

PCBs (Polychlorinated Biphenyls)

Everyone Home Safe Every Day

9 February 2017

What to do about oils containing PCBs

This document has been prepared to provide additional detailed advice on the removal of oils containing PCB that are present in the cooling arrangements of electrical installations. The information below should be used by managers and safety / environment professionals when completing COSHH assessments and determining the arrangements for; the safe removing removal of oils from installations; the safe transportation for disposal by incineration (or other means); arrangements for dealing with spillages.

If PCB is present in the cooling oils of an electrical installation provided its proportion is <500 parts per million (ppm) the installation can still operate provided it is registered with the Environment Agency and notified on an annual basis. When an electrical installation is being decommissioned the cooling oils, including the PCB, have to be removed. The installation has to be flushed with fresh oil until the quantity of PCB measured in a sample of oil is <50ppm. At this point the oil containing PCB can be disposed of; incineration is not always necessary when the PCB is at this level. The installation itself is also considered in a condition that will allow complete decommissioning. Oil removed from an installation or used to flush it through that has a PCB content >50ppm has to be disposed of through incineration.

Classification information	
Emergency action code	2X (PCB is usually contained within other oils and a higher emergency action code might be appropriate for the oil containing the PCB.)
UN number	2315 (The United Nations number might be different if it relates to the oil containing the PCB rather than the PCB itself.)
UN hazard code	9 – Miscellaneous hazardous material
CAS number	0001336 – 36 – 3
EC number	215 – 648 – 1

The following signage is required:

Hazardous material



Hazardous to the environment



Serious health hazard
(carcinogenic)



Toolbox Talk

All the information above, including the three warning diamonds together with the word “DANGER” must appear on all containers transporting oil containing PCB irrespective of its concentration (499 – 1 ppm).

The X sign on the right has been replaced by the serious health hazard diamond shown above.
This X symbol must not be used.



Hazards

Human

Routes of entry: can be absorbed through the skin and vapours can be inhaled; ingestion has not been eliminated as a route of entry and operatives must not eat, drink or smoke during handling operations. They must remove all PPE and thoroughly wash their hands before eating, drinking or smoking after handling operations. PCBs may be an acute irritant; however, their main hazard is that they are toxic through cumulative effects. PCBs have been linked with liver damage and may also be carcinogenic.

Environmental

Acutely toxic to aquatic organisms and bio accumulates in the environment; it is classified as a persistent organic pollutant.

Precautions

Human

Avoid contact with PCB directly or with any oil containing PCB. Impervious clothing must be worn; this includes overalls, aprons, gauntlets, and boots. No PPE is guaranteed to protect against PCBs; all efforts must be made to prevent the oil splashing on to the PPE. If disposable PPE is being used this must be treated as hazardous waste. The temperature of the oil has a direct effect on the amount of vapour that can be given off when the oil is transferred; wherever possible oils should not be moved if they hot. If there is a possibility of inhaling vapours during handling or transfer operations then appropriate RPE MUST be used.

Decanting

- Containers for oils containing PCB must be impervious and capable of being completely sealed to avoid spills, slops or vapours.
- The containers for oils containing PCB must be certified as being mechanically sound without defect or weakness that could lead to a leak or failure in the containment.
- The decanting of oils containing PCBs from installations must only be done by trained and informed operatives wearing appropriate PPE; other people should be kept upwind and well away from the operation. The method of removing the oils into the container must be such that the evolution of vapour through agitation of the oil and/or surface splashing is kept to an absolute minimum. It is best practise that the oil transfer from the installation to the disposal container is completely sealed. If this is not possible and agitation/splashing are not eliminated then full face protection should be employed to protect face and eyes from the oil. If the agitation is likely to give rise to vapour then RPE MUST be considered.
- Precautions to absorb incidental spills must be in place before decanting operations begin. Any spill must be contained and collected; articles used to absorb and/or contain spills must be disposed of as hazardous waste.

Moving

- All containers must be prominently and conspicuously marked as shown above; as a minimum this will be the three pictorial diamonds and the emergency action code.
- When containers have been filled they must be removed from site in accordance with any method statement

Toolbox Talk

etc. agreed between the asset owner and the contractor. Wherever possible the containers for oils containing PCBs should be on the vehicle being used to remove them from site to avoid spills and/or damage to containers moving them on site. Where this is not possible the transport path from where the oils are decanted to where they are loaded on to a vehicle must be as free from obstructions etc. as possible to prevent spills.

- Precautions against spillage on site must consider catastrophic failure of the container(s) and/or overturning. These precautions need to include sufficient materials to control the capacity of the largest container being used should it fail catastrophically.
- The possibility for contact between the people involved in moving the container(s) and the oil containing PCB must be eliminated or reduced as far as reasonably practicable; actual manual handling of a filled container should be avoided. The moving of filled containers is a critical activity and potentially when container failure or overturning is most likely to occur.

Transporting

- The vehicle transporting the containers containing oils with PCBs must be capable of securing the containers in a way that prevents them moving or overturning during transport.
- It would be best practise for the vehicle transporting the containers to be capable of containing a catastrophic failure or the overturning of largest volume container. Sufficient absorbent must be available to cope with the volume that could be liberated by the largest container should it fail/overturn. The precautions for dealing with spillages have to be capable of being deployed as required under “spillages” below.
- The vehicle must be prominently and conspicuously marked as shown above – including the UN number and emergency action code.
- The person(s) in the vehicle must have in their possession a document that explains the nature of the cargo they have and that the oil contains PCBs. The volume of both oil and its PCB fraction must be identified and this has to be immediately available to any emergency service that attends an incident involving the transporting vehicle (fire, traffic collision etc.). This document must include contacts for the organisations involved in the removal of the oils (client, contractors etc.) and the environment agency.

Spillages

Minor

Absorb with earth, sand or propriety absorbent material. Place into suitable container for disposal as hazardous waste. Collect any contaminated ground soils etc. and place into suitable containers for disposal as hazardous waste.

Major

Contain spillage by any means possible; prioritise actions to prevent the oil getting into rivers, ponds etc. protect sewers, drains and culverts. Call emergency services.