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EPA

# EPA's Final PCB Ban Rule:

## Over 100 Questions & Answers To Help You Meet These Requirements



# EPA's Final PCB Ban Rule: Over 100 Questions & Answers To Help You Meet These Requirements

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## INTRODUCTION

On May 31, 1979 in the Federal Register (44 FR 31514) the U.S. Environmental Protection Agency published the Final Rule for Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions. This Booklet* in a non-technical manner, deals with the Rule's coverage and requirements. Its question-and-answer format is categorized into the following 18 areas.


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*This Booklet has been prepared by the Industry Assistance Office within EPA's Office of Toxic Substances. It is an informal document, and persons are directed to the PCB Final Rule for specific legal requirements.



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## INTRODUCTORY INFORMATION

(1) WHAT ARE PCBs?

The term PCBs is short for polychlorinated biphenyls. PCBs belong to a broad family of organic chemicals known as chlorinated hydrocarbons. PCBs are produced by attaching chlorine molecules to a biphenyl molecule. Although PCBs may be produced naturally in the environment, almost all PCBs in existence today have been synthetically manufactured.

(2) WHO MANUFACTURED PCBs?

Monsanto Corporation was the principal manufacturer of PCBs in the United States. They began production of PCBs in 1929; in 1977 they voluntarily terminated production because of the widespread environmental concerns about PCBs.

(3) WHAT TRADE NAMES WERE PCBs SOLD UNDER?

The tradename Monsanto Corporation sold PCBs under was "Askarel". However, companies who used PCBs in the manufacture of transformers and capacitors, and for other uses, often used other tradenames. The following list is representative of PCB Tradenames: Aroclor, Pydraul, Therminol, Pyroclor, Santotherm, Pyralene, Pyranol, Inerteen, Asbestol, Chlorextol, Diachlor, Dykanol, Elemex, Hyvol, No-Flamol, Saf-T-Kuhl, Aroclor B, Clorinol, Clorphen, Eucarel.

(4) WHAT ARE THE PHYSICAL AND CHEMICAL PROPERTIES OF PCBs?

PCBs have a heavy liquid, oil-like consistency, and weigh 10-12 pounds per gallon. The properties which made them commercially attractive include: a high degree of chemical stability, low solubility in water, low vapor pressure, low flammability, high heat capacity, low electrical conductivity, and a favorable dielectric constant.

(5) HOW ARE PCBs USED?

The primary use of PCBs has been in "closed" or "semi-closed" systems in electrical transformers, capacitors, heat transfer systems, and hydraulic systems. PCBs have also been used in paints, adhesives, caulking compounds, plasticizers,

inks, lubricants, carbonless copy paper, and sealants, coatings, and dust control agents.

Most of the PCBs marketed in the United States are still in service, primarily in electrical equipment.

(6) WHY ARE PCBs HARMFUL TO HUMAN HEALTH AND THE ENVIRONMENT?

PCBs are harmful because once released into the environment they do not break apart into new chemical arrangements, instead they bioaccumulate in organisms throughout the environment. In addition, PCBs biomagnify in the food chain -- that is, they accumulate in the tissues of living organisms and as they move up the food chain towards man their concentration increases. These facts are significant because PCBs have been shown to cause chronic (long-term) toxic effects in many species even when the exposured to very low concentrations.

(7) WHAT ARE THE KNOWN HEALTH EFFECTS OF PCBs?

There are well documented tests which show PCBs cause, among other things, reproductive failures, gastric disorders, skin lesions, and tumors in laboratory animals.

Studies of workers exposed to PCBs have shown a number of symptoms and adverse effects including, but not limited to, chloracne and other epidermal disorders, digestive disturbances, jaundice, impotence, throat and respiratory irritations, and severe headaches.

(8) WHAT ACTION HAS EPA TAKEN AGAINST PCBs?

In 1976, Congress enacted the Toxic Substances Control Act (TSCA). Section 6(e) of this law requires EPA to establish rules to: (1) govern the disposal and marking of PCBs; and (2) prohibit, with certain exceptions, the manufacture, processing, distribution in commerce, and non-totally enclosed use of PCBs.

Final Marking and Disposal Rules appeared in the Federal Register on February 17, 1978 (clarifying amendments to this Rule appeared in the August 2, 1978 Federal Register).

On June 7, 1978, the Proposed PCB Ban Rule was published in the Federal Register. The Final PCB Ban Rule appeared in the Federal Register on May 31, 1979; this Rule supersedes the February 17, 1978 PCB regulation and takes effect on July 2, 1979.

## GENERAL RULE PROVISIONS

(9) WHAT DOES THE MAY 31, 1979 PCB BAN RULE DO?

Specifically, the rule:

(1) prohibits the manufacturing, processing, distribution in commerce, and the use of PCBs except in a totally enclosed manner after July 2, 1979;

(2) provides authorizations for certain processing, distribution in commerce, and use of PCBs in a non-totally enclosed manner;

(3) prohibits, unless exempted by EPA, all manufacturing of PCBs after July 2, 1979;

(4) prohibits, unless exempted by EPA, all processing and distribution in commerce of PCBs after July 1, 1979.

Also, the February 17, 1978 PCB Disposal and Marking Rule requirements are integrated into this PCB Ban Rule. Therefore, with the total scope of the PCB regulation -- from labeling to production ban to disposal -- now appearing in the May 31, 1979 Federal Register, this publication supersedes all earlier PCB regulations upon its July 2, 1979 effective date.

EPA has also published in the May 31, 1979 Federal Register a notice which explains how to file for an exemption from the July 1, 1979 bans on processing and distribution in commerce of PCBs. Petitions for exemptions must be filed by July 1, 1979. EPA earlier published procedures for filing petitions for exemption from the January 1, 1979 prohibition on manufacturing of PCBs. These procedures can be found in the November 1, 1978 Federal Register (43 FR 50905).

(10) DOES THIS RULE APPLY TO ALL PCBs OR IS THERE A CUT-OFF POINT BASED ON THE CONCENTRATION OF PCBs?

In order to practically implement this rule (i.e., exceptions, disposal and marking requirements), EPA had to adopt a PCB concentration cut-off point for regulation. Therefore, the final rule applies to any substance, mixture, or item with 50 ppm or greater PCB; wherever the term "PCB" or "PCBs" is used in the rule, it means PCBs at a concentration of 50 ppm or greater, unless otherwise specified.

This 50 ppm is a change from the February 17, 1978 Disposal and Marking Rule which set a 500 ppm cut-off. By lowering the PCB cut-off point from 500 ppm to 50 ppm, it will substantially increase health and environmental protection --- approximately,



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one million additional pounds of existing PCBs will be controlled, as well as 100,000 to 500,000 pounds per year of new PCBs.

(11) IS THERE ANYTHING WHICH CONTAINS LESS THAN 50 PPM PCBs WHICH IS BANNED FROM BEING USED UNDER THIS RULE?

Yes, waste oil containing any detectable concentration of PCBs is forbidden from being used as a sealant, coating, or dust control agent. To permit the use of waste oil with any PCB-contamination to be used in road oiling, pipe coating, or vegetation spraying would cause PCBs to directly enter the air and waterways, which could introduce them into the food chain.

(12) WHAT IS THE DIFFERENCE BETWEEN "MANUFACTURING OF PCBs" AND "PROCESSING OF PCBs"?

The actual creation of the chemical substance PCB, or a substance contaminated with PCBs (e.g., PCBs as an impurity), is the "manufacturing of PCBs".

The production of PCB Articles and PCB Equipment is considered "processing of PCBs", and involves the use of existing PCBs. Processing PCBs includes such activities as placing manufactured PCBs into capacitors or transformers.

(13) WHAT IS CONSIDERED A PCB ARTICLE? PCB EQUIPMENT? PCB ITEM?

An article whose surface is directly contacted by PCBs is considered a "PCB Article". Examples include capacitors, transformers, electric motors, pumps, and pipes.

Equipment whose surface is not directly contacted by PCBs, but contains a PCB article, is considered "PCB Equipment". Examples include televisions, air conditioners, microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

"PCB Item" is a collective term used throughout the Rule to refer to PCB Equipment/Articles/Containers/Article Containers.

(14) WHAT EFFECT DOES THE PCB BAN RULE HAVE ON PCB ARTICLES? PCB EQUIPMENT?

After July 2, 1979, PCB Articles can no longer be produced because the production is not totally enclosed. However, since

the production of PCB Equipment is considered totally enclosed processing, this can continue until July 1, 1979 under the Rule; in order to continue PCB Equipment production after that date, an exemption must be obained from EPA.

