



Disposal and treatment of PCBs



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The Basel Convention defines "environmentally sound disposal of PCBs" as the process by which the presence of PCBs is eliminated from the PCB-containing matrix, which must be based on principles related to the environment and protection of human health.

There are two general processes:

- PCB disposal with recovery
- PCB disposal without recovery

These are some methods:

Incineration

It is based on the elimination of PCBs through controlled combustion of PCB-contaminated wastes in a furnace at temperatures between 800°C – 1300°C. It is a PCB elimination process without recovery, i.e. oil and other non-metallic materials such as paper or wood are not recovered, but destroyed.

Application

Contaminated waste, mainly with high concentrations of PCBs

Dechlorination

It is based on chemically removing the chlorine, converting it into inorganic salts, and recovering the dielectric oil with filtering and drying processes.

Application

PCB liquids and oils contaminated with PCBs.



Refilling

It is based on draining the dielectric fluid from the equipment and replacing it with new non-PCB oil. It is designed to reduce PCB concentrations to allowable concentrations so that the transformer can remain in service.

Application

Transformers contaminated with low PCB concentrations

Disposal and treatment of PCBs

There are also other methods for the treatment and disposal of PCBs for example:

Treatment	Application
Bioremediation	PCB contaminated soils
In situ vitrification	PCB contaminated soils and wastes
LTR technology	PCB contaminated transformers
Plasma arc	PCB contaminated waste
Underground landfills	PCB contaminated waste

Which method should I select?

Criteria

1. Technical criteria

- Amount of PCB concentration to be treated (high or low)
- Minimum achievable PCB concentration
- Recovery of transformer components, etc.

2. Meet national or regional needs

- Treatment capacity or technology importation
- Treatment costs
- Environmental impact
- Need to export waste

Here are some suggestions based on the principles considered for selecting PCB disposal processes, according to the Basel Convention.



Suggestions

- Apply treatments that prevent or reduce contamination by unintentional release of PCBs or PCB-contaminated elements.
- Treat as close as possible to the source of contamination.
- Reduce as much as possible the waste and stock volume that have to be exported for disposal.