluid.

   Unless there is reason to believe a transformer contains PCB (askarel) dielectric fluid or otherwise has 500 ppm PCB or greater, for the reasons given above, it may be assumed to be a PCB contaminated transformer.

2. PCB contaminated transformer - PCB content of the dielectric fluid is 50 ppm or greater but less than 500 ppm.

3. Non PCB Transformer - PCB content less than 50 ppm. No transformer is a non PCB transformer unless its dielectric fluid has been tested or otherwise verified to contain less than 50 ppm PCB.

The differencescited above are given as a basis for the continued use, servicing and rebuilding of transformers which may contain PCBs.

The objective of the rules are to allow continued use of transformers for their full useful life.

The rules related to servicing and rebuilding based on the transformer categories given above are:

1. PCB Transformers - Routine servicing (testing the dielectric fluid, filtering the fluid and replacing gaskets) is permitted. Any servicing (including rebuilding) that involves removing the coils from the casing is prohibited.

   However a PCB Transformer may be converted to a PCB Contaminated Transformer by draining, refilling the unit with a non PCB dielectric fluid. The fluid must be tested after at least three months of in-service use to verify PCB levels are below 500 ppm.

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2. PCB contaminated transformer-both routine servicing and rebuilding are permitted for transformers in this classification, including PCB transformers which have been reclassified as PCB contaminated transformers.

3. Non PCB Transformer - this classification for a transformer, based on verification that the non PCB dielectric fluids contain less than 50 ppm PCBs, is to exempt the fluid from PCB disposal requirements established for mineral oil which contains more than 50 ppm PCB.

   However, no testing is needed if the mineral oil will be burned in a high efficiency boiler or disposed of in any other way permitted for mineral oil contamined with PCB up to 500 ppm.

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 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.

PCB BAN - HEAT TRANSFER AND HYDRAULIC FLUIDS. PAGES 31550, 31551

It is EPA's intent to have residual levels of PCB's below 50 ppm by July 1, 1984 without causing major disruptions to system operation and avoiding creation of large volumes of PCB contaminated wastes in 1979/1980.

Accordingly, use of systems is authorized until July 1, 1984. PCB levels must be checked once per year and if above 50 ppm the system must be drained and refilled with non PCB fluid within 6 months of the test. The first test must be complete by November 1, 1979. Subsequent annual tests must be made at least 3 months after any draining/refilling to permit PCB level to reach equilibrium.

Heat transfer systems involved with production of food, drugs, cosmetics or devices (defined by section 201 of Federal Food, Drug and Cosmetic Act - does not include soap) must be below 50 ppm by November 1, 1979.

Heat transfer systems and hydraulic systems containing more than 500 ppm PCB had to have been 'marked' by July, 1978. Those containing 50-500 must be marked by October 1, 1979.

The rules disposal sections offer 2 additional disposal options for synthetic fluids containing 50-500 ppm. (a) Use of a high efficiency boiler for which detailed specifications are set out and the use of which must be covered by Regional EPA approval and (b) Landfill in Hazardous Chemical landfill provided their permit provides for difficult to ignite liquid wastes. For landfill, liquids must be stabilized with absorbents prior to landfill.

Testing	Note that isomer levels in used heat transfer fluids will not match those in Aroclors sold prior to 1971 as heat transfer fluids; some isomer rearrangements take place. You may need to report PCB levels against one or more standards, e.g. Aroclor 1248/1221. MRC - EASC's Laboratory in Dayton is capable of performing the PCB tests. Contact D. G. Glasgow in Dayton for details
SPCC's	The proposed PCB control and containment plan provision have been cancelled but SPCC's required under section 311 of Clean Water Act (FR 39276 Sept. 1.78) must deal with PCB's at using locations.
Packaging	Samples and product for disposal. See packaging section.
Storage for Disposal	See pages 31554 - 31556

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Fluid Spills Discuss

While the heat transfer and hydraulic sections parallel each other, there are minor differences.

Hydraulic fluids may be processed and distributed in commerce for filtering, distilling or otherwise removing PCB's. This is because PCB's can be separated from phosphate esters more efficiently than from heat transfer base stocks. Companies involved in such PCB reduction must have an exemption after July 1, 1979.

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CORPORATE DISTRIBUTION DEPARTMENT

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GENERAL PACKAGING REQUIREMENTS FOR POLYCHLORINATED BIPHENYLS (PCB'S) SHIPPED BY ANY MODE

INTRODUCTION

The purpose of this procedure is to provide proper marking, labeling and packaging instructions for sample and drum shipments of Polychlorinated Biphenyls (PCB's). Adherence to the requirements contained herein will achieve package protection and insure confinement in the event of internal package failure during transit.

