

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 and the Chemical Control Division 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.

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 one or more chlorine atoms to a biphenyl molecule. Virtually 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 wide-spread environmental concerns about PCBs.

(3) WHAT TRADE NAMES WERE PCBs SOLD UNDER?

The trademark Monsanto Corporation sold PCBs under was "Aroclor". 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, Askarel, Pydraul, Therminol, Pyroclor, Santotherm Pyralene, Pyranol, Inerteen, Asbestol, Chlorextol, Diachlor, Dykanol, Elemex, Hyvol, No-Flamol, Saf-T-Kuhl, Aroclor B, Clorinol, Clorphen, Eucarel. Askarel is the generic name used for nonflammable insulating liquid in transformers and capacitors.

(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 they are exposed 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.

May 9, 1980 EPA proposed to amend the Final PCB Regulation to prohibit the use of PCB Items in facilities manufacturing, processors, or storing fertilizers or agricultural pesticides. FDA and USDA published similar proposals to cover the entire food and feed chain.

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 PCB processing, distribution in commerce, and use activities 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 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 2, 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).

Since publication of the final ban rule, Federal Register notices dealing with PCBs have been published. They are listed on pages 40-41.

(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., exemptions, 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, one million 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 (including floor sweeps). 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?

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

"PCB Item" is a collective term used throughout the Rule to refer to PCB Equipment/Articles/Containers/Article Containers that has as a part of it any PCB or PCBs at a concentration of 50 ppm or greater.

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

PCB Articles and PCB Equipment can no longer be produced, however, if EPA grants an exemption to a petitioner, that petitioner may continue production.

- (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?

Anyone wanting an exemption must petition EPA for it. An exemption, valid for a maximum of 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 bans on processing and distribution in commerce.

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.

On March 5, 1980 EPA announced that it will decide on a case-by-case basis whether or not to accept for consideration all manufacturing, processing, and distribution in commerce exemption petitions submitted after the filing deadline.

- (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.

- (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, airconditioners, 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.

In the May 31, 1979 regulation EPA states that it considers the distribution in commerce and use of most intact, non-leaking; PCB Transformers, PCB-Contaminated Transformers, PCB electromagnets and PCB capacitors as well as the processing, distribution in commerce and use of PCB Equipment containing an intact, non-leaking PCB Capacitor totally enclosed activities.

- (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 with restrictions by EPA (beside each is the Rule section to refer to for details):

- ° servicing PCB Transformers and PCB-Contaminated Transformers (Sec. 761.31(a));
- ° use in and servicing of Railroad Transformers (Sec. 761.31(b));
- ° use in and servicing of Mining Equipment (Sec. 761.31(c));
- ° use in Heat Transfer Systems (Sec. 761.31(d));
- ° use in Hydraulic Systems (Sec. 761.31(e));
- ° use in Carbonless Copy Paper (Sec. 761.31(f));

- ° use in Pigments (Sec. 761.31(g));
- ° servicing Electromagnets (Sec. 761.31(h));
- ° use in Small Quantities for Research & Development (Sec. 761.31(j));
- ° use in 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 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.

Since EPA must make more stringent findings under Section 6(e)(3) of TSCA than under S 6(e)(2), there is no reason to require petitioners to have an authorization if they have been granted an exemption for the same activity. Therefore, a PCB processing or distribution in commerce activity cannot be authorized after July 1, 1979. After this date, persons who process or distribute PCBs must petition for and be granted an exemption by EPA in order to continue these activities.

(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 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" and found in the support document to the ban rule dated April 1979. For a copy of this document call the Industry Assistance Office (see the "Contacts for Information" section of this Booklet).

IMPORT/EXPORT

(22) CAN PCBs BE EXPORTED OR IMPORTED? WHAT ABOUT PCB EQUIPMENT? WHAT ABOUT IMPORTING OR EXPORTING PCBs FOR DISPOSAL?