(15) THE FINAL RULE SAYS THAT EPA CAN GRANT EXEMPTIONS FROM THE PCB MANUFACTURING/IMPORTATION BAN EFFECTIVE JULY 2, 1979 -- OR FROM THE PCB PROCESSING/DISTRIBUTION IN COMMERCE PROHIBITION EFFECTIVE JULY 1, 1979. HOW CAN I GET AN EXEMPTION? HAS EPA ALREADY GRANTED SOME?

In general, anyone wanting an exemption must petition EPA for it. An exemption, valid for only one year, must be granted annually through a formal rulemaking. In some instances, individuals may not have to seek separate exemptions when the Agency grants "class" exemptions for some processing and distribution in commerce bans.

In the November 1, 1978 Federal Register, EPA published interim rules for submitting exemption petitions from the July 2, 1979 PCB manufacturing/importation prohibition; over 70 petitions have been received. EPA announced, in the January 2, 1978 Federal Register, that it would not enforce the ban against those who had submitted petitions until action had been taken on them. Subsequently, in the May 31, 1979 Federal Register notice, EPA published a Notice of Proposed Rulemaking which identifies each exemption petition received, and the action EPA proposed to take on most of them.

Also, in the May 31, 1979 Federal Register, EPA has published procedure rules for submitting exemption petitions from the July 1, 1979 processing/distribution in commerce prohibitions. These procedures include the categories eligible for class exemptions.

(16) WHERE CAN I DETERMINE WHAT CATEGORIES ARE ELIGIBLE FOR CLASS EXEMPTIONS?

You should make a careful review of Section 750.31(a) of the Interim Procedural Rules for the processing and distribution in commerce exemptions. These rules are published in the May 31, 1979 Federal Register. Section 750.31(a) lists and describes the categories that may file class exemption petitions. If your activity is not listed in Section 750.31(a), you must file a petition on an individual basis.



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(17) THE BAN RULE PROHIBITS THE USE OF PCBs EXCEPT IN A "TOTALLY ENCLOSED MANNER". WHAT IS MEANT BY "TOTALLY ENCLOSED MANNER?

"Totally enclosed manner" is a term which Congress wrote into TSCA's Section 6(e) and refers to PCBs contained in a way that does not permit any detectable exposure to PCBs.

Examples of totally enclosed PCB uses, allowed to continue after July 2, 1979, are found in television sets, air conditioners, and microwave ovens. These items contain PCB components (such as PCB capacitors) but their normal continued use will not result in any exposure to human beings or their surroundings.

(18) THE BAN RULE SAYS THAT EPA CAN GRANT EXCEPTIONS, KNOWN AS AUTHORIZATIONS, TO ENABLE THE CONTINUED MANUFACTURING, PROCESSING, DISTRIBUTION IN COMMERCE, OR USE OF PCBs IN A NON-TOTALLY ENCLOSED MANNER AFTER JULY 2, 1979. HOW CAN I GET AN AUTHORIZATION? HAS EPA ALREADY GRANTED SOME?

EPA may propose and grant an authorization without a specific request from those who will benefit from the authorization. Also, the authorization can be valid for any time period that EPA finds appropriate.

The following non-totally enclosed PCB activities have already been authorized by EPA (beside each is the Rule section to refer to for details):

- o servicing PCB Transformers and PCB-Contaminated Transformers (Sec. 761.31(a));
- o use in and servicing of Railroad Transformers (Sec. 761.31(b));
- o use in and servicing of Mining Equipment (Sec. 761.31(c));
- o use in Heat Transfer Systems (Sec. 761.31(d));
- o use in Hydraulic Systems (Sec. 761.31(e));
- o use in Carbonless Copy Paper (Sec. 761.31(f));
- o Pigments (Sec. 761.31(g));
- o servicing Electromagnets (Sec. 761.31(h));
- o use in Natural Gas Pipeline Compressors (Sec. 761.31(i));



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- o Small Quantities for Research & Development Sec. 761.31(j));
- o Microscopy Mounting Medium (Sec. 761.31(k)).

EPA authorized the above PCB activities in a non-totally enclosed manner after evaluating: the likelihood, magnitude, and nature of exposure to human beings or the environment; the availability and characteristics of substitutes; and the economic significance of the activity, including its importance to the national economy, small business, technological innovation, the environment, and public health.

(19) WHAT IS THE DIFFERENCE BETWEEN A PCB AUTHORIZATION AND A PCB EXEMPTION?

Authorizations are for certain uses of PCBs to extend beyond July 2, 1979. However, exemptions for manufacturing are needed in order to manufacture PCB-contaminated substances after January 1, 1979. Also, exemptions for processing and distribution in commerce of PCBs are needed in order to continue these activities after July 1, 1979.

Exemptions are only valid for a maximum of one year, while authorizations may be granted for longer periods of time. Other differences between authorizations and exemptions are described in detail in the Preamble to the Final Rule.

(20) WHAT DOES THE RULE PROVIDE FOR LEASED PCB EQUIPMENT?

PCB Equipment can be leased for any period of time as long as the lease begins before July 1, 1979; if you want to lease equipment after this date you will have to first get an exemption from EPA. To import or export leased PCB equipment after July 1, 1979 will also require an exemption from EPA.

(21) IS THERE AN ECONOMIC IMPACT STATEMENT AVAILABLE?

Yes, there is an economic impact statement available on the PCB Ban Rule. It is called "PCB Manufacturing, Processing, Distribution in Commerce and Use Ban Regulation: Economic Impact Analysis", also commonly referred to as the "Versar Report". For a copy of this document call the Industry Assistance Office (see the "Contacts for Information" section of this Booklet).



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## IMPORT/EXPORT

(22) CAN PCBs (THE CHEMICAL ITSELF) BE IMPORTED OR EXPORTED AFTER THE BAN RULE'S JULY 2, 1979 EFFECTIVE DATE? WHAT ABOUT PCB EQUIPMENT (TELEVISION SETS, MICROWAVE OVENS, ETC.) WHICH CAN CONTINUE TO BE DOMESTICALLY PRODUCED UNTIL JULY 1, 1979, HOW LONG CAN THEY CONTINUE TO BE IMPORTED AND EXPORTED?

Because TSCA considers the term "import" to be synonomous with "manufacture", no PCBs (except waste) can be imported or exported after July 2, 1979, unless an exemption is obtained from EPA.

Furthermore, it was the intent of Congress to have this Rule treat domestic and foreign PCB production equally. Therefore, PCB Equipment can be imported and exported until July 1, 1979. After July 1, 1979, an exemption must be obtained from EPA in order to continue this activity.

(23) EPA HAS DECIDED TO ADOPT AN OPEN BORDER POLICY WITH RESPECT TO THE DISPOSAL OF PCBs. WHAT DOES THAT MEAN?

The PCB Ban Rule allows for PCB wastes to be either imported or exported for disposal for one year -- until May 1, 1980. All imported PCB wastes must be disposed of in accordance with Subpart B of the Final Rule. Persons exporting PCB wastes for disposal are to notify EPA at least 30 days before the first export shipment; quarterly reports of actual shipments are also required.

EPA believes that the adoption of this open border policy for PCB waste disposal will be advantageous to both the U.S. and foreign countries, especially Canada. Generators of PCB wastes will be able to select the PCB disposal site that offers the most reasonable transportation and disposal costs. The open border policy will be in effect for almost one year, at which time EPA will examine the progress made by other nations in establishing and operating safe PCB disposal sites. The Agency will also at this time determine if extension of the open border policy is appropriate.

## TRANSFORMERS

(24) UNDER THE FINAL BAN RULE, THE USE OF PCBs IN TRANSFORMERS IS CONSIDERED USE IN A TOTALLY ENCLOSED MANNER. DOES THIS MEAN I CAN CONTINUE TO USE MY TRANSFORMERS CONTAINING PCBs? IF SO, FOR HOW LONG?

Transformers containing PCBs can be used as long as they perform their intended function and do not leak PCBs into the environment.

(25) IN ORDER TO GET THE FULL USEFUL LIFE OUT OF LIQUID FILLED TRANSFORMERS, THEY MUST BE SERVICED OR REPAIRED PERIODICALLY. ARE THESE ACTIVITIES PERMITTED UNDER THE RULE? ARE THERE ANY RESTRICTIONS?

Servicing of these transformers is authorized until July 1, 1984. EPA will consider the necessity of extending the authorized period prior to the 1984 termination date. Special restrictions are related to the extent of the repairs or servicing activities, and whether PCBs are sold during the servicing activities.

There are four categories of transformers considered in this regulation and the restrictions and special conditions are easier to understand in the context of these categories.

