§ 761.60 Disposal requirements.

(a) PCB liquids. PCB liquids at concentrations ≥50 ppm must be disposed of in an incinerator which complies with §761.70, except that PCB liquids at concentrations ≥50 ppm and <500 ppm may be disposed of as follows:

(1) For mineral oil dielectric fluid, in a high efficiency boiler according to §761.71(a).

(2) For liquids other than mineral oil dielectric fluid, in a high efficiency boiler according to §761.71(b).

(3) For liquids from incidental sources, such as precipitation, condensation, leachate or load separation and are associated with PCB Articles or non-liquid PCB wastes, in a chemical waste landfill which complies with §761.75 if:

(i) [Reserved]

(ii) Information is provided to or obtained by the owner or operator of the chemical waste landfill that shows that the liquids do not exceed 500 ppm PCB and are not an ignitable waste as described in §761.75(b)(8)(i).
(b) PCB Articles. This paragraph does not authorize disposal that is otherwise prohibited in §761.20 or elsewhere in this part.

1. **Transformers.** (i) PCB Transformers shall be disposed of in accordance with either of the following:

   (A) In an incinerator that complies with §761.70; or

   (B) In a chemical waste landfill approved under §761.75; provided that all free-flowing liquid is removed from the transformer, the transformer is allowed to stand for at least 18 continuous hours, and then the solvent is thoroughly removed. Any person disposing of PCB liquids that are removed from the transformer (including the dielectric fluid and all solvents used as a flush), shall do so in an incinerator that complies with §761.70 of this part, or shall decontaminate them in accordance with §761.79. Solvents may include kerosene, xylene, toluene, and other solvents in which PCBs are readily soluble. Any person disposing of these PCB liquids must ensure that the solvent flushing procedure is conducted in accordance with applicable safety and health standards as required by Federal or State regulations.

   (ii) [Reserved]

2. **PCB Capacitors.** (i) The disposal of any capacitor shall comply with all requirements of this subpart unless it is known from label or nameplate information, manufacturer’s literature (including documented communications with the manufacturer), or chemical analysis that the capacitor does not contain PCBs.

   (ii) Any person may dispose of PCB Small Capacitors as municipal solid waste, unless that person is subject to the requirements of paragraph (b)(2)(iv) of this section.

   (iii) Any PCB Large High or Low Voltage Capacitor which contains 500 ppm or greater PCBs, owned by any person, shall be disposed of in accordance with either of the following:

      (A) Disposal in an incinerator that complies with §761.70; or

      (B) Until March 1, 1981, disposal in a chemical waste landfill that complies with §761.75.

   (iv) Any person who manufactures or at any time manufactured PCB Capacitors or PCB Equipment, and acquired the PCB Capacitor in the course of such manufacturing, shall place the PCB Small Capacitors in a container meeting the DOT packaging requirements at 49 CFR parts 171 through 180 and dispose of them in accordance with either of the following:

      (A) Disposal in an incinerator which complies with §761.70; or

      (B) Until March 1, 1981, disposal in a chemical waste landfill which complies with §761.75.

   (v) Notwithstanding the restrictions imposed by paragraph (b)(2)(ii)(B) or (b)(2)(iv)(B) of this section, PCB capacitors may be disposed of in PCB chemical waste landfills that comply with §761.75 subsequent to March 1, 1981, if EPA publishes a notice in the FEDERAL REGISTER declaring that those landfills are available for such disposal and explaining the reasons for the extension or reopening. An extension or reopening for disposal of PCB capacitors that is granted under this subsection shall be subject to such terms and conditions as the Assistant Administrator may prescribe and shall be in effect for such period as the Assistant Administrator may prescribe. EPA may permit disposal of PCB capacitors in EPA-approved chemical waste landfills after March 1, 1981, if in its opinion:

      (A) Adequate incineration capability for PCB capacitors is not available, or

      (B) The incineration of PCB capacitors will significantly interfere with the incineration of liquid PCBs, or

      (C) There is other good cause shown.

   As part of this evaluation, the Assistant Administrator will consider the impact of his action on the incentives to construct or expand PCB incinerators.

   (vi) Any person disposing of large PCB capacitors or small PCB capacitors described in paragraph (b)(2)(iv) of this section in a chemical waste landfill approved under §761.75, shall first place them in a container meeting the DOT packaging requirements at 49 CFR parts 171 through 180. In all cases, the person must fill the interstitial space in the container with sufficient absorbent material (such as soil) to absorb any liquid PCBs remaining in the capacitors.
(3) **PCB hydraulic machines.** (i) Any person disposing of PCB hydraulic machines containing PCBs at concentrations of ≥50 ppm, such as die casting machines, shall do so by one of the following methods:

(A) In accordance with § 761.79.
(B) In a facility which is permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter or non-municipal non-hazardous waste subject to §§ 257.5 through 257.30 of this chapter, as applicable (excluding thermal treatment units).
(C) In a scrap metal recovery oven or smelter operating in compliance with §761.72.