Because TSCA considers the term "import" to be synonymous with "manufacture," no PCBs or PCB Equipment can be imported or exported after July 2, 1979, unless an exemption is obtained from EPA. Persons wishing to export for use must also file a TSCA Section 12 export notice.

The Open Border Policy for PCB disposal expired May 1, 1980; therefore no PCBs may be exported or imported for disposal until new rules are in effect. In the summer of 1980 EPA will publish a proposed rule governing the export and import of PCBs for disposal and use.

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 any PCBs into the environment. Once a transformer leaks it is no longer totally enclosed and its use is therefore not authorized. One exception to the authorization are EPA, FDA, and USDA's proposed rules to prohibit the use of PCB Items in food and feed facilities including agricultural chemical facilities.

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

Servicing of these transformers is authorized until July 1, 1984 (any activity involving removing the coil is not considered servicing). EPA will consider the necessity of extending the authorization period prior to the 1984 termination date. Special restrictions are dependent upon the concentration of PCBs in the transformer 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 contain PCBs at a concentration of 500 ppm or greater;
- (2) PCB-Contaminated Transformers contain between 50 ppm and 500 ppm PCB (usually they were originally mineral oil transformers);
- (3) Non-PCB Transformers contain less than 50 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, addresses Railroad Transformer 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 should be assumed to be a PCB Transformer. Unless there is reason to believe a mineral oil transformer contains greater than 500 ppm it may be assumed to be PCB-Contaminated.

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 receive an exemption from EPA. If they sold only uncontaminated mineral oil (less than 50 ppm PCBs), then no 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.

(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

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 that this type of servicing presents an unreasonable risk. EPA believes the cost of this prohibition (about \$12 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 could 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 PCBs is relatively low and the economic impact of not permitting this activity would be very high.

(33) CAN I SERVICE MY OWN TRANSFORMERS?

EPA authorizes the routine servicing of PCB Transformers and the routine servicing and rebuilding of PCB-Contaminated Transformers subject to certain conditions 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.

(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 your drained PCB Transformer 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.

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

Yes, provided the transformer was sold for use before July 1, 1979. No exemption from EPA is required for such sales.

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 to which these heavy service units are subjected. 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 exceed 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, and again between 12 and 24 months after such 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 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.

(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 March 1, 1981 all PCB large capacitors will have to be incinerated in an EPA approved incinerator. EPA requires that all PCB capacitors be packed in Department of Transportation (DOT) drums with absorbent material prior to their disposal in chemical waste landfills.

Special disposal is not required for small capacitors --- except those waste capacitors owned by PCB capacitor or PCB equipment producers. Disposal of small PCB capacitors owned by manufacturers parallels the disposal of large PCB capacitors.

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

Small capacitors have less than 3 pounds of 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 of 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. Repair restrictions apply only to the PCB motors, not the rest of the machine. While the machines are in use in mines or mining areas, PCBs can be added to these motors until January 1, 1982.

When PCB motors in loader-type equipment are returned to a service shop for servicing they must be rebuilt as air cooled or other non-PCB containing motors or be replaced with non-PCB motors. Because PCB motors in continuous miner equipment cannot be successfully converted to non-PCB motors, these motors are allowed to be rebuilt as PCB motors until January 1, 1980 in order to ease the impacts of phasing out this equipment. Any servicing or repair that involves the sale of PCBs can be performed only by persons who are granted an exemption by EPA.

(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. However, on November 1, 1979 EPA proposed to require testing only of hydraulic systems engaged in the production or forming of metal by November 1, 1979 and at least annually thereafter.

(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 draining and filtering or distilling to reduce the PCB concentration below 50 ppm. 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?

Yes, there are restrictions. 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 below 50 ppm if they are to be used in the manufacture or production of foods, drugs, and cosmetics. EPA proposed on May 9, 1980 to prohibit their use in facilities manufacturing, processing, or storing fertilizer or agricultural pesticides with a few exceptions.

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.

- (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 exist; 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 phthalocyanine 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 MANUFACTURES 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 Information" Section of this Booklet to find out how to obtain a copy of this Federal Register Notice.)