(26) WHAT ARE THE 4 TRANSFORMER CATEGORIES? WHAT IS THE SIGNIFICANCE OF EACH?

The four categories of transformers established by the PCB Rule are:

(1) PCB Transformers containing PCBs at a concentration of 500 ppm or greater;

(2) PCB-Contaminated Transformers containing between 50 ppm and 500 ppm PCB;

(3) Non-PCB Transformers containing less than 50 ppm PCB;

(4) Railroad Transformers used in electric railroad locomotives and self-powered cars that contain PCB fluid.

The transformer categories are significant, because under the Rule each is subject to different disposal, servicing (including rebuilding), and storage requirements. (Note: The Rule, as do these Q & A's, address Railroad Transformer



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requirements separately; the other 3 categories are discussed simultaneously.)

(27) HOW DO I DETERMINE WHICH OF THE FOUR TRANSFORMER CATEGORIES I HAVE?

A transformer must be assumed to be a PCB Transformer if: (1) the nameplate indicates that the transformer contains PCB dielectric fluid; (2) the owner or operator has any reason to believe that the transformer contains PCB dielectric fluid; or (3) the transformer's dielectric fluid has been tested and found to contain 500 ppm or greater PCB. If a transformer does not have a nameplate or there isn't any information to indicate the type of dielectric fluid in it, the transformer must be assumed to be a PCB Transformer.

If a transformer is tested and found to contain less than 500 ppm PCB, it will then fall into one of the other appropriate categories.

A transformer can be reclassified as a Non-PCB Transformer if its dielectric fluid has been tested or otherwise verified to contain less than 50 ppm PCB. Testing Transformers in order to classify them as Non-PCB Transformers does not significantly change the actions required by the Rule. If your transformers are proven Non-PCB Transformers you should take precautions to see that they aren't later contaminated during servicing with PCB fluid over 50 ppm.

(28) WHY SHOULD I ASSUME THAT MY MINERAL OIL TRANSFORMER IS A PCB-CONTAMINATED TRANSFORMER? IF I GO TO THE EXTRA TROUBLE AND EXPENSE TO TEST MY TRANSFORMER IN ORDER TO CLASSIFY IT AS A NON-PCB TRANSFORMER, WHY WON'T MY REQUIREMENTS UNDER THE RULE BECOME SIGNIFICANTLY SIMPLER?

Current data shows that 25-40% of the existing mineral oil transformers are contaminated with 50 ppm or more of PCBs.

No clear pattern exists to explain why one transformer is contaminated and another one is significantly less contaminated. This means that testing all transformers would be necessary in order to be certain about the appropriate category. This would be extremely expensive. Therefore, the requirements in the Rule for servicing, disposal, labeling, and use have been designed to make this testing step largely unnecessary.

The only servicing restriction on PCB-Contaminated Transformers is that companies servicing transformers owned by others and who sell PCB-contaminated mineral oil to their customers must



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receive an exemption from EPA. If they sold only uncontaminated mineral oil (less than 50 ppm PCBs), then an exemption would be needed.

The disposal requirements for PCB-contaminated fluids are specific (high efficiency boilers, incineration or chemical waste landfills). However, the disposal options for fluids from Non-PCB Transformers are not much greater, because of the broad prohibition on using waste containing PCBs for dust control, sealant or coating purposes.

There are no labeling requirements for either transformer categories (PCB-Contaminated or Non-PCB Transformers), and no use restriction differences.

(29) HOW WOULD TRANSFORMERS WHICH USE PCB-FREE MINERAL OIL DIELECTRIC FLUID BE CATEGORIZED?

Because of the widespread contamination of mineral oil dielectric fluid transformers, they must be assumed to be PCB-Contaminated Transformers. Even if PCB-free dielectric fluid was added to an existing transformer, you couldn't be certain that PCB contamination in the transformer would not contaminate the new fluid to a level above 50 ppm PCB.

You, of course, have the option of testing the new aggregate dielectric fluid in the transformer to determine if the PCB concentration is below 50 ppm, in which case it could be considered a Non-PCB Transformer.

(30) CAN I RECLASSIFY MY PCB TRANSFORMER IF I REDUCE ITS PCB CONCENTRATION?

PCB Transformers can be reclassified to PCB-Contaminated Transformers by draining and refilling them with non-PCB dielectric fluid. Before they can be reclassified the transformers must be tested and found to contain less than 500 ppm PCB after at least 3 months of in-service use.

If the PCB concentration was successfully reduced below 50 ppm, then the transformer can be reclassified to a Non-PCB Transformer.

(31) WHAT TYPE OF SERVICING CAN I DO ON MY TRANSFORMER?

Routine servicing of transformers (i.e., testing the dielectric fluid, filtering the fluid, removal of some fluid and then returning or replacing it, replacing gaskets) in any of the categories will result in minimal exposures to PCBs and allow the



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use of most existing transformers throughout their lifetime. EPA has decided that this activity doesn't present an unreasonable risk to human health and the environment.

However, any servicing (including rebuilding) of PCB Transformers that involves removing the coils from the casing is prohibited by the Ban Rule. Removing the coils substantially increases PCB exposure, therefore, EPA concludes this servicing to be an unreasonable risk. EPA believes the cost of this prohibition (about $14 million the first year and steadily less each year after) is justified by the increased risks which would otherwise occur to human health and the environment.

(32) CAN I REBUILD MY TRANSFORMERS?

Rebuilding a transformer would involve one or more of the following: draining the transformer, removing and disassembling the core, reworking the coil or rewinding a new coil, reassembling the core, and refilling the transformer with new fluid.

EPA permits the rebuilding only of PCB-Contaminated Transformers (containing between 50 ppm and 500 ppm PCB), and, of course, Non-PCB Transformers. If your transformer is classified as a PCB Transformer (containing 500 ppm or greater PCB), it cannot be rebuilt unless it is first reclassified to a PCB-Contaminated Transformer.

EPA decided to permit rebuilding of PCB-Contaminated Transformers, because the exposure to PCB is relatively low and the economic impact of not permitting this activity would be very high.

(33) CAN I SERVICE MY OWN TRANSFORMERS?

EPA has decided to authorize this activity, which is considered use, for persons who service their own transformers until July 1, 1984.

(34) CAN I HAVE A SERVICE SHOP WORK ON MY TRANSFORMER?

Yes, you can have work done on your transformer without receiving an exemption from EPA provided the shop does not add any PCB fluid. If PCB fluid (50 ppm PCB or greater) needs to be added, the shop can add your fluid without obtaining an exemption. However, if the service shop adds their PCB fluid to your transformer, they must get an exemption to do so after July 1, 1979.

(35) CAN I REUSE MY DIELECTRIC FLUID?

Dielectric fluid can be reused as long as it is used in either the transformer that it came from or in a transformer which had a higher concentration of PCBs than the replacement fluid.

(36) WHAT FLUIDS CAN I USE WHEN I RETROFILL MY TRANSFORMER?

Dielectric fluids containing less than 500 ppm PCBs can be used to refill transformers. However, dielectric fluids containing less than 500 ppm PCB under no circumstances can be mixed with fluids containing 500 ppm or greater PCBs. In other words, the deliberate dilution of PCB Transformers is prohibited. A PCB Transformer must be drained, refilled, and tested after it was retrofilled before it can be reclassified as a PCB-Contaminated Transformer. It should be noted that PCB Transformers are usually retrofilled with fluids that have fire resistant properties similar to PCBs.

(37) ARE THERE ANY RESTRICTIONS ON WHO CAN SELL ME DIELECTRIC FLUID?

After July 1, 1979, only those persons who have obtained exemptions from EPA can distribute (and sell) PCB dielectric fluid.

(38) CAN I SELL MY DIELECTRIC FLUID TO A WASTE OIL DEALER?

Dielectric fluid containing greater than 50 ppm PCB cannot be sold to a waste oil dealer unless the dealer is to dispose of it in accordance with the regulation. Dielectric fluid with concentrations of less than 50 ppm can be sold to a waste oil dealer as long as it will not be used as a sealant, coating, or dust control agent.

(39) CAN I SCRAP MY TRANSFORMER OR SELL IT TO SOMEONE TO SCRAP?

If your transformer is a PCB Transformer, you cannot scrap or sell your transformer to someone else to scrap. You must dispose of it in an approved chemical waste landfill. On the other hand, if the transformer is a PCB-Contaminated or Non-PCB Transformer, once the fluid is drained, the transformer can be scrapped or sold for scrap.



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(40) CAN USABLE TRANSFORMERS BE SOLD BY PRESENT OWNERS?

