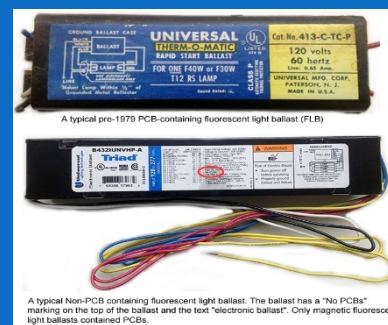


PCBs in Fluorescent Light Ballasts¹

PCB Information and Reference Fact Sheet

July 2020

530-F-20-005



PCBs in Fluorescent Light Ballasts (FLBs)

This fact sheet presents information on how to investigate for, remove, store, or dispose of PCB FLBs. Additional information regarding PCB FLBs in school buildings can be found at <https://go.usa.gov/xf9Jx>.

Where are the PCBs in FLBs?

Prior to the passage of TSCA, virtually all small electrical capacitors contained approximately 50 percent PCBs. FLBs commonly contain pure PCB liquid in small (less than two ounces) sealed capacitor(s) inside the ballasts. PCBs have also been found in FLB “potting material” which is a tar-like filling/packing material inside the metal ballast casing.

Light ballasts in the fluorescent light fixtures and are generally located within the fixture under a metal cover plate.

EPA required manufacturers of FLBs built between July 1, 1978 and July 1, 1998, to mark the ballasts that do not contain PCBs with the statement “No PCBs”.



Polychlorinated Biphenyls (PCBs)

PCBs were domestically manufactured from 1929 until fabrication was banned in 1979 by the Toxic Substances Control Act (TSCA), with some products and processes excluded from the ban by regulation. PCBs were used extensively as coolants in hydraulic systems and as dielectric fluids in electrical equipment as well as many other applications. However, PCBs may still be present in products and materials produced before 1979 (including oil used in motors and hydraulic systems) or in excluded manufacturing processes, as defined in 40 CFR 761.3, and can still be released into the environment, where they do not readily break down.

PCBs have been identified as probable human carcinogens and cause a variety of non-cancer health effects as well.²

¹ This fact sheet is intended to provide information to residents, commercial facilities, and institutions on the proper handling, storage, and disposal of FLBs containing PCBs. The recommendations in this document do not impose legally binding requirements and will not be implemented as binding in practice. They do not impose any obligations on private parties nor are they intended to direct the activities of any other federal, state or local agency or to limit the exercise of their legal authority.

² <https://www.epa.gov/pcbs/learn-about-polychlorinated-biphenyls-pcbs#healtheffects>

PCBs in Fluorescent Light Ballasts

How to Identify an FLB with PCBs

FLBs that contain PCBs are regulated under TSCA. Below is a summary of how to identify if an FLB contains or may contain PCBs.

- Any FLBs manufactured before July 2, 1979, may contain PCBs.
- Any FLBs marked with the statement “This equipment contains PCB Capacitor(s),” in accordance with 40 Code of Federal Regulations (CFR) § 761.40(d), contain PCBs.³
- In accordance with 40 CFR § 761.2(a)(4):
 - Any person must assume that a capacitor manufactured prior to July 2, 1979 whose PCB concentration is not established, or whose date of manufacture is unknown, contains greater than or equal to (\geq) 500 parts per million (ppm) PCBs.
 - Any person may assume that a capacitor marked at the time of manufacture with the statement “No PCBs” in accordance with 40 CFR § 761.40(g) does not contain PCBs. 40 CFR § 761.40(g) required non-PCB ballasts manufactured from July 1, 1978 to July 1, 1998, to be labeled with the statement “No PCBs.”
- If an FLB was manufactured prior to July 2, 1979, the potting material may be sampled and analyzed for PCBs or assumed to contain PCBs. The potting material in PCB FLBs manufactured prior to July 2, 1979, frequently contains concentrations of PCBs over 50 ppm. EPA generally does not recommend opening the FLBs just to sample the potting material due to the risk of PCB exposure. The disposal requirements are different for PCBs in the potting material than for the PCB small capacitors, as noted below.

Use of PCBs in FLBs

The use of PCBs in capacitors, including those contained in FLBs, is authorized by 40 CFR 761.30(l). There are certain restrictions on the use of PCB large high voltage capacitors and PCB large low voltage capacitors, but 40 CFR 761.30(l) allows for unrestricted use of the small capacitors found in FLBs while they are intact. However, if the small PCB capacitors in FLBs are leaking, the release of PCBs constitutes unauthorized disposal; the PCB capacitors are now a PCB waste and the continued use of those leaking PCB capacitors is no longer authorized under 40 CFR § 761.30(l) and must be disposed of in accordance with the PCB regulations.