EPA will decide on a case by case basis whether or not to accept for consideration all exemption petitions submitted after their respective filing deadline. See the March 5, 1980 Federal Register Notice for more details.

(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 electromagnets may continue to be used and serviced.

Persons may service their own PCB electromagnets until July 1, 1984. 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.

LABELING

(75) 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.

(76) 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 mineral oil 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.

- (78) 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. Then the equipment should be marked at the time of manufacture, "This equipment contains PCB Capacitors".

- (79) 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.

- (80) 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.

(81) 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.

(82) 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

(83) 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.)

(84) 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.

(85) ARE THERE EPA APPROVED LABS TO ANALYZE SAMPLES OF PCBs?

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

STORAGE

(86) 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.

(87) 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, to 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 containers. These records will be important in tracing waste shipments and enforcing the disposal and storage requirements.

(88) 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.

(89) 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.

(90) 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.

(91) 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.

(92) WHEN PCB CAPACITORS OR CONTAINERS ARE STORED IN AN APPROPRIATE STORAGE AREA, WHAT HAPPENS WHEN ONE OF THESE ITEMS START 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.

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.

(93) 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.

(94) 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

(95) 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, 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.

(96) 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) and to the nearest EPA Regional Office.

(97) 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.

(98) 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.

Water 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. Commercial firms are also available on a contract basis to clean up spills. Government spill experts can provide information on such firms.

RECORDKEEPING

(99) MUST COMPANIES KEEP RECORDS OF THE DISPOSITION 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.

- (100) DO PCB INCINERATOR FACILITIES 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.

- (101) 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, for the period January 1, 1978 through December 31, 1978.

- (102) 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.

- (103) 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 identity of that single facility must be available at each location. The record location must be manned at least 8 hours a day, for a normal forty hour work week.

DISPOSAL

(104) 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.

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

Until March 1, 1981 large PCB capacitors as well as small PCB capacitors owned by manufacturers of PCB capacitors can be disposed of in approved chemical waste landfills or high temperature incinerators. EPA requires all PCB capacitors be containerized and packed with absorbent material prior to their disposal in chemical waste landfills. After March 1, 1981 they must be disposed of in EPA approved 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.

(106) 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.

(107) 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.

(108) 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.

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

Fluids from PCB Transformers (concentration of 500 ppm or 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.

(110) WHERE CAN OTHER LIQUID WASTES WITH OVER 500 PPM PCBs 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 #109).

(111) 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.

(112) 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.

(113) CAN DECONTAMINATED PCB CONTAINERS BE REUSED?

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

(114) 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.

(115) 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 meet the requirements established in Annex II of the Final Rule.

High efficiency boilers used for the disposal of PCB-contaminated non-mineral oil fluids must also be approved by the appropriate EPA Regional Administrator using the procedures established in Section 761.10 (a) (3) (iii) (B) of the Final Rule. High efficiency boilers used for the disposal of PCB-contaminated mineral oil fluids do not need to be approved, however, persons are required to notify the appropriate Regional Administrator using the procedures established in Section 761.10 (a) (2) (iii) (B) before commencing such burning."

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

Yes, eight chemical waste landfills 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: CECOS International Waste Systems, Inc. Facility Address: 4528 Royal Avenue, Niagara Falls, New York 14303. Facility Telephone Number: (716) 731-3281. 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: August 18, 1981. EPA Regional Office Contact: Wayne Pierre. EPA Telephone Number: (212) 264-0505.

2. 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. EPA Regional Office Contact: Wayne Pierre. EPA Telephone Number: (212) 264-0505.

3. Facility: Waste Management of Alabama, Inc. Facility Address: P.O. Box 1200 Livingston, Alabama 35470. Facility Telephone Number: (205) 652-9531. 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); Liquid PCBs at a concentration of between 50 to 500 ppm. Expiration Date of Approval: Open-ended. EPA Regional Office Contact: Mr. James Scarbrough. EPA Telephone Number: (404) 881-3016.

