



Ministry  
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# Polychlorinated biphenyls (PCBs): Identification, registration, labelling and disposal

Technical Bulletin: TB 2022 – 07



ESTATE MANAGEMENT

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<b>Document Information</b>	
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## **Aim**

1. This Technical Bulletin (TB) details the actions required by legislation with regards to identification, analysis, labelling, registration, and disposal of polychlorinated biphenyl (PCB). This TB is aimed predominantly at electrical transformers; however, it is also applicable to other equipment. You must follow this TB if you own or operate equipment or material that contain, or may contain, PCB.

## **Introduction**

2. Compliance with the contents of this TB will enable compliance with the Health & Safety at Work etc. Act 1974 and its subordinate Regulations.
3. This TB covers the Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances Regulations) as detailed within Annex A.
4. Any work carried out must be in accordance with JSP 375 Volume 3 – Health & Safety Handbook.
5. All UK MOD establishments, except those occupied by USVF (see para 6), are to implement the contents of this TB. All overseas establishments, where the MOD is the duty holder, shall implement this TB.
6. On MOD Establishments occupied by United States Visiting Forces (USVF) responsibility is jointly held by USVF and DIO(USF). At base level this jointly managed organisation is to take appropriate action to implement the contents of this TB.
7. All items of equipment or material containing PCBs are banned, unless covered by an exemption. See Annex A – Guidance, for Exemptions.
8. Certain transformers, as detailed in the Guidance at Annex A, are included in the Exemptions, and can be retained until 31 December 2025.

## **Background**

9. PCBs are man-made organic compounds that may reside in transformers and other equipment.
10. PCBs is a collective term used for the following substances:
  - a) polychlorinated terphenyls
  - b) monomethyl-dibromo-diphenyl methane
  - c) monomethyl-dichloro-diphenyl methane
  - d) monomethyl-tetrachlorodiphenyl methane
11. The legislation is applicable to any equipment that contains or could potentially contain PCBs. Examples of relevant equipment are:
  - a) transformers (incl. pole-mounted transformers)
  - b) power capacitors
  - c) heat transfer equipment
  - d) hydraulic equipment
  - e) process heating equipment

- f) vacuum pumps
- g) electrical resistors
- h) brushings and other high voltage equipment
- i) hospital diagnostic equipment

### **Requirements**

12. The Management Maintenance Organisation (MMO) or equivalent, on direction from the DIO Regional Delivery Manager or equivalent, shall initiate the following tasks:
- a) Identify, label, and Register equipment that contain or may contain PCBs.
  - b) Decontaminate or dispose of equipment that contains PCBs.
  - c) Identify any transformers that contains PCBs below threshold.
  - d) Label CE (Refer to Annex A – Guidance).

### **Identify and Register Equipment**

13. The MMO, for each Establishment, is to complete the PCB Register template of all equipment, that contains or may contain PCBs, with associated details. This will be broken down into two categories of: -
- a) Equipment that contains or may contain PCBs other than covered by an exemption (refer to Annex A - Guidance).
  - b) Certain transformers that contain PCBs (refer to Annex A - Guidance).
14. Refer to Background and para 20 for guidance on likely equipment to be included in the PCB register. (See PCB Register template and associated Notes).
15. For equipment included on the PCB Register the associated maintenance records, where available, are to be reviewed to confirm the equipment does not contain PCBs. Where equipment containing PCBs is identified, it is to be included on the Establishment's PCB Register.
16. If the outcome of the review of the maintenance records is inclusive the presence of PCBs within the fluid or material is to be determined by suitable means, and if found to contain PCBs is to be included on the Establishment's Register. This may involve undertaking fluid sampling tests on the equipment. (The British Standard governing the testing of insulation fluids for PCBs is BS EN 61619:1997. The sample size should be discussed/agreed with the specialist contractor conducting the sampling).
17. Equipment identified as CE (Refer to Annex A) must be registered annually with the EA for volumes greater than 5 litres and in concentrations greater than 50mg/Kg (0.005%). <https://www.gov.uk/guidance/polychlorinated-biphenyls-pcbs-registration-disposal-labelling#register-ce>
18. The actions under this heading (Identify and register) must be completed within 22 calendar months from the issue date of this Technical Bulletin.
19. All MMO's are to forward their Establishment's PCB register to their Regional PCB representative to collate into the Regional registers. The Regional PCB representatives will then forward the Regional Registers to DIO RD COE CaST who will create a Master Register and co-ordinate registration of CE with the following: -
- a) England shall be registered with the Environmental Agency (EA).

- b) Wales shall be registered with Natural Resources Wales (NRW),
- c) Scotland shall be registered with The Scottish Environment Protection Agency (SEPA)
- d) Northern Ireland shall be registered with the Northern Ireland Environment Agency (NIEA).

20. It can generally be assumed that a transformer contains PCBs if it was manufactured before 1987. If it was manufactured in 1987 or later, it can generally be assumed it does not contain PCBs. If the date of manufacture cannot be confirmed as 1987 or afterwards the equipment must be assumed to contain PCBs.