(D) In a disposal facility approved under this part.

(ii) All free-flowing liquid must be removed from each machine and the liquid must be disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains ≥1,000 ppm PCB, then the hydraulic machine must be decontaminated in accordance with §761.79 or flushed prior to disposal with a solvent listed at paragraph (b)(1)(i)(B) of this section which contains <50 ppm PCB. The solvent must be disposed of in accordance with paragraph (a) of this section or §761.79.

(4) **PCB-Contaminated Electrical Equipment.** Any person disposing of PCB-Contaminated Electrical Equipment, except capacitors, shall do so in accordance with paragraph (b)(6)(i)(A) of this section. Any person disposing of Large Capacitors that contain ≥50 ppm but < 500 ppm PCBs shall do so in a disposal facility approved under this part.

(5) **Natural gas pipeline systems containing PCBs.** The owner or operator of natural gas pipeline systems containing ≥50 ppm PCBs, when no longer in use, shall dispose of the system either by abandonment in place of the pipe under paragraph (b)(5)(i) of this section or removal with subsequent action under paragraph (b)(5)(ii) of this section. Any person determining the PCB concentrations in natural gas pipeline systems shall do so in accordance with paragraph (b)(5)(iii) of this section.

(i) **Abandonment.** Natural gas pipe containing ≥50 ppm PCBs may be abandoned in place under one or more of the following provisions:

(A) Natural gas pipe having a nominal inside diameter of ≤4 inches, and containing PCBs at any concentration but no free-flowing liquids, may be abandoned in the place it was used to transport natural gas if each end is sealed closed and the pipe is either:

(I) Included in a public service notification program, such as a “one-call” system under 49 CFR 192.614(a) and (b).

(2) Filled to 50 percent or more of the volume of the pipe with grout (such as a hardening slurry consisting of cement, bentonite, or clay) or high density polyurethane foam.

(B) PCB-Contaminated natural gas pipe of any diameter, where the PCB concentration was determined after the last transmission of gas through the pipe or at the time of abandonment, that contains no free-flowing liquids may be abandoned in the place it was used to transport natural gas if each end is sealed closed.

(C) Natural gas pipe of any diameter which contains PCBs at any concentration but no free-flowing liquids, may be abandoned in the place it was used to transport natural gas, if each end is sealed closed, and either:

(I) The interior surface is decontaminated with one or more washes of a solvent in accordance with the use and disposal requirements of §761.79(d). This decontamination process must result in a recovery of 95 percent of the solvent volume introduced into the system, and the PCB concentration of the recovered wash must be <50 ppm (see §761.79(a)(1) for requirements on use and disposal of decontaminating fluids).

(ii) The pipe is filled to 50 percent or more of the volume of the pipe with grout (such as a hardening slurry-like cement, bentonite, or clay) or high density polyurethane foam (except that only cement shall be used as grout under rivers or streams) and each end is sealed closed.

(D) Natural gas pipe of any diameter which contains PCBs at any concentration may be abandoned in place after decontamination in accordance with §761.79(c)(3), (c)(4) or (h) or a PCB disposal approval issued under §761.60(e) or §761.61(c).
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(ii) Removal with subsequent action. Natural gas pipeline systems may be disposed of under one of the following provisions:

(A) The following classifications of natural gas pipe containing no free-flowing liquids may be disposed of in a facility permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter or non-municipal non-hazardous waste subject to §§257.5 through 257.30 of this chapter, as applicable (excluding thermal treatment units); a scrap metal recovery oven or smelter operating in compliance with the requirements of §761.72; or a disposal facility approved under this part:

1. PCB-Contaminated natural gas pipe of any diameter where the PCB concentration was determined after the last transmission of gas through the pipe or during removal from the location it was used to transport natural gas.

2. Natural gas pipe containing PCBs at any concentration and having a nominal inside diameter ≤ 4 inches.

(B) Any component of a natural gas pipeline system may be disposed of under one of the following provisions:

1. In an incinerator operating in compliance with §761.70.

2. In a chemical waste landfill operating in compliance with §761.75, provided that all free-flowing liquid PCBs have been thoroughly drained.