Yes, provided the seller had originally obtained the transformer for use and not resale --- and the buyer does not purchase the usable PCB transformers for resale, but rather uses them himself.

## RAILROAD TRANSFORMERS

(41) HOW DO I KNOW IF MY RAILROAD TRANSFORMERS ARE COVERED BY THE REGULATION?

Unless a nameplate (or a test) indicates that the transformer on an electric locomotive contains dielectric fluid having either no PCBs or a concentration of less than 50 ppm PCBs, your railroad transformer is covered by the PCB regulation.

(42) WHY ARE RAILROAD TRANSFORMERS DIFFERENT FROM OTHER TRANSFORMERS? ARE THEY SUBJECT TO DIFFERENT REQUIREMENTS UNDER THE REGULATION?

Railroad transformers are the transformers used on electric locomotives and some commuter cars. These transformers are subject to occasional leakage due to damage caused by objects thrown up from the tracks and by damage caused from overloads these heavy service units are subjected to. Because of the greater environmental and health risks from these transformers, the PCB Ban Rule requires that the PCBs be removed from these transformers on a phased reduction schedule.

(43) WHAT IS THE SCHEDULE FOR REDUCTION OF PCBs IN RAILROAD TRANSFORMERS?

By January 1, 1982 all Railroad Transformers must contain PCB concentrations of 60,000 ppm (6%) or less. The next deadline is January 1, 1984, at which time all Railroad Transformers must have a PCB concentration of no more than 1,000 ppm.

(44) HOW LONG CAN I USE MY PCB RAILROAD TRANSFORMERS?

You can use your Railroad Transformer until January 1, 1982 if the PCB concentrations exceeds 60,000 ppm, after that date it is possible to use the Transformer until January 1, 1984 if the PCB concentration does not exceed 60,000 ppm. You will not be

able to use a Railroad Transformer containing greater than 1,000 ppm PCB after July 1, 1984.

(45) DO I HAVE TO TEST MY RAILROAD TRANSFORMER?

You will have to test your Railroad Transformers immediately after any PCB concentration reduction related servicing.

(46) HOW OFTEN DO I HAVE TO TEST MY RAILROAD TRANSFORMER?

It is necessary to test your Railroad Transformer immediately after it has been serviced to reduce the PCB concentrations in order to verify the new PCB concentration. In addition, between 12 and 24 months after such servicing the transformer is to be tested again to gauge the PCB concentration level.

(47) ARE THERE RESTRICTIONS ON WHAT I PUT IN MY RAILROAD TRANSFORMER?

Yes, there are restrictions. If you rebuild (remove the coil) the Transformer after January 1, 1982 it cannot be refilled with dielectric fluid containing a PCB concentration greater than 50 ppm. After January 1, 1982, Railroad Transformers may only be serviced with dielectric fluid containing less than 60,000 ppm PCB. Finally, after January 1, 1984, Railroad Transformers may only be serviced with dielectric fluid containing less than 1000 ppm.

(48) WHAT KIND OF SERVICING CAN BE DONE ON RAILROAD TRANSFORMERS?

Any kind of servicing can be done on Railroad Transformers until January 1, 1982. After that time, the transformer can be rebuilt only if it is to be refilled with dielectric fluid containing less than 50 ppm PCB. Starting on January 1, 1982 transformers may only be serviced with dielectric fluid containing less than 60,000 ppm PCB (except when it has been rebuilt). After January 1, 1984, Railroad Transformers may only be serviced with dielectric fluid containing less than 1000 ppm PCB (except when it has been rebuilt).

After July 1, 1979, processing and distribution in commerce of PCBs in order to service Railroad Transformers can be conducted only by those persons granted an exemption.



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(49) CAN I REBUILD MY RAILROAD TRANSFORMER?

Before January 1, 1982 you can rebuild your Railroad Transformer with PCB dielectric fluid. After January 1, 1982, any rebuilt Railroad Transformers must not contain dielectric fluid with a PCB concentration greater than 50 ppm.

## CAPACITORS

(50) HOW DO THESE RULES AFFECT CAPACITORS? CAN I CONTINUE TO USE MY PCB CAPACITORS?

Yes, you can continue to use your PCB capacitors for their useful life. The primary effect of the new prohibition rules is to terminate the manufacture of any new PCB capacitors.

(51) WHAT ABOUT THE DISPOSAL OF PCB CAPACITORS?

These rules continue the provisions of the PCB Disposal and Marking Rule published in the February 17, 1978 Federal Register. Large PCB capacitors must be disposed of in an EPA approved chemical waste landfill or incinerator. After January 1, 1980 all large PCB capacitors will have to be incinerated in special EPA approved incinerators.

Special disposal is not required for small capacitors --- except those waste capacitors owned by PCB capacitor or PCB equipment producers.

(52) WHAT IS THE DIFFERENCE BETWEEN LARGE AND SMALL CAPACITORS?

Small capacitors have less than 3 pounds of contained dielectric fluid; large capacitors have 3 pounds or more of dielectric fluid.

(53) I HAVE PCB CAPACITORS THAT ARE TEMPORARILY OUT OF SERVICE; CAN THEY BE PUT BACK INTO SERVICE?

Yes, but they will be subject to disposal requirements at a later date.

(54) I NEED SPECIAL PCB CAPACITORS TO SERVICE MY PCB EQUIPMENT. WILL I BE ABLE TO BUY REPLACEMENT PCB CAPACITORS?

If suppliers receive an exemption from EPA, they can sell existing stocks of PCB capacitors to service existing PCB equipment.

## MINING EQUIPMENT

(55) WHAT TYPE OF MINING MACHINES ARE LIKELY TO HAVE PCBs?

PCBs are found in the electric motors in continuous miners and loader-type equipment that were manufactured up through the early 1970's.

(56) CAN I CONTINUE TO USE THESE MACHINES?

In general, these machines can be used until January 1, 1982. The new rules set up a schedule whereby the motors in the equipment can be converted to non-PCB types. It appears that the continuous miner motors cannot be converted, which means the older models with PCB motors will probably have to be scrapped.

(57) CAN I REPAIR THESE MACHINES?

Servicing or repair of PCB mining equipment is permitted only for persons who are granted an exemption by EPA. PCB motors in continuous miner-type equipment may be rebuilt until December 31, 1979. PCB motors in loader-type equipment must be rebuilt as air-cooled or other non-PCB containing motors whenever they are returned to a service shop for servicing. After January 1, 1982 PCBs may not be added to mining equipment.

(58) CAN I REBUILD THESE MACHINES?

Yes you can. In fact, when you have the loader serviced the motor must be rebuilt as a non-PCB motor. Rebuilding of the PCB motors in continuous miners is permitted only until December 31, 1979.

(59) CAN I SCRAP THESE MACHINES?

Yes, but first the PCB motors must be removed and properly disposed. PCB motors can either be incinerated or, after draining the PCBs, placed in a chemical waste landfill.

(60) HOW LONG CAN I USE THESE MACHINES?

PCBs cannot be used in mining equipment after January 1, 1982.

## HYDRAULIC SYSTEMS

(61) DO ALL HYDRAULIC SYSTEMS HAVE PCBs IN THEM?

Probably not. PCB hydraulic fluid was developed for use in machines that were subject to high temperatures, such as aluminum die casting machines and hydraulic machines in steel mills. Because of their low flammability, PCBs provide an extra measure of fire protection. The use of these high concentration fluids was discontinued several years ago by most users, because of serious water pollution problems. However, residues of the original fluid remain in sufficient quantities to be of continuing environmental concern.

In addition, it is possible that hydraulic systems on other machines that did not pose any special fire risk also had these PCB fluids added to them. These may be sufficiently contaminated to require action under these regulations.

(62) CAN THESE PCB CONTAMINATED HYDRAULIC SYSTEMS CONTINUE TO BE USED? IS ANY CORRECTIVE ACTION NECESSARY?

These PCB contaminated systems can be used until July 1, 1984, provided that a corrective program of testing, draining, refilling, and/or topping-off is undertaken.

(63) HOW OFTEN MUST I TEST MY HYDRAULIC SYSTEM?

Any hydraulic system that ever contained PCB hydraulic fluid must be tested by November 1, 1979, and, at least annually thereafter, until the system reaches 50 ppm PCB.



MONS 000738

(64) DO I HAVE TO DRAIN AND THEN REPLACE ALL OF THE HYDRAULIC FLUID IN MY MACHINES WHENEVER THEY EXCEED 50 PPM PCBs?

