

POLYCHLORINATED BIPHENYL (PCB) SERVICES ANALYSIS, SIGNAGE AND DECONTAMINATION



BACKGROUND

PCBs are man-made organic compounds that may reside in transformers manufactured prior to 1987. They are harmful to human health and the environment. There are 209 different PCB compounds that were originally used because they were stable at high temperatures, chemically inert and flame resistant.

The laws covering PCBs are EU Directive 96/59 to member states and the resulting UK law: The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000, amended 2020..

With regards to the law, PCBs is a collective term for the following substances:-

- Polychlorinated biphenyls
- Monomethyl-tetrachlorodiphenyl methane
- Monomethyl-dichloro-diphenyl methane
- Monomethyl-dibromo-diphenyl methane
- Polychlorinated terphenyls

The laws apply to volumes greater than 5 litres and in concentrations greater than 50 parts per million, often shown as 50mg/Kg or 0.005%.

Since 31st July 2000 all equipment contaminated with more than 50mg/Kg must be registered annually with the Environment Agency and the unit must be decontaminated or decommissioned by 31st December 2025.

Transformers contaminated above 500mg/Kg must be decontaminated to below this threshold

ANALYSIS

The first step to any assessment and decontamination work is to obtain an analysis report for the oil in your transformer.

The British Standard governing the testing for PCBs is BS EN 61619:1997. Only a small sample of oil is required for this test and Eden can provide all of the equipment for our customers to draw the sample themselves, or we will be happy to attend site to draw the sample on their behalf.

POLYCHLORINATED BIPHENYLS AND UK LAW

- >5 litres
- >50 mg/Kg must be registered annually and decontaminated by 31st December 2025
- >500 mg/Kg must be decontaminated
- Indelible label on the unit
- Signage on main entrance doors to premises
- Labelled with embossed or engraved sign after decontamination.





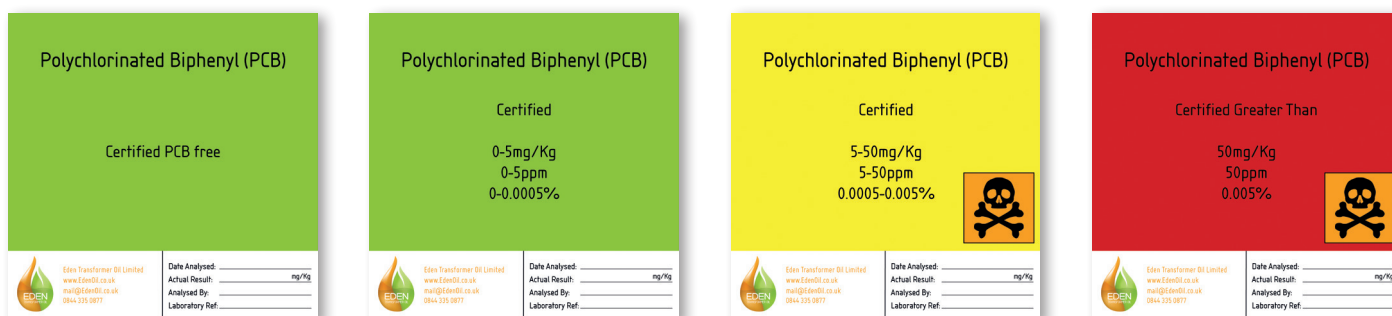
SIGNAGE

The second step is to ensure that all contaminated equipment and the entrance to the premises are correctly labelled according to The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000.

In our online store we provide individual colour coded stickers for the electrical equipment and 600mm x 400mm signs for the premises main gate to warn the fire brigade of the risks.



COLOUR CODED STICKERS



DECONTAMINATION & VALIDATION

Where required, the third step is the decontamination of the electrical equipment, essentially this is a case of removing the contaminated oil, flushing the transformers with new oil and then refilling.

However, because new oil may contain moisture levels above that of BS EN 60422:2013 (Supervision and maintenance of oil filled equipment) the oil is treated with vacuum dehydration filtration to reduce the moisture content to below 10mg/Kg.

VALIDATION

After 6 months, it is necessary to further sample the oil for off-site analysis to assess if any PCBs resident in the transformer insulation papers and board have leached in to the new oil above accepted levels.

Once satisfactory levels have been achieved Eden will issue an engraved sign for fixing to the electrical equipment as required by The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000.

TAILORED SOLUTIONS

The aim of this document is to give a generic background and approach to decontaminating electrical equipment, but it must be recognised that the handling of substances such as Polychlorinated Biphenyls requires great care and every situation is unique.

Eden has specialised in all aspects of electrical oils since August 1985. We will work with you on a practical, safe and economical solution for your electrical equipment. For further information please contact us at sales@edenoil.co.uk

KEY STEPS TO DECONTAMINATION

- Remove contaminated oil from transformer
- Remove inspection hatch / lid
- Flush transformer core with new oil
- Remove contaminated flush oil
- Supply and install new 6mm gasket and refit inspection hatch / lid
- Refill transformer with new oil
- Apply vacuum dehydration to the oil and the transformer to exceed BS EN 60422:2013
- Sample oil for off-site analysis
- Issue waste transfer notes and transport oils as per current Environment Agency regulations
- Incinerate oil to D10 of Directive 75/442/EEC
- Analyse and report to BS EN 61619:1997
- Affix updated transformer sign (etched)