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 (NOTE: Some may or may not contain PCB's.):

   (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.

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)
c - Metal drum (DOT Spec. 5B, 6D (pe/steel composite), 17E (tight heads), DOT Spec. 5B, 17C or 37A (full open heads).

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

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

c - change

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.

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 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. (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:

c 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

c - change

5. Mark shipping name on exterior of container.

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_L1 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

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.

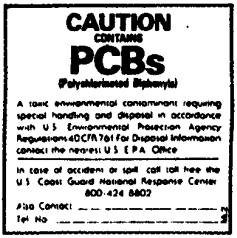


FIGURE 2



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, 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.