Proper Management and Disposal of PCB FLBs

PCB FLB generators, recyclers, and disposers should consult the TSCA Storage Disposal Requirements for Fluorescent Light Ballasts Chart at the end of this fact sheet (also located on EPA’s PCB website at <https://go.usa.gov/xf9Jq>) and the PCB regulations for requirements for the proper disposal and management of PCB FLBs. Much of the information below is presented in the TSCA Storage Disposal Requirements for Fluorescent Light Ballasts Chart.

Regulations. The PCB regulations to follow regarding proper disposal of PCB FLBs and decontamination and sampling related to leaks or spills of PCB FLBs include:

- Disposal requirements for PCB small capacitors in FLBs - See 40 CFR § 761.50(b)(2), § 761.60(b)(2)(ii), and § 761.62(a) or (c).

³ The PCB regulations can be found at 40 CFR Part 761, online at https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr761_main_02.tpl

PCBs in Fluorescent Light Ballasts

- Disposal requirements for PCBs in potting material of FLBs - See 40 CFR § 761.50(b)(2)(ii), § 761.60(b)(6)(iii), and § 761.62.
- Decontamination requirements for PCB contaminated non-porous surfaces – See 40 CFR § 761.79(b)(3).
- Sampling non-porous surfaces for measurement-based use, reuse, and decontamination under 40 CFR § 761.79(b)(3) – See 40 CFR Part 761 Subpart P.
- Option for an approval from EPA to use alternative decontamination and/or sampling procedures (other than those specified in 40 CFR § 761.79 and 40 CFR Part 761 Subpart P) – See 40 CFR § 761.79(h).

Storage. Storage of PCB FLBs is regulated in accordance with 40 CFR § 761.65. Once PCB FLBs are taken out of service for disposal (i.e., they are no longer in use), they must be sent to an approved disposal facility within nine months and disposed of within one year. See 40 CFR § 761.65(a)(1) and the table at the end of this Fact Sheet for a summary of storage requirements.

There are special considerations for commercial storers of PCB waste. Commercial storers of PCB waste who store more than 500 gallons of PCB waste (such as PCB capacitors and/or potting material) generated by others or who store waste removed while servicing the equipment owned by others and brokered for disposal are required to obtain a PCB commercial storage approval from EPA (see the definition of *Commercial storer of PCB waste* in 40 CFR § 761.3). See 40 CFR § 761.65(b).

Notification of PCB Waste Activity. Any company or person storing, transporting or disposing of PCBs must notify EPA and receive an identification number using Form 7710-53. EPA will issue a unique EPA identification number to the notifier if the notifier does not have one. See 40 CFR § 761.205 and <https://www.epa.gov/pcbs/notifications-polychlorinated-biphenyl-pcb-activities>.

Generators who do not own or operate PCB commercial storage facilities subject to the storage requirements of 40 CFR § 761.65 (b) or (c)(7) do not need to submit the notification form. Generators exempted from the notification requirements shall use the generic identification number “40 CFR Part 761” on manifests, records, and reports, unless such generators elect to use a unique EPA identification number previously assigned to them under the Resource Conservation and Recovery Act (RCRA) by EPA or a State. See 40 CFR § 761.205(c).

Labeling and Manifesting. No labeling or manifesting is required for PCB FLBs that have both intact non-leaking PCB capacitors and potting material with PCBs at concentrations of less than 50 ppm PCBs. Conversely, labeling and manifesting is required if the PCB FLBs have non-intact leaking small capacitors and/or potting material with PCBs at concentrations of greater than or equal to 50 ppm PCBs (refer to the chart at the end of this fact sheet for a summary). See 40 CFR §§ 761.40 and 761.45 for marking requirements and 40 CFR Part 761 Subpart K for manifesting requirements. It is further recommended that the state be contacted to determine any applicable state manifesting requirements.