3. As a PCB remediation waste in compliance with §761.61.

4. In accordance with §761.79.

(iii) Characterization of natural gas pipeline systems by PCB concentration in condensate. (A) Any person disposing of a natural gas pipeline system under paragraphs (b)(3)(i)(B) or (b)(5)(ii)(A)(J) of this section must characterize it for PCB contamination by analyzing organic liquids collected at existing condensate collection points in the natural gas pipeline system. The level of PCB contamination found at a collection point is assumed to extend to the next collection point downstream. If no organic liquids are present, drain free-flowing liquids and collect standard wipe samples according to subpart M of this part. Collect condensate within 72 hours of the final transmission of natural gas through the part of the system to be abandoned or removed. Collect wipe samples after the last transmission of gas through the pipe or during removal from the location it was used to transport natural gas.

(B) PCB concentration of the organic phase of multi-phasic liquids shall be determined in accordance with §761.1(b)(4).

(iv) Disposal of pipeline liquids. (A) Any person disposing of liquids containing PCBs >50 ppm removed, spilled, or otherwise released from a natural gas pipeline system must do so in accordance with §761.61(a)(5)(iv) based on the PCB concentration at the time of removal from the system. Any person disposing of material contaminated by spills or other releases of PCBs >50 ppm from a natural gas pipeline system, must do so in accordance with §761.61 or §761.79, as applicable.

(B) Any person who markets or burns for energy recovery liquid containing PCBs at concentrations <50 ppm PCBs at the time of removal from a natural gas pipeline system must do so in accordance with the provisions pertaining to used oil at §761.20(e). No other use of liquid containing PCBs at concentrations above the quantifiable level/level of detection removed from a natural gas pipeline system is authorized.

(6) Other PCB Articles. (i) PCB articles with concentrations at 500 ppm or greater must be disposed of:

(A) In an incinerator that complies with §761.70; or

(B) In a chemical waste landfill that complies with §761.75, provided that all free-flowing liquid PCBs have been thoroughly drained.

(ii)(A) Except as specifically provided in paragraphs (b)(1) through (b)(5) of this section, any person disposing of a PCB-Contaminated Article must do so by removing all free-flowing liquid from the article, disposing of the liquid in accordance with paragraph (a) of this section, and disposing of the PCB-Contaminated Article with no free-flowing liquid by one of the following methods:

1. In accordance with §761.79.
(2) In a facility permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter or non-municipal non-hazardous waste subject to §§ 257.5 through 257.30 of this chapter, as applicable (excluding thermal treatment units).

(3) In a scrap metal recovery oven or smelter operating in compliance with §761.72.

(4) In a disposal facility approved under this part.

(B) Storage for disposal of PCB-Contaminated Articles from which all free-flowing liquids have been removed is not regulated under subpart D of this part.

(C) Requirements in subparts J and K of this part do not apply to PCB-Contaminated Articles from which all free-flowing liquids have been removed.

(iii) Fluorescent light ballasts containing PCBs in their potting material must be disposed of in a TSCA-approved disposal facility, as bulk product waste under §761.62, as household waste under §761.63 (where applicable), or in accordance with the decontamination provisions of §761.79.

(7) Storage of PCB Articles. Except for a PCB Article described in paragraph (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article, with PCB concentrations at 50 ppm or greater, shall be stored in accordance with §761.65 prior to disposal.

(8) Persons disposing of PCB Articles must wear or use protective clothing or equipment to protect against dermal contact with or inhalation of PCBs or materials containing PCBs.

(c) PCB Containers. (1) Unless decontaminated in compliance with §761.79 or as provided in paragraph (c)(2) of this section, a PCB container with PCB concentrations at 500 ppm or greater shall be disposed of:

(i) In an incinerator which complies with §761.70, or

(ii) In a chemical waste landfill that complies with §761.75; provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with paragraph (a) of this section.

(2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section.

(3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a unit which complies with §761.65.

(d) [Reserved]

(e) Any person who is required to incinerate any PCBs and PCB items under this subpart and who can demonstrate that an alternative method of destroying PCBs and PCB items exists and that this alternative method can achieve a level of performance equivalent to an incinerator approved under §761.70 or a high efficiency boiler operating in compliance with §761.71, must submit a written request to the Regional Administrator or the Director, Office of Resource Conservation and Recovery, for a waiver from the incineration requirements of §761.70 or §761.71. Requests for approval of alternate methods that will be operated in more than one Region must be submitted to the Director, Office of Resource Conservation and Recovery, except for research and development activities involving less than 500 pounds of PCB material (see paragraph (i)(2) of this section). Requests for approval of alternate methods that will be operated in only one Region must be submitted to the appropriate EPA Regional Administrator. The applicant must show that his or her method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. On the basis of such information and any available information, EPA may, in its discretion, approve the use of the alternate method if it finds that the alternate disposal method provides PCB destruction equivalent to disposal in a §761.60 incinerator or a §761.61 high efficiency boiler and will not present an unreasonable risk of injury to health or the environment. Any approval must be stated in writing and may include such
conditions and provisions as EPA deems appropriate. The person to whom such waiver is issued must comply with all limitations contained in such determination. No person may use the alternate method of destroying PCBs or PCB items prior to obtaining permission from the appropriate EPA official.