The regulations provide a flexible approach for reducing PCB concentrations. Highly contaminated systems will have to be drained and probably flushed and wiped clean in order to effectively reduce the PCB levels. Other systems may be effectively decontaminated by a drain and refill approach. Systems with low level contamination or borderline levels may be effectively controlled by simply topping-off with non-PCB fluid.

(65) ARE THERE ANY RESTRICTIONS ON THE FLUIDS THAT CAN BE ADDED TO THESE SYSTEMS?

No fluids containing more than 50 ppm PCBs can be added. This means that fluids collected from leaking seals, fittings, etc. cannot be returned to the systems if the fluid exceeds 50 ppm PCBs.

## HEAT TRANSFER SYSTEMS

(66) DO HEAT TRANSFER SYSTEMS CONTAIN PCBs? WHAT ARE THE REQUIREMENTS FOR USE/OR REMOVAL?

PCBs have been used in heat transfer systems because of their high heat retention capacity. These systems do leak at times, and, therefore, are controlled by this rule. The requirements for testing, refilling, and topping-off are very similar to hydraulic systems.

(67) ARE THERE DIFFERENT REQUIREMENTS FOR HEAT TRANSFER SYSTEMS USED IN THE MANUFACTURE OF FOODS, DRUGS, AND COSMETICS?

Yes, after November 1, 1979 all heat transfer systems must contain fluid with 50 ppm PCB or less if they are to be used in the manufacture or production of foods, drugs, and cosmetics.

## OTHER PCB USES

(68) CAN PCBs BE USED AS A MOUNTING MEDIUM FOR MICROSCOPIC SLIDES?

Yes, until July 1, 1984. EPA will decide later whether to extend the authorized time for this PCB use.

MONS 000739

(69) CAN PCBs CONTINUE TO BE USED IN SMALL QUANTITIES FOR RESEARCH AND DEVELOPMENT?

Yes, until July 1, 1984. As with microscopic slides, EPA will decide later whether to extend the authorized time for use.

(70) IN THE EARLY 1970's CARBONLESS COPY PAPER WAS MADE WITH INK CONTAINING PCBs. WHAT PROVISIONS DOES THE PCB BAN RULE MAKE FOR THIS PAPER?

Although carbonless copy paper is no longer made with PCBs, supplies of this paperstock still exists; most are in files. Because the amount of PCB on each sheet is extremely small and no inexpensive method of separating PCB from non-PCB carbonless paper has been developed, EPA has authorized the use of existing PCB carbonless copy paper indefinitely.

(71) SOME PIGMENTS CONTAIN PCBs, CAN THEY CONTINUE TO BE USED?

EPA's PCB Ban Rule authorizes the use of diarylide and pthalocyanine pigments, containing PCBs as an impurity in concentrations ranging from several thousand parts per million to 50 ppm, until January 1, 1982. However, after July 2, 1979, these pigments, containing greater than 50 ppm PCB, cannot be manufactured, and they cannot be processed or distributed in commerce after July 1, 1979, unless EPA grants exemptions for these activities.

(72) OTHER CHEMICALS ALSO CONTAIN PCBs IN LOW CONCENTRATIONS, CAN THEY CONTINUE TO BE USED?

At this time, EPA's Ban Rule does not authorize the use of any other chemicals containing PCBs. Several manufacturers have requested exemptions to manufacture chemicals with low concentrations of PCBs, and, if these exemptions are granted, EPA will consider appropriate authorizations to permit the use of the chemicals.

(73) IF SOMEONE MANUFACTURERS PCB CONTAMINATED CHEMICALS BUT DID NOT APPLY TO EPA FOR AN EXEMPTION CAN THEY STILL REQUEST ONE?

Anyone in that situation should apply to EPA for an exemption using the procedures EPA published in the Federal Register on November 1, 1978. (See the "Contacts for Infor-

mation" Section of this Booklet to find out how to obtain a copy of this Federal Register Notice.)

(74) CAN ELECTROMAGNETS CONTAINING PCBs STILL BE USED?

EPA considers the use of electromagnets (similar to transformers in construction) containing PCBs to be used in a totally enclosed manner, therefore, these PCB elecromagnets may continue to be used and serviced.

Persons may service their own PCB electromagnets. However, if someone else adds PCBs, not owned by the electromagnet owner, during the servicing, they must obtain an exemption from EPA after July 1, 1979.

(75) CAN PCBs CONTINUE TO BE USED IN NATURAL GAS PIPELINE COMPRESSORS?

Yes, until May 1, 1980. In general, these systems were drained of high concentration PCB fluid several years ago, thus removing most of the PCBs. EPA has authorized these compressors to be used until May 1, 1980 -- so that they can be drained and refilled with non-PCB fluid to further reduce the PCB concentration until it is below 50 ppm.

## LABELING

(76) WHAT NEEDS A LABEL?

Most PCB Items (including PCB Containers, PCB Article Containers, PCB Articles, PCB Equipment, and PCB Transport Vehicles) that contain 50 ppm or greater PCBs must be labeled. This labeling requirement is a modification from the February 17, 1978 Disposal and Marking Regulation which applied to PCB Items that contain 500 ppm or greater PCBs. To provide sufficient time to identify and mark these additional items containing between 50 and 500 ppm PCB, the final May 1979 Rule allows until October 1, 1979 for labeling requirements to be met.

(77) DO ALL TRANSFORMERS CONTAINING PCBs HAVE TO BE LABELED?

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. The cost of marking a very large number of PCB-Contaminated Transformers while they are in service would be

extremely high (approximately $10 for each of the 35 million transformers).

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 PCBs may be present above 500 ppm --- the transformer should be labeled as a PCB Transformer until the PCB content can be verified.

(78) WHERE DO I HAVE TO PUT THE LABELS?

All labels (or marks) are to be put on the exterior of PCB Items and transport vehicles in a place that they can be easily seen and read by anyone inspecting or servicing them.

(79) THERE ARE A LOT OF PCB CAPACITORS AND EQUIPMENT CONTAINING THESE CAPACITORS IN USE. DO THEY ALL HAVE TO BE LABELED?

The requirements for labeling capacitors are primarily related to disposal; the labels serve as a positive reminder regarding disposal. All large, high voltage PCB capacitors have to be labeled, including those in service. Large, low voltage capacitors have to be labeled when they are taken out of service for disposal

Small capacitors do not have to be labeled. Equipment containing PCB capacitors does not have to be labeled unless the capacitor is a large, high voltage type or if the equipment was produced after January 1, 1979 and contains a small PCB capacitor.

(80) DO I HAVE TO LABEL A PCB CAPACITOR THAT IS ON A POLE OR IN A SIMILAR INACCESSIBLE LOCATION?

If a PCB capacitor is installed in a "protected" area (e.g., on a power pole, or structure, or behind a fence) the pole, structure, or fence is to be labeled in a place easily seen by interested persons, such as servicemen.

(81) I SUBMITTED A PETITION TO EPA TO BE GRANTED AN EXEMPTION FROM THE JULY 2, 1979 MANUFACTURING BAN. IF I AM GRANTED AN EXEMPTION, WHAT WILL THE LABELING REQUIREMENTS BE FOR THE PCBs I MANUFACTURE?

Any labeling requirements for chemical substances or mixtures containing 50 to 500 ppm PCBs manufactured after July 2,

1979, including PCBs that are byproducts or impurities, will be included in the exemption response EPA might grant to permit such manufacture.

If you have already submitted a petition to EPA for a manufacturing exemption and your chemical contains less than 500 ppm PCBs, you do not have to apply a label until EPA acts on your petition. However, any container or any products that contain 500 ppm or greater PCB must be labeled -- even before EPA acts on the petition for your chemical.

(82) IF RENTED OR LEASED EQUIPMENT CONTAINS PCBs, WHO IS RESPONSIBLE FOR LABELING?

Both the owner and the operator could be held responsible for the labeling of rented PCB equipment.

(83) DOES EPA SUPPLY LABELS FOR PCB CONTAINERS OR PCB ARTICLES AND EQUIPMENT? DOES EPA PROVIDE NAMES OF SOURCES FOR SUCH PCB LABELS?

EPA does not supply any PCB labels. However, the Agency knows of two sources from which you can obtain the required labels: LABELMASTER, 7525 North Wolcott Ave., Chicago, Illinois 60626, phone: 312-973-5100 -- to place only orders call toll free 800-621-5808 (except in Illinois); W.H. BRADY CO., Facilities, Identification, Products Division, 727 W. Glendale Ave., Milwaukee, Wisconsin, phone: 414-332-8100 (X624).

Printing shops who produce labels would also be potential sources for these labels. The label format and sizes are included in the regulation.