4. Facility: CECOS International Chemical Waste Systems of Ohio, Inc. Facility Address: 5092 Aber Rd., Williamsburg, Ohio 45176. Facility Telephone Number: (513) 724-6114. Type of Facility Approved: Chemical Waste Landfill. Type of Waste Handled: Capacitors (small and large); Properly drained; Dredge spoils; Municipal sludges; Properly drained containers (drums); Liquid PCBs at a concentration of between 50 to 500 ppm. Expiration Date: Open-ended. EPA Regional Office Contact: Mr. Jay Goldstein. EPA Telephone Number: (312) 353-2197.
5. Facility: Casamalia Disposal. Facility Address: 539 Ysidro Rd., P.O. Box 5275, Santa Barbara, California 93108 - main office (site located near Casamalia in Santa Barbara County). Facility Telephone Number: (805) 969-5897. 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: (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, Nevada 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 of PCB Waste Handled: Capacitors (small and large); Properly drained transformers; Contaminated soil, dirt, rags, asphalt, and other debris; Properly drained containers (drums). Liquid PCBs at a concentration of between 50 to 500 ppm. Expiration Date of Approval: January 1, 1982. EPA Regional Office Contact: Mr. Roger Fuentes. EPA Telephone Number: (206) 442-2850.
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) 834-2275. 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).

CHEMICAL WASTE LANDFILLS APPROVED FOR PCB DISPOSAL

FACILITY NO.	SITE LOCATION	FACILITY	FACILITY ADDRESS	EPA REG. CONTRACT	CAPACITORS (LARGE & SMALL)	PROPERLY DRAINED TRANSFORMERS	CONTAMINATED SOIL, DIRT, RAGS	DREDGE SPOILS	MUNICIPAL SLUDGES	PROPERLY DRAINED CONTAINERS	ASPHALT (CONTAMINATED)	LIQUID PCBs AT A CONCENTRATION BETWEEN 50 & 500 ppm
3	ALABAMA	WASTE MGMT. OF ALABAMA (206) 852-9631 TOLL FREE NO. (800) 241-7823	P.O. BOX 1200 LIVINGSTON AL 36470	MR. JAMES SCARBROUGH (404) 881-3018	X	X	X	X	X	X	X	X
5	CALIFORNIA	CASMALIA DISPOSAL (805) 969-6897	539 YSIDRO ROAD P.O. BOX 5275 SANTA BARBARA CA. 93108	RAYMOND SEID (415) 566-3480	X	X	X	X	X	X	X	X
8	GRAND VIEW, IDAHO	WES-CON, INC. (208) 834-2276	P.O. BOX 584 TWIN FALLS ID 83301	ROGER FUENTES (206) 442-2850	X	X	X	X	X	X	X	X
6	BEATTY, NV	NUCLEAR ENGINEERING CO., INC. (502) 426-7160	9200 SHELBYVILLE RD. SUITE 526 P.O. BOX 7246 LOUISVILLE KY 40207	RAYMOND SEID (415) 556-3450	X	X	X	X	X	X	X	X
1	NEW YORK	CECOS INTERNATIONAL (716) 731-3281	4528 ROYAL AVE. NIAGARA FALLS NY 14303	WAYNE PIERRE (212) 284-0505	X	X	X	X	X	X	X	X
2	NEW YORK	SCA CHEMICAL SERV., INC. (716) 754-8231	1560 BALMER ROAD MODEL CITY NY 14107	WAYNE PIERRE (212) 284-0505	X	X	X	X	X	X	X	X
4	OHIO	CECOS INTERNATIONAL (513) 724-6114	5082 ABER RD. WILLIAMSBURG OH 45176	JAY GOLDSTEIN (312) 353-2197	X	X	X	X	X	X	X	X
7	OREGON	CHEM. NUCLEAR SYS. INC. (503) 223-1912	P.O. BOX 1269 PORTLAND OR 97205	ROGER FUENTES (206) 442-2850	X	X	X	X	X	X	X	X

Liquid PCBs at a concentration of between 50 to 500 ppm.
Expiration Date of Approval: January 1, 1982. EPA Regional
Office Contact: Mr. Roger Fuentes. EPA Telephone Number:
(206) 442-2850

- (117) 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.