(f)(1) Each operator of a chemical waste landfill, incinerator, or alternative to incineration approved under paragraph (e) of this section shall give the following written notices to the state and local governments within whose jurisdiction the disposal facility is located:

(i) Notice at least thirty (30) days before a facility is first used for disposal of PCBs required by these regulations; and

(ii) At the request of any state or local government, annual notice of the quantities and general description of PCBs disposed of during the year. This annual notice shall be given no more than thirty (30) days after the end of the year covered.

(iii) The Regional Administrator may reduce the notice period required by paragraph (f)(1)(i) of this section from thirty days to a period of no less than five days in order to expedite interim approval of the chemical waste landfill located in Sedgwick County, Kansas.

(2) [Reserved]

(g) Testing procedures. (1) Owners or users of mineral oil dielectric fluid electrical equipment may use the following procedures to determine the concentration of PCBs in the dielectric fluid:

(i) Dielectric fluid removed from mineral oil dielectric fluid electrical equipment may be collected in a common container, provided that no other chemical substances or mixtures are added to the container. This common container option does not permit dilution of the collected oil. Mineral oil that is assumed or known to contain at least 50 ppm PCBs must not be mixed with mineral oil that is known or assumed to contain less than 50 ppm PCBs to reduce the concentration of PCBs in the common container. If dielectric fluid from untested, oil-filled circuit breakers, reclosers, or cable is collected in a common container with PCBs at a concentration of at least 50 ppm, unless all of the fluid from the other oil-filled electrical equipment has been tested and shown to contain less than 50 ppm PCBs.

(ii) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common containers or the individual electrical equipment to determine the PCB concentration, except that if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this subpart. For purposes of this subparagraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with ASTM D 923–86 or ASTM D 923–89 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.

(iii) Unless otherwise specified in this part, any person conducting the chemical analysis of PCBs shall do so using gas chromatography. Any gas chromatographic method that is appropriate for the material being analyzed may be used, including EPA Method 608, “Organochlorine Pesticides and PCBs” at 40 CFR part 136, Appendix A;” EPA Method 8082, “Polychlorinated Biphenyls (PCBs) by Capillary Column Gas Chromatography” of SW-846, “OSW Test Methods for Evaluating Solid Waste,” which is available from NTIS; and ASTM Standard D-4059, “Standard Test Method for Analysis of Polychlorinated Biphenyls in Insulating Liquids by Gas Chromatography,” which is available from ASTM.

(2) Owners or users of waste oil may use the following procedures to determine the PCB concentration of waste oil:

(i) Waste oil from more than one source may be collected in a common container, provided that no other...
(ii) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common container or the individual electrical equipment to determine the PCB concentration. 

(1) That if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this subpart. For purposes of this paragraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with ASTM D 923–86 or ASTM D 923–89 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.

(2) Unless otherwise specified in this part, any person conducting the chemical analysis of PCBs shall do so using gas chromatography. Any gas chromatographic method that is appropriate for the material being analyzed may be used, including those indicated in paragraph (g)(1)(iii) of this section.

(h) Requirements for export and import of PCBs and PCB Items for disposal are found in Subpart F of this part.

(i) Approval authority for disposal methods. (1) The officials designated in §§761.60(e) and 761.70 (a) and (b) to receive requests for approval of PCB disposal activities are the primary approval authorities for these activities. Notwithstanding, EPA may, at its discretion, assign the authority to review and approve any aspect of a disposal system to the Office of Solid Waste and Emergency Response or to a Regional Administrator.

(2) Except for activity authorized under paragraph (j) of this section, research and development (R&D) for PCB disposal using a total of <500 pounds of PCB material (regardless of PCB concentration) will be reviewed and approved by the EPA Regional Administrator for the Region where the R&D will be conducted, and R&D for PCB disposal using 500 pounds or more of PCB material (regardless of PCB concentration) will be reviewed and approved by the EPA.