## TESTING

(84) IS THERE AN EPA APPROVED TESTING AND SAMPLING PROCEDURE FOR PCB DETECTION?

A variety of procedures exist for determining PCB concentrations in various media such as water, air, soil, mineral oil, pigments, etc. EPA has already made available through its Regional Offices copies of test procedures for PCBs in air, soil, water, and sediments. EPA is also preparing additional information on test procedures for PCBs in oils; this information will also be available from EPA Regional Offices. In addition, copies of these procedures can be obtained from EPA's Office of Industry Assistance. (See the "Contacts for Information" Section of this Booklet on how to obtain this information.)

(85) WHAT EQUIPMENT IS AVAILABLE TO DETECT PCBs?

There is no simple field test for detecting PCBs. It is usually done using gas chromatography/electron capture. The best solution would be to contact an experienced chemical laboratory in your area that could perform such tests.

(86) ARE THERE EPA APPROVED LABS TO ANALYZED SAMPLES OF PCBs?

No, EPA does not have a program for recommending or approving analytical laboratories.

## STORAGE

(87) WHAT KINDS OF CONTAINERS ARE APPROPRIATE FOR STORAGE?

The May 31, 1979 Final Rule permits 5 container types (5, 5B, 6D, 17C and 17E) which comply with Department of Transportation (DOT) specifications set out in 49 CFR 173.346, to be used to store liquid PCBs. Most of industry already is using these containers for PCB storage and handling.

(88) CAN LARGE CONTAINERS, SUCH AS STORAGE TANKS, BE USED FOR THE STORAGE OF PCB LIQUIDS?

EPA decided in the Final Rule to permit large containers, such as storage tanks, to be used to store bulk PCB liquids. This is to allow safe transfer and storage of large PCB liquid quantities; in addition, reduce storage costs. In other words, the transfer of stored bulk PCBs from tanks to other tanks or tank trucks will lessen the spill risks as opposed to having to transfer these large quantities from a number of smaller storage drums into transfer tanks.

These storage tanks must meet design and construction standards adopted by OSHA (29 CFR 1910.106). Also the storage facilities must have a spill prevention control and counter measure plan similar to the plans required for oil spill prevention.

Owners and operators of bulk storage facilities will have to keep records of the amounts added to and removed from bulk cortainers. These records will be important in tracing waste shipments and enforcing the disposal and storage requirements.

MONS 000744

(89) CAN PCB CONTAINERS OF CONTAMINATED SOIL BE TEMPORARILY STORED?

Yes, non-liquid PCB wastes, such as contaminated soil, can be temporarily stored for up to 30 days.

(90) CAN PCB LIQUIDS OF LOW CONCENTRATION BE TEMPORARILY STORED? OF HIGH CONCENTRATION?

Low concentration PCB liquids (50 to 500 ppm) can be temporarily stored for up to 30 days. All temporary storage areas must have a spill prevention control and counter measure plan. However, the final rule does not allow temporary storage for high concentration PCB liquids (above 500 ppm) because of the potential harm from a spill.

(91) I HAVE A SMALL QUANTITY OF PCBs (I.E., A FEW SOAKED RAGS AND 1 GALLON OF PCBs IN AN APPROVED CONTAINER), AND I DON'T WANT TO SEND THEM A LONG DISTANCE FOR DISPOSAL. CAN I STORE THEM UNTIL A PCB DISPOSAL SITE CLOSE TO ME IS APPROVED?

The mentioned items may be stored until the last day of 1983.

(92) ONCE PCB ARTICLES ARE TAKEN OUT OF SERVICE, HOW LONG CAN THEY BE KEPT BEFORE BEING PLACED IN AN APPROPRIATE STORAGE AREA? WHAT ABOUT PCB EQUIPMENT CONTAINING LEAKING PCB ARTICLES?

Non-leaking PCB articles and PCB containers containing leaking articles can be temporarily stored for up to 30 days.

(93) WHEN PCB CAPACITORS OR CONTAINERS ARE STORED IN AN APPROPRIATE STORAGE AREA, WHAT HAPPENS WHEN ONE OF THESE ITEMS STARTS TO LEAK?

A leaking PCB capacitor should be immediately placed in a non-leaking Department of Transportation approved drum and any spillage cleaned up using sorbent or suitable solvents. It is a good practice to add sorbent material, such as saw dust, to the container to soak up any liquid that continues to leak out of the capacitor.

MONS 000745

When a container develops a leak, the contents should immediately be transferred to another, non-leaking container or to special "overpack" containers, such as those used in the chemical industry for leaking containers.

(94) MUST THE EPA INSPECT A PCB STORAGE AREA ONCE IT IS BUILT BEFORE IT CAN BE USED?

No, it is the responsibility of the organization storing the PCBs to insure that the storage area meets the specifications.

(95) DO PCB STORAGE AREAS HAVE TO BE PERIODICALLY CHECKED FOR LEAKS OR OTHER PROBLEMS? WHAT ABOUT PCB ARTICLES, SUCH AS TRANSFORMERS, THAT ARE IN SERVICE?

PCB storage areas must be checked by the owner or operators at least every 30 days. Articles in service are not required to be checked by the regulations, but periodic checks would be a wise practice.

## SPILLS

(96) DO PCB SPILLS HAVE TO BE REPORTED

Under the authority of TSCA, PCB spills have to be reported whenever the incident poses a substantial risk to human health or the environment. Since "substantial risk" cannot be precisely defined, however, any spill should be reported when people come into direct and uncontrolled contact with PCBs, or the extent of the spill is large enough to expose significant numbers of animals.

In addition, a spill should also be reported when the volume or the extent of the spill is unknown -- such as spills that enter drainage systems. PCB spills into water, onto shorelines, or those that threaten water-courses should always be immediately reported.

EPA is currently completing regulations under the Clean Air Act that will require reporting for water-related hazardous chemical spills (including (PCBs). These regulations will have criminal penalties for failing to report such spills.

As a general rule, spills involving a single capacitor do not have to be reported unless PCBs threaten or enter a water-course. Because of the greater threat to health and the environment, transformer spills should be reported -- unless only

minor leaks, such as bushing leaks, are involved. Any spilling or leaking should be stopped and repaired as soon as possible.

(97) HOW DO I REPORT PCB SPILLS?

PCB spills can be reported to the National Response Center operated by the U.S. Coast Guard at 800-424-8802 (in the District of Columbia, call 426-2675).

(98) WHAT HAPPENS WHEN I REPORT A PCB SPILL? CAN I GET INFORMATION OR ADVICE ON WHAT TO DO ABOUT THE SPILL?

The National Response Center will direct the report to the appropriate EPA environmental emergency office, based on the location of the spill. Experts from these offices (or related state and local experts) will contact persons responsible for the spills, in order to evaluate the potential environmental threat and to determine the appropriate spill control and cleanup measures.

(99) IF I HAVE A SPILL, WHAT SHOULD I DO TO CONTROL OR CLEAN UP THE SPILL?

The first priority is to control the spread of the spill by damming or diking the leak. Also, any threats to water should be given top priority.

Once a spill is contained clean up measures can begin. Clean up can be simply the removal of contaminated soil or debris. In some cases, more complex techniques may be required, such as special PCB sorbents or special filtration/carbon absorption removal of PCBs from water.

Large and complicated spills should be cleaned up by trained and experienced personnel. Organizations, who frequently handle PCBs, should develop contingency plans and conduct training for dealing with spills. Commerical firms are also available on a contract basis to clean up spills. Government spill experts can provide information on such firms.

## RECORDKEEPING

(100) MUST COMPANIES KEEP RECORDS OF THE DISPOSITON OF PCBs IN SERVICE? IN STORAGE? IF SO, FOR HOW LONG?

If you own or operate a facility which uses PCBs or PCB Items, or have either stored, you are to keep records of their

disposition. Specifically, this applies to facilities using or storing at least 99.4 pounds (45 kilograms) of PCBs in PCB Container(s); one or more PCB Transformers; or 50 or more PCB High or Low Voltage Large Capacitors.

These records shall be maintained for at least 5 years after the facility ceases using or storing PCBs or PCB Items in prescribed quantities.

(101) DO PCB INCINERATOR FACILTIES HAVE TO KEEP RECORDS? CHEMICAL WASTE LANDFILL FACILITIES? HIGH EFFICIENCY BOILER FACILITIES? IF SO, FOR HOW LONG?

Owners or operators of all three types of PCB Disposal Facilities have to keep records. Incinerator and high efficiency boiler facilities must keep their records for 5 years; chemical waste landfill facilities must keep their records for at least 20 years after PCBs have stopped being disposed there.