### **Decontaminate or Disposal of Equipment**

- 21. Equipment that contains PCBs, other than covered by an exemption, must be registered with the relevant body (see para 19) and either decontaminate to remove PCBs or disposed of as soon as possible.
- 22. Transformers that contain more than 0.05% by weight of PCBs, must be registered with the relevant body (see para 19) and either decontaminate to remove PCBs or disposed of as soon as possible.
- 23. Transformer that contains more than 0.005% but no more than 0.05% by weight of PCBs, and there is a total volume of more than 0.05dm<sup>3</sup> (0.05 litres) of PCB containing fluid must be registered annually with the relevant body (see para 19) and either decontaminate to remove PCBs or dispose of by 31<sup>st</sup> December 2025.
- 24. Once the equipment has been either decontaminated or disposed of the relevant body (see para 19) must be informed to remove the equipment from their register.

### **Decontamination of Transformer (See para 23)**

25. The decontamination of a transformer shall involve removing the contaminated fluid, flushing, and refilling the transformer. Advice should be sought from the manufacturer or a specialist contractor to ensure compatibility of the fluid with the transformer. For decontaminated transformers it is necessary to further sample and analyse the fluid after 6 months to assess if any PCBs resident in the transformer have leached into the new fluid and are above acceptable levels. If the PCB concentration is below the acceptable level an indelible sign shall be fixed to the transformer as required by The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000.

### **Transformers containing less than 0.005% concentration of PCBs**

- 26. If it can be confirmed by analysis the fluid in the transformer contains less than 0.005% by weight of PCBs or a total volume of 0.05dm<sup>3</sup> or less of PCBs it can be held until the end of its useful life. Upon confirmation of below the given thresholds, the following is to be undertaken:
  - a) Affix an indelible label to the transformer and/or equipment stating less than 0.005% or a total volume of 0.05dm<sup>3</sup> or less.
  - b) Keep records of each transformer, that has been determined can be lawfully held beyond 2025.

27. The actions must be completed as soon as possible but no later than 31 December 2025.

**Labelling of Equipment**

28. Once the outcome of the review of the maintenance records and/or fluid analysis is determined the appropriate label needs to be affixed to the equipment and to the doors of premises where such equipment is located with an indelible sign as required in the relevant legislation at Annex A.

29. The action must be completed within 23 calendar months from the issue date of this Technical Bulletin.

**Transformers with less than 0.005% concentration**

30. If it can be confirmed by analysis the fluid in the transformer contains 0.005% by weight, or less, of PCBs, or a total volume of 0.05dm<sup>3</sup> or less of PCBs it can be held until the end of its useful life i.e. beyond Dec 2025. Upon confirmation of below threshold, the following shall be completed:

- a) Affix an indelible label to the transformer and/or equipment stating less than 0.005% or a total volume of 0.05dm<sup>3</sup> or less.
- b) Retain maintenance records of each transformer and ensure it is included on Establishment's PCB Register.

31. The actions must be completed as soon as possible but no later than 31 December 2025.

**Small components of equipment**

32. Small pieces of equipment that contain PCBs can be continued to be used if the following apply:

- a) they are relevant equipment. Refer to Annex A-Guidance.
- b) they are components of larger pieces of equipment, which are also 'relevant equipment'.

33. An example of such an item would be magnetic ballasts within lighting manufactured before 1987. The capacitor is the component that may contain PCBs, typically around 0.1 litres of PCB fluid. The label of the ballast should help identify whether there are PCB containing liquids.

34. Small components of equipment can be kept for the duration of its useful life if below the threshold and included on the Establishment's PCB Register. If it was manufactured before 1987 and cannot be confirmed to not contain PCBs, it must be assumed that it does contain PCBs and at the end of its useful life be disposed of accordingly.

35. Equipment containing small components is to be considered for replacement in discussion with the HoE. The energy saving benefits of modern lighting and equipment are to be considered as part of this analysis.

**ANNEX A – LEGISLATION & GUIDANCE**

**Legislation**

[The Environmental Protection \(Disposal of Polychlorinated Biphenyls and other Dangerous Substances\) \(England and Wales\) \(Amendment\) Regulations 2020 \(legislation.gov.uk\)](#)

[The Environmental Protection \(Disposal of Polychlorinated Biphenyls and other Dangerous Substances\) \(Scotland\) Amendment Regulations 2020 \(legislation.gov.uk\)](#)

[The Environmental Protection \(Disposal of Polychlorinated Biphenyls and other Dangerous Substances\) \(England and Wales\) Regulations 2000 \(legislation.gov.uk\)](#)

[The Environmental Protection \(Disposal of Polychlorinated Biphenyls and other Dangerous Substances\) Regulations \(Northern Ireland\) 2000 \(legislation.gov.uk\)](#)

[The Environmental Protection \(Disposal of Polychlorinated Biphenyls and other Dangerous Substances\) \(Scotland\) Regulations 2000 \(legislation.gov.uk\)](#)

**Guidance**

<https://www.gov.uk/guidance/polychlorinated-biphenyls-pcbs-registration-disposal-labelling#contaminated-equipment-ce>