DEFINITIONS

These definitions are extracted from the Environmental Protection Agency 40 CFR Part 761 as published in final rule form in the Federal Register Volume 44 No. 106, Thursday, May 31, 1979.

A. PCB and PCB's means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance.

B. PCB ARTICLE means any manufactured article other than a PCB Container that contains PCB's and whose surface(s) has been in direct contact with PCB's. PCB Article includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item:

(1) Which is formed to a specific shape or design during manufacture,

(2) Which has end use function(s) dependent in whole or in part upon its shape or design during end use, and

(3) Which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB Article.

C. PCB ARTICLE CONTAINER means any package, can, bottle, bag, barrel, drum, tank or other device used to contain PCB Articles or PCB Equipment, and whose surface(s) has not been in direct contact with PCB's.

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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.

   - Fiberboard box (DOT Spec. 12A, 12B)
   - Wooden box (DOT Spec. 15A, 16A)
   - Metal drum (DOT Spec. 5B (tight head), 17C (full open head), 37A (full open head).

2. Adequate inside container sized to quantity to be shipped.

   - Glass, earthenware or compatible plastic bottles, or
   - Metal pails or cans.

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3. Roll of 12" wide, 1/4" thick Kimpak, vermiculite, or other material of equivalent absorbing and cushioning properties.

4. Plastic bag (1-2 mil) of sufficient size to encase Kimpak wrapped inside container. Plastic material (PE, PVC, etc.) must be impervious to the sample material.

5. Plastie (wire sandwiched in paper or plastic, similar to those used on bread wrappers).

6. Labels (available from Labeling Section in St. Louis).

   - Product sample label or multipurpose sample label.
   - Leakage Alert label for all liquid samples.

7. Cel-O-Seal tape or equivalent.

PACKAGING PROCEDURE

A. General

1. Use containers which must:

   - Have a minimum outage of 2% upon filling so as not to leak if the contents are heated to 130°F, and
   - Withstand an internal pressure of 15 psig.

2. Tightly secure the cap of the filled inside container and seal with Cel-O-Seal tape or equivalent.

3. Apply the identifying label.

4. For liquids wrap the inside container with the following minimum lengths of Kimpak:

Container Size:	4 oz.	8 oz.	16 oz.	32 oz.	1 gal.
Length:	8 in.	15 in.	30 in.	60 in.	120 in.

   Cover all faces of the inside container with equal thicknesses of Kimpak or equivalent to provide cushioning and absorbing media. If vermiculite is used cover all faces of the inside container with a minimum of 2 inches of material.

5. Place the wrapped container in the plastic bag and secure with a Plastie.

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6. Apply the Leakage Alert label to the bag and place inside of a metal can. 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 proper shipping name on exterior of container.

11. Apply a PCB, M_L1, M_L2 or Ms labels to that part of the package bearing the consignee's name and address.

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 of a metal drum which must be:

   - DOT Spec. 5B tight head for liquids
     - use as is.
   - DOT Spec. 17C full open head for solids
     - use as is.

5. Mark proper shipping name on exterior of container.

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6. Apply appropriate PCB label, see pages 5 and 6 of this standard.

7. Complete necessary shipping papers.

MARKING

PCB Containers and PCB Article Containers containing articles or equipment must be marked under the provisions of the regulations as shown in Figures 1, 2 or 3, as appropriate. (Shown in actual size)

Liquid PCB's in concentrations of 50 ppm to 500 ppm shall be marked with the M_L label as shown in figure #1.

CAUTION
CONTAINS
PCBs
(Polychlorinated Biphenyls)

A toxic environmental contaminant requiring special handling and disposal in accordance with U.S. Environmental Protection Agency Regulations 40 CFR 761 For Disposal Information contact the nearest U.S. E.P.A. Office.

In case of accident or spill, call toll free the U.S. Coast Guard National Response Center.
800-424-8802

Also Contact _____

Tel. No. _____

ML1

FIGURE 1

PCB-ARCH-EXT0382811

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 Ms label shown in figure 3 may be used.

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

CAUTION
CONTAINS
PCBs
(Polychlorinated Biphenyls)

A toxic environmental contaminant requiring special handling and disposal in accordance with U.S. Environmental Protection Agency Regulations 40 CFR 761 For Disposal information contact the nearest U.S. E.P.A. Office

In case of accident or spill call toll free the U.S. Coast Guard National Response Center 800-424-8802

Also Contact _____

Tel No _____ M-2

FIGURE 2

CAUTION —
CONTAINS
PCBs
(Polychlorinated Biphenyls)
FOR PROPER DISPOSAL INFORMATION
CONTACT U.S. ENVIRONMENTAL
PROTECTION AGENCY
Ms

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, vaporization, 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 feedstuffs and pharmaceuticals."

Monsanto will furnish four large M-1 (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 and side of the transport vehicle.

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PCB REGULATIONS

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