(102) WHEN MUST I BEGIN KEEPING RECORDS OF MY PCB FACILITIES?

PCB recordkeeping, if applicable, was to have begun on July 2, 1978. These records form the basis of an annual document prepared for each facility by July 1; the first annual reports should be compiled by July 2, 1979.

(103) MUST COMPANIES SEND THEIR ANNUAL REPORTS CONCERNING PCBs TO EPA OR KEEP THEM FOR THEIR OWN RECORDS?

Companies should keep their PCB records and annual reports at their facility for inspection by EPA personnel. Do not send the records or reports to EPA unless it is specifically requested by the Agency.

(104) I HAVE PCB FACILITIES IN SEVERAL LOCATIONS. DO RECORDS HAVE TO BE KEPT AT EACH SITE?

Owners or operators of more than one facility having PCBs may choose to keep all of the records at a single facility, but the identify of that single facility must be available at each location. The record location must be manned at least 8 hours a day.

## DISPOSAL

(105) HOW DO I DISPOSE OF TRANSFORMERS CONTAINING PCBs?

There are two ways to dispose of a PCB Transformer, which contains PCB concentrations in excess of 500 ppm. The transformer and the dielectric fluid can be burned together in a high temperature incinerator approved by EPA, or the liquid can be drained out of the transformer first. If the liquid is drained, the transformer must be flushed with solvent for 18 hours; the solvent and the dielectric fluid must then be disposed of in an EPA approved high temperature incinerator. The drained transformer after it is resealed must be disposed of in a chemical landfill which has been approved by EPA.

If the transformer is a PCB-Contaminated Transformer, containing more than 50 ppm PCB and less than 500 ppm PCB, the transformer and the liquid can also be incinerated or the dielectric liquid can first be drained. If the liquid is drained it can be disposed of in a high temperature incinerator, a chemical landfill which has been approved by EPA, or in a high efficiency boiler. The drained transformer can be disposed of as scrap or in a disposal facility equivalent to good municipal solid waste disposal practices.

(106) HOW DO I DISPOSE OF LARGE PCB CAPACITORS?

Until January 1, 1980, large PCB capacitors can be disposed of in EPA approved chemical waste landfills or high temperature incinerators. After January 1, 1980, they must be disposed of by high temperature incinerators. It is expected that hammermill-type crushers will be used at the incinerators to improve the destruction efficiency. These large capacitors account for approximately one-third of the PCBs currently in service.

(107) WHERE CAN PCB ARTICLES (OTHER THAN PCB TRANSFORMERS AND CAPACITORS) BE DISPOSED?

PCB articles can be disposed of in a chemical waste landfill, as well as, in high temperature incinerators, provided they are EPA approved. Examples of these articles, which account for less than 1% of the PCBs currently in use in the U.S., are pipes, hoses, parts of heat transfer systems, electromagnets, and electric motors.

When these articles are disposed of in chemical waste landfills, they must be drained of free flowing liquid, and therefore, will contain only small amounts of PCBs.

MONS 000749

(108) ARE THERE SPECIAL DISPOSAL REQUIREMENTS FOR SMALL PCB CAPACITORS CONTAINED PRIMARILY IN SMALL APPLIANCES AND FLUORESCENT LIGHT BALLASTS?

No, small capacitors can be disposed of as municipal waste. EPA has determined that the random disposal of small capacitors in municipal solid waste sites by householders and other infrequent disposers does not present an environmental hazard.

However, the disposal of large quantities of small PCB capacitors by commercial and industrial activities poses a larger environmental risk. Therefore, EPA encourages these persons to establish voluntarily a collection and disposal program that would result in the waste capacitors going to chemical waste landfills or high temperature incinerators.

(109) HOW ARE HYDRAULIC MACHINES CONTAMINATED WITH PCBs TO BE DISPOSED?

In general, only a relatively small portion of these machines are contaminated with PCBs, in particular those used in die-casting and forging operations. Therefore, instead of requiring disposal in a chemical waste landfill, the final rule permits disposal of hydraulic systems as municipal solid waste and salvaging of these machines after draining. First, the machines must be drained of all free-flowing liquid. If the fluid contains more than 1000 ppm PCBs, the machine must be flushed with a solvent and thoroughly drained before disposal. The liquid must be disposed of by high temperature incinerators or, if the PCB concentration is 50 to 500 ppm, by high efficiency boilers or in chemical waste landfills.

(110) HOW CAN I DISPOSE OF THE DIELECTRIC FLUID IN MY TRANSFORMER?

Fluids from PCB Transformers (concentrations of 500 ppm greater) must be disposed of only by high temperature incineration. Fluids from PCB-Contaminated Transformers (with 50 ppm to 500 ppm PCBs) must be disposed of in high efficiency boilers, in approved chemical waste landfills, or in high temperature incinerators. Fluids from Non-PCB Transformers (with less than 50 ppm PCBs) have one disposal restriction: they cannot be used as a sealant, coating, or dust control agent if they contain any detectable PCB.

MONS 000750

(111) WHERE CAN OTHER LIQUID WASTES WITH OVER 500 PPM PCB BE DISPOSED? BETWEEN 50 and 500 PPM PCBs? LESS THAN 50 PPM PCBs?

The same disposal options apply as for transformer dielectric fluid. (refer to Question #110).

(112) WHERE CAN NON-LIQUID PCBs BE DISPOSED?

Non-liquid PCBs at any concentration (e.g., contaminated rags and absorbent materials, and contaminated soils and other solids recovered from spills or removed from old disposal sites) can be disposed in Annex II chemical waste landfills.

(113) CAN DECONTAMINATED PCB CONTAINERS BE DISPOSED OF IN AN ORDINARY LANDFILL SITE?

Yes, decontaminated PCB containers may be disposed of in ordinary landfill sites, rather than in EPA approved chemical waste landfills.

(114) CAN DECONTAMINATED PCB CONTAINERS BE REUSED?

Containers decontaminated in accordance with Annex IV can be reused for general use.

(115) HOW CAN PCB CONTAINERS USED ONLY TO HOLD LOW PCB CONCENTRATIONS BE DISPOSED?

PCB Containers used only to contain materials or fluids with PCB concentrations between 50 and 500 ppm can be disposed of as municipal waste.

(116) WHAT ARE THE REQUIREMENTS FOR DISPOSAL SITES?

Incinerators used to dispose PCBs must be approved by the appropriate EPA Regional Administrator. The approved incinerators must meet the requirements set out in Annex I of the May 31, 1979 Rule.

Likewise, the chemical waste landfills used for the disposal of PCBs and PCB Items must be approved by the appropriate EPA Regional Administrator, which must meet the requirements estabished in Annex II of the Final Rule.

(117) HAVE ANY DISPOSAL SITES BEEN APPROVED FOR PCBs? WHERE ARE THEY?

Yes, eight chemical waste landfill sites have been approved. No incinerator sites have yet been approved, but three sites are currently being considered.

The landfill locations are as follows:

1. Facility: General Electric Co., Silicone Products Division. Facility Address: 260 Hudson River Rd., Waterford, New York 12189. Facility Telephone Number (518) 237-3330. Type of Facility Approved: Incinerator. Type of PCB Waste Handled: Approval allows G.E. to incinerate only those PCB wastes which are generated on site, i.e., G. E. can not accept PCBs for incineration from any other company or any other G.E. facility. Expiration Date of Approval: September 1, 1981. EPA Regional Office Contact: Wayne Pierre. EPA Telephone Number: (212) 264-0505.

2. Facility: Newco Chemical Waste Systems, Inc. Facility Address: 4526 Royal Avenue, Niagara Falls, New York 14330. Facility Telephone Number: (716) 285-6944. Type of Facility Approved: Chemical Waste Landfill. Type of PCB Waste Handled: Capacitors (small and large); Properly drained transformers: Contaminated soil, dirt, rags, and other debris; Dredge spoils; Municipal sludges; and Properly drained containers (drums). Expirationd Date of Approval: August 18, 1981. EPA Regional Office Contact: Wayne Pierre. EPA Telephone Number: (212) 264-0505.

3. Facility: SCA Chemical Services, Inc. Facility Address: 1550 Balmer Rd., Model City, New York 14107. Facility Telephone Number: (716) 754-8231. Type of Facility Approved: Chemical Waste Landfill. Type of PCB Waste Handled: Capacitors (small and large); Properly drained transformers; Contaminated soil, dirt, rags, and other debris; Dredge spoils; Municipal sludges; and Properly drained containers (drums). Expiration Date of Approval: October 2, 1981.