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

No, refer to Question #22 in the "Import/Export" section of this Booklet.

PCBs IN THE WORKPLACE

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

Yes, there are OSHA regulation governing PCBs in the workplace; In addition, 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. However, the Occupational Safety and Health Act (Section 5(a)(1)) requires employers to provide employees with a place of employment that is free from recognized hazards.

- (120) 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.

(121) 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.

(122) 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.

(123) 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.

In any operation where workers may come into contact with PCBs, protective clothing impervious to PCBs shall be worn. Gloves, boots, overshoes, and bib-type aprons that cover boot tops should be provided when necessary.

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.

Eye protection (chemical safety goggles, face shields with goggles or safety glasses with side shields) should be worn during any operation in which PCBs are present. If liquid or solid PCBs contact the eyes, the eyes shall be irrigated immediately with large quantities of water and then examined by a physician or other responsible medical personnel.

Respiratory exposure control (whether individual protection or workplace control) is most relevant for long-term production operations or major spills, when concentrations of airborne PCBs may exceed the recommended occupational exposure limit. 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.

RESPIRATOR SELECTION GUIDE

Concentration of PCBs	Respirator Type Approved under Provisions of 30 CFR 11 (OSHA)
Greater than 1.0 ug/cu m or <u>Emergency</u>	(1) Self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode. (2) Combination Type C supplied-air respirator with full face piece operated in pressure-demand or other positive pressure mode and an auxiliary self-contained breathing apparatus operated in pressure demand or other possitive mode.

(124) 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

(125) 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.

(126) HOW DO I GET A COPY OF THE RULE? SUPORT 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 125, 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

Current PCB Regulations Published By

The Office of Toxic Substances and

The Office of Enforcement

<u>Date</u>	<u>Federal Register Notice</u>
December 2, 1977	Final Rules. Procedures for Rulemaking Under Section 6 of the Toxic Substances Control Act.
January 2, 1979	Policy for Implementation and Enforcement. 44 FR 108
May 31, 1979	Final Rule Interim Procedures for Exemptions from PCB Processing & Distribution in Commerce. 44 FR 31558
July 9, 1979	Denial of Citizens Petition. Disposal of PCB Contaminated Soil & Debris - North Carolina. 44 FR 13575
July 20, 1979	Notice of Receipt of Additional Manufacturing Petitions and Extension of Reply Comment Period.
September 19, 1979	Final Rule. PCB Disposal Requirements Sedgwick County, Kansas. 44 FR 54296
October 2, 1979	Exporting PCBs Proposed Rule and Interim Guidance 44 FR 5635
November 21, 1979	Proposed Amendment to the Disposal Requirement for Large PCB Capacitors in Chemical Waste Landfills. 44 FR 66851
November 21, 1979	Polychlorinated Biphenyls Approved PCBs Disposal Facilities.
November 29, 1979	PCB, Manufacturing, Processing, Distribution in Commerce and Use Prohibitions; Clarification and Proposed Amendment on Hydraulic Machines. 44 FR 68489

March 5, 1980

Request for Information on the PCB Transformer referred to in the Electrical Utility Industry as "Weeping" or "Sweating". 45 FR 14232 (April 16, 1980 extended comment period to May 5, 1980.) 45 FR 25828

March 28, 1980

Final Amendment to the Disposal Requirements for PCB Capacitors in Chemical Waste Landfills. Final Rule. 45 FR 20473

May 1, 1980

Expiration of the Open Border Policy for PCB Disposal. 45 FR 29115

May 9, 1980

Proposed Rule prohibiting PCB Items in Facilities Manufacturing, Processing, or Storing Fertilizers or Agricultural Pesticides. 45 FR 30989