(j) Self-implementing requirements for research and development (R&D) for PCB disposal. (1) Any person may conduct R&D for PCB disposal without prior written approval from EPA if they meet the following conditions:

(i) File a notification and obtain an EPA identification number pursuant to subpart K of this part.

(ii) Notify in writing the EPA Regional Administrator, the State environmental protection agency, and local environmental protection agency, having jurisdiction where the R&D for PCB disposal activity will occur at least 30 days prior to the commencement of any R&D for PCB disposal activity conducted under this section. Each written notification shall include the EPA identification number of the site where the R&D for PCB disposal activities will be conducted, the quantity of PCBs to be treated, the type of R&D technology to be used, the general physical and chemical properties of material being treated, and an estimate of the duration of the PCB activity. The EPA Regional Administrator, the State environmental protection agency, and the local environmental protection agency may waive notification in writing prior to commencement of the research.

(iii) The amount of material containing PCBs treated annually by the facility during R&D for PCB disposal activities does not exceed 500 gallons or 70 cubic feet of liquid or non-liquid PCBs and does not exceed a maximum concentration of 10,000 ppm PCBs.

(iv) No more than 1 kilogram total of pure PCBs per year is disposed of in all R&D for PCB disposal activities at a facility.

(v) Each R&D for PCB disposal activity under this section lasts no more than 1 calendar year.

(vi) Store all PCB wastes (treated and untreated PCB materials, testing samples, spent laboratory samples, residuals, untreated samples, contaminated media or instrumentation, clothing, etc.) in compliance with §761.65(b) and dispose of them according to the
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undiluted PCB concentration prior to treatment. However, PCB materials not treated in the R&D for PCB disposal activity may be returned either to the physical location where the samples were collected or a location where other regulated PCBs from the physical location where the samples were collected are being stored for disposal.

(vii) Use manifests pursuant to subpart K of this part for all R&D PCB wastes being transported from the R&D facility to an approved PCB storage or disposal facility. However, §§ 761.207 through 761.218 do not apply if the residuals or treated samples are returned either to the physical location where the samples were collected or a location where other regulated PCBs from the physical location where the samples were collected are being stored for disposal.

(viii) Package and ship all PCB wastes pursuant to DOT requirements under 49 CFR parts 171 through 180.

(ix) Comply with the recordkeeping requirements of § 761.180.

(2) Do not exceed material limitations set out in paragraphs (j)(1)(iii) and (iv) of this section and the time limitation set out in paragraph (j)(1)(v) of this section without prior written approval from EPA. Requests for approval to exceed the material limitations for PCBs in R&D for PCB disposal activities as specified in this section shall be submitted in writing to the EPA Regional Administrator for the Region in which the facility conducting R&D for PCB disposal activities is located. Each request shall specify the quantity or concentration requested or additional time needed for disposal and include a justification for each increase. For extensions to the duration of the R&D for PCB disposal activity, the request shall also include a report on the accomplishments and progress of the previously authorized R&D for PCB disposal activity for which the extension is sought. The EPA Regional Administrator may grant a waiver in writing for an increase in the volume of PCB material, the maximum concentration of PCBs, the total amount of pure PCBs, or the duration of the R&D activity. Approvals will state all requirements applicable to the R&D for PCB disposal activity.

(3) The EPA Regional Administrator for the Region in which an R&D for PCB disposal activity is conducted may determine, at any time, that an R&D PCB disposal approval is required under paragraphs (e) and (i)(2) of this section or § 761.70(d) to ensure that any R&D for PCB disposal activity does not present an unreasonable risk of injury to health or the environment.


[44 FR 31542, May 31, 1979]

EDITORIAL NOTE: For Federal Register citations affecting § 761.60, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 761.61 PCB remediation waste.

This section provides cleanup and disposal options for PCB remediation waste. Any person cleaning up and disposing of PCBs managed under this section shall do so based on the concentration at which the PCBs are found. This section does not prohibit any person from implementing temporary emergency measures to prevent, treat, or contain further releases or mitigate migration to the environment of PCBs or PCB remediation waste.

(a) Self-implementing on-site cleanup and disposal of PCB remediation waste. EPA designed the self-implementing procedure for a general, moderately-sized site where there should be low residual environmental impact from remedial activities. The procedure may be less practical for larger or environmentally diverse sites. For these other sites, the self-implementing procedure still applies, but an EPA Regional Administrator may authorize more practical procedures through paragraph (c) of this section. Any person may conduct self-implementing cleanup and disposal of PCB remediation waste in accordance with the following requirements without prior written approval from EPA.

(1) Applicability. (i) The self-implementing procedures may not be used to clean up:

(A) Surface or ground waters.

(B) Sediments in marine and freshwater ecosystems.

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