PCBs in Fluorescent Light Ballasts

Disposal as PCB Household Waste

PCB FLBs containing intact non-leaking small capacitors and/or potting material with PCBs at concentrations of greater than or equal to 50 ppm may be disposed as PCB household waste in accordance with 40 CFR § 761.63 if the FLBs meet the definition of a PCB household waste in 40 CFR § 761.3. Residents may dispose of such PCB FLBs at a municipal solid waste landfill by disposing of the FLB in the trash if the ballasts are disposed during routine maintenance at a house or a residential building. **However, the household waste exemption does not apply to PCB FLBs with non-intact leaking small capacitors with PCBs at concentrations of greater than or equal to 50 ppm.** See 40 CFR § 761.3, which states that commingled liquid PCB wastes at concentrations greater than or equal to 50 ppm are not household wastes. It is recommended to consult with the local disposal facility regarding disposal of these items to determine if the local household hazardous waste program may allow disposal of household PCB FLBs with leaking small capacitors. See 40 CFR § 761.3, 761.60(b)(2)(ii), 761.60(b)(6)(iii), and 761.63.

For More Information

For more information on PCB FLBs, consult EPA's website at <https://go.usa.gov/xf9Jx>, or contact your EPA Regional PCB Coordinator (see below).

Contact your State and EPA Regional PCB Coordinator

If you have concerns about PCB contamination or need more information, consult your EPA Regional PCB Coordinator at <http://www.epa.gov/pcbs/program-contacts> and your state environmental agency. EPA recommends that you make decisions about appropriate action after thoughtful consideration of all available information and all legal requirements.

EPA Region 1 (CT, MA, ME, NH, RI, VT) Tel: 617-918-1527

EPA Region 2 (NJ, NY, PR, U.S. Virgin Islands) Tel: 212-637-3759

EPA Region 3 (DE, DC, MD, PA, VA, WV) Tel: 215-814-2177

EPA Region 4 (AL, FL, GA, KY, MS, NC, SC, TN) Tel: 404-562-8512

EPA Region 5 (IL, IN, MI, MN, OH, WI) Tel: 312-886-7890

EPA Region 6 (AK, LA, NM, OK, TX) Tel: 214-665-6796

EPA Region 7 (IA, KS, MO, NE) Tel: 913-551-7504

EPA Region 8 (CO, MT, ND, SD, UT, WY) Tel: 303-312-6446

EPA Region 9 (AZ, CA, HI, NV, American Samoa, Guam, Northern Mariana Islands) Tel: 415-972-3360

EPA Region 10 (AK, ID, OR, WA) Tel: 206-553-1616



TSCA Storage Disposal Requirements for Fluorescent Light Ballasts

Location of the PCBs		Storage Requirements (if not at a PCB Commercial Storage Facility)	Labeling, Transportation, & Manifesting for Disposal	Disposal Reference in 40 CFR 761	Disposal Options
Capacitor	Potting Material				
"No PCBs" label		Not regulated for storage or disposal under TSCA			
< 50 ppm	< 50 ppm	Not regulated for storage or disposal under TSCA			
≥ 50 ppm, non-leaking	≥ 50 ppm	761.65(c)(9) for up to 180 days or 761.65(b) for longer	Is regulated as a PCB bulk product waste¹ - Manifesting and labeling ⁴ are required for disposal in accordance with 761.62(a); is not required under 761.62(b); may be required under 761.62(c)	761.50(b)(2)(ii) and 761.62(a), (b), or (c)	<ul style="list-style-type: none"> - TSCA incinerator - TSCA/RCRA landfill - TSCA-approved Alternative destruction method - Decontamination - Coordinated approval - State-approved landfill (leach test required) - Risk-based approval
< 50 ppm	≥ 50 ppm				
≥ 50 ppm, non-leaking	< 50 ppm	not regulated for storage under TSCA ³	Is regulated as PCB Equipment - No labeling or manifesting required ⁴	761.50(b)(2)(i) and 761.60(b)(2)(ii)	As municipal solid waste 40 CFR 761 subpart D options
≥ 50 ppm, leaking	any	761.65(c)(1) for up to 30 days or 761.65(b) for longer	Is regulated as PCB Equipment, but is Regulated as a PCB Bulk Product Waste for Disposal² - Manifesting and labeling are required for disposal in accordance with 761.62(a); may be required under 761.62(c) ⁴	761.50(b)(2) and 761.62(a) or (c)	<ul style="list-style-type: none"> - TSCA incinerator - TSCA or RCRA Hazardous waste landfill - TSCA-approved alternative destruction method - Decontamination - Coordinated approval - Risk-based approval

¹ Based on the definition of PCB Bulk Product Waste (761.3)

² Based on 761.50(b)(2)

³ Based on 761.60(b)(7)

⁴ Although labeling may not be required, records or optional labeling must show that the waste is less than 1 year old.