4. Facility: Waste Management of Alabama, Inc. Facility Address: P.O. Box 1200 Livingston, Alabama 35470. Facility Telephone Number: (205) 652-9529. Type of Facility Approved: Chemical Waste Landfill. Type of PCB Waste Handled: Capacitors (small and large): Properly drained transformers; Contaminated soils, dirt, rags, and other debris; Dredge spoils; Municipal sludges; and Properly drained containers (drums). Expiration Date of Approval: Open-ended. EPA Regional Office Contact: Mr. James Scarbrough. EPA Telephone Number (404) 881-3016.

5. Facility: Casmalia Disposal. Facility Address: 539 Ysidro Rd., P.O. Box 5275, Santa Barbara, California 93108-main office (site located near Casmalia in Santa Barbara County). Facility Telephone Number: (805) 969-4703. Type of Facility Approved:

Chemical Waste Landfill. Type of PCB Waste Handled: Capacitors (small and large): Properly drained transformers; Contaminated soil, dirt, rags and other debris; Dredge spoils; Muncipal sludges; and Properly drained containers (drums). Expiration Date of Approval: Open-ended. EPA Regional Office Contact: Raymond Seid, EPA Telephone Number: (414) 556-3450.

6. Facility: Nuclear Engineering Co., Inc. Facility Address: 9200 Shelbyville Rd., Suite 526, P.O. Box 7246, Louisville, Kentucky 40207, main office (site located near Beatty, Nev. in Nye County). Facility Telephone Number: (502) 426-7160. Type of Facility Approved: Chemical Waste Landfill. Type of PCB Waste Handled: Capacitors (small and large); Properly drained transformers; Contaminated soil, dirt, rags and other debris; Dredge spoils; Municipal sludges; and Properly drained containers (drums). Expiration Date of Approval: Open-ended. EPA Regional Office Contact: Raymond Seid. EPA Telephone Number: (415) 556-3450.

7. Facility: Chem-Nuclear Systems, Inc. Facility Address: P.O. Box 1269, Portland, Oregon 97205 main office (Site located in Arlington, Oregon). Facility Telephone Number: (503) 223-1912. Type of facility Approved: Chemical Waste Landfill. Type of PCB Waste Handled: Capacitors (small and large): Properly drained transformers; Contaminated soil, dirt, rags, asphalt, and other debris; and Properly drained containers (drums). Expiration Date of Approval: January 1, 1980. EPA Regional Office Contact: Mr. Roger Fuentes. EPA Telephone Number: (206) 442-1260.

8. Facility: Wes-Con., Inc. Facility Address: P. O. Box 564. Twin Falls, Idaho 83301. main office (Site located in Grand View, Idaho). Facility Telephone Number: (208) 734-7711. Type of Facility Approved: Disposal in Missile Silos. Type of PCB Waste Handled: Capacitors (small and large); Properly drained transformers; Contaminated soil, dirt, rags, asphalt, and other debris; and Properly drained containers (drums). Expiration Date of Approval: January 1, 1980. EPA Regional Office Contact: Mr. Rogers Fuentes. EPA Telephone Number: (206) 442-1260.

(118) CAN A COMMON CARRIER (E.G., TRUCK LINE) TRANSPORT PCBs FOR A COMPANY TO A DISPOSAL FACILITY IF THE TRANSPORT IS NOT WITHIN THE INDUSTRY?

If the common carrier complies with the Hazardous Materials requirements set by the Department of Transportation, and the vehicle is properly and visibly labeled on its exterior with a PCB label it can be used to transport PCBs to a disposal site.

(119) CAN PCBs OR PCB ITEMS BE EXPORTED FOR DISPOSAL? BE IMPORTED FOR DISPOSAL?

Yes, refer to Question #23 in the "Import/Export" section of this Booklet.

## PCBs IN THE WORKPLACE

(120) ARE THERE ANY OSHA RULES GOVERNING PCBs IN THE WORKPLACE?

No, not at the present time; however, in 1977 the National Institute of Occupational Safety and Health (NIOSH) -- the HEW organization responsible for researching workplace safety -- published "Criteria for a Recommended Standard ... Occupational Exposure to Polychlorinated Biphenyls (PCBs)". OSHA, associated with the Department of Labor, will use this document to develop mandatory standards regarding PCBs.

(121) WHAT IS A RECOMMENDED STANDARD FOR OCCUPATIONAL EXPOSURE? WHAT IS THE STANDARD RECOMMENDED BY NIOSH FOR OCCUPATIONAL EXPOSURE TO PCBs?

A recommended standard is a determination of the level of exposure that will substantially reduce any risks of reproductive or tumorigenic effects of PCBs and prevent other adverse effects of exposure in the workplace. It is based on a 10-hour workday, 40-hour workweek, over a normal working lifetime.

NIOSH has recommended in their Criteria Document for PCBs that occupational exposure to PCBs be controlled so that no worker is exposed at a concentration greater than 1.0 microgram total PCBs per cubic meter of air (1.0 Mg/cu m), determination as time-weighted average (TWA) concentration, for up to a 10-hour workday, 40 hour workweek. This is only a recommended standard and it has not been adopted to date, by either OSHA or EPA. At the present time, however, OSHA is reviewing this recommended standard.

(122) DID NIOSH RECOMMEND ANYTHING ELSE TO REDUCE EXPOSURE TO PCBs IN THE WORKPLACE?

Yes, NIOSH made recommendations about work practices, personal protective equipment and clothing, medical surveillance, personal clean up and sanitation practices, and employee information programs.

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(123) HOW DO OSHA STANDARDS AND NIOSH RECOMMENDATIONS RELATE TO EPA's PCB REGULATION?

EPA's PCB Rules do not directly regulate workers, but the Rules do restrict or prohibit certain PCB activities which reduce the number of workers exposed. The EPA Rules prohibit PCB transformer and capacitor manufacture, as well as PCB transformer rebuilding (except for railroad transformers); these activities were the major long-term occupational exposures to high concentration PCBs. The rebuilding of PCB railroad transformers and mining machine PCB motors will result in long-term worker exposure that will warrant special worker protection, but these activities will be phased out over the next several years.

Worker exposure can also occur as a result of PCB spills and authorized servicing operations for PCB transformers.

(124) WHAT KIND OF PROTECTIVE CLOTHING SHOULD BE WORN WHEN WORKING WITH PCBs?

The type of protective clothing which should be worn when working with PCBs is dependent on the individual circumstances. Worker protective clothing and equipment is intended to prevent skin and eye contact, and control respiratory exposure.

Respiratory exposure control (whether individual protection or workplace control) is most relevant for long-term production operations or major spills. PCB Transformer spills pose respiratory problems because of solvents, such as trichlorobenzene, that are mixed with the PCBs. Small spills, such as capacitor failures, seldom pose respiratory problems, but protection should be provided for incidents in confined areas.

Skin protection can usually be achieved by wearing non-porous gloves and boots and heavy overalls. For major spill clean up activities, a full suit of non-porous clothing may be appropriate. Also, non-porous aprons can be effective in reducing contamination of worker clothing. Non-porous protective gear can usually be decontaminated with solvents. Work clothing can usually be laundered and reused, unless the garment is heavily contaminated. It is wise to launder work clothes separately from other garments.

Eye protection should be worn when it is possible for PCBs to be splashed in the eyes. Removing contaminated soil does not usually pose such a threat.

(125) IF I GET PCB LIQUID ON MY SKIN, HOW CAN I REMOVE IT?

If liquid or solid PCBs are splashed or spilled on an employee, contaminated clothing should be removed promptly and the skin washed thoroughly with soap and water for at least 15 minutes.

Eyes should be irrigated for at least 15 minutes if liquid or solid PCBs get into them. A drop of vegetable oil may be put into the eye to relieve the irritating effect of PCBs.

## CONTACTS FOR INFORMATION

(126) IF I HAVE OTHER QUESTIONS ABOUT THE PCB BAN RULE's PROVISIONS, IS THERE SOMEONE I CAN CONTACT?

If you have more questions call the Industry Assistance Office on their nationwide toll free number: 800-424-9065; persons in the Washington, D.C. area can reach this Office by calling 554-1404.

(127) HOW DO I GET A COPY OF THE RULE? SUPPORT DOCUMENT/ VOLUNTARY ENVIRONMENTAL IMPACT STATEMENT (REFERRED TO IN THE RULES AS THE VERSAR REPORT)?

Copies of both can be obtained by calling the phone numbers mentioned in the answer to Question 126, or by writing to:

John B. Ritch, Jr., Director
Industry Assistance Office
Office of Toxic Substances (TS-799)
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

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