

The Destruction of PCBs in a Mobile Incinerator



The mobile incineration system used for PCB waste destruction consists of four stages:

1) Waste Preparation

- Both liquid and solid PCB wastes are burned in the incinerator.
- Solids are shredded and fed to the incinerator on a conveyor.
- Liquids are either mixed and fed with the solids or pumped directly into the incinerator.

2) Incineration in a Primary Combustion Chamber

- Wastes are heated to about 1000°C for approximately thirty to forty minutes. These temperatures cause the PCBs to vaporize, and the gases then pass to the next chamber.
- There are a number of different types of primary combustion chambers currently in use including a rotary kiln (which is essentially a large drum which slowly rotates allowing the solids to be completely exposed to the heat), and an

infrared furnace (in which waste travels through a chamber on a belt and is heated by elements on either side, like a large toaster).

3) Incineration in a Secondary Combustion Chamber

- Gases from the primary chamber are further heated to about 1200°C for a period of approximately two seconds.
- The high temperatures ensure the destruction of PCB molecules.
- Mobile incineration systems are available which are capable of destroying PCBs at a destruction and removal efficiency of 99.9999%.

4) Air Pollution Control

- Particles and other pollutants are removed from the exhaust gases, usually by a scrubber and a baghouse.
- A scrubber is used to neutralize the acid gases produced as a by-product of PCB combustion. In the scrubber, the incinerator gases

come into contact with small droplets of caustic liquid which neutralize acid gases to water and salt.

- A baghouse is used to remove dust particles. In the baghouse, gases pass through a fabric that filters out particles and allows the cleaned gas to pass through.

Further information can be obtained from:

Environment Canada
Conservation and Protection
Environmental Protection
Atlantic Region
5th Floor, Queen Square
45 Alderney Drive
Dartmouth, Nova Scotia
B2Y 2N6
(902) 426-6141

June 1991

Published by authority of the
Minister of the Environment
© Minister of Supply and Services
Canada 1991
Cat. No. En 40-204/1-1991



This factsheet is printed on recycled paper.