

《空氣污染管制(乾洗機)  
(汽體回收)規例》指南

A Guide to the Air Pollution Control  
(Dry-Cleaning Machines)  
(Vapour Recovery) Regulation



環境保護署

Environmental Protection Department

香港特別行政區政府 Hong Kong Special Administrative Region Government

1. Question: What is the purpose of the Regulation?

**Answer:** The main purpose of the Air Pollution Control (Dry-cleaning Machines) (Vapour Recovery) Regulation [Cap.311T] is to control the emission of tetrachloroethylene (also known as perchloroethylene (PCE)) from dry-cleaning machines using PCE as a dry-cleaning agent by requiring them to be equipped with a vapour recovery system.

2. Question: What is the problem?

**Answer:** Dry-cleaning operation in Hong Kong uses PCE as dry-cleaning agent because of its good cleaning power. It is a confirmed animal carcinogen and a probable human carcinogen. Exposure to high concentrations of PCE may cause skin and eye irritation, dizziness, nausea, headache, and liver and kidney damage. Some of the old-type dry-cleaning machines are not equipped with a proper vapour recovery system, which means that they release comparatively high concentration of PCE vapour into the atmosphere at the opening of the machine's door. The emission will not only affect the environment but also the health of machine operators in the workplace in the long run.

3. Question: How does the Government deal with the problem?

**Answer:** To reduce process emissions from dry-cleaning, a Regulation was introduced to require that only non-vented type dry-cleaning machines meeting with some specified standards are allowed to be used. This type of machine shall be equipped with a vapour recovery system to recover most of the PCE without venting it to the atmosphere. During the drying cycle of the dry-cleaning process, the PCE laden air in the drum is passed through a refrigerated condenser, which condenses and recovers most of the PCE. Near the end of the drying cycle, the air in the drum is further passed through an activated carbon adsorber which adsorbs the residual PCE and reduces its concentration to 300 ppmv or below at the end of the drying cycle before opening the machine door.

4. Question: What are the requirements under this Regulation?

**Answer:** With effect from 1 November 2008 after the lapse of 7-year specified period, only the following dry-cleaning machine is regarded as in compliance with the Regulation.

- (a) it is an approved machine equipped with the required vapour recovery systems and accessories as given in the "Approved Model" register, which is available on website [http://www.epd.gov.hk/epd/english/environmentinhk/air/guide\\_ref/dc\\_applist.html](http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/dc_applist.html) ; or
- (b) it is a modified non-vented machine equipped with a vapour recovery system, certified by a competent examiner with a certificate registered with the Authority, to be capable of reducing the perchloroethylene concentration in the drum to 300ppmv or below at the end of drying cycle prior to opening of the machine's door.

5. Question: When did the Regulation first come into operation?

**Answer:** The Regulation was first implemented on 1 November 2001.

6. Question: Are there grace periods provided to dry-cleaning machines?

**Answer:** To ensure a smooth transition, the Regulation already provides two grace periods for two types of dry-cleaning machines, i.e. the vented type and substandard non-vented type machines. They are to be wiped out from operation in two stages scheduled for 1 November 2006 & 1 November 2008 respectively. With effect from 1 November 2008 after the lapse of the 7-year grace period, only type-approved machine or machine modified and certified to meet specific standards are allowed to be used.

7. Question: Is there any grace period for the new dry-cleaning machines?

**Answer:** No, there is no grace period allowed for any new dry-cleaning machine. All newly purchased machines must be one of those shown on the "Approved Model"

**8. Question: What is the "Approved Machine Model List"?**

**Answer:** EPD will approve certain models of non-vented type dry-cleaning machines which have been certified by the manufacturers to be able to meet with the new 300 ppmv standard. These machine models will be entered into the "Approved Machine Model List" and kept in a register.

**9. Question: Where can I find the "Approved Machine Model List"?**

**Answer:** The "Approved Machine Model List" is open to the public for inspection. You are welcome to visit EPD's website at: [http://www.epd.gov.hk/epd/english/environmentinhk/air/guide\\_ref/dc\\_applist.html](http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/dc_applist.html), or contact EPD's Regional Offices for assistance.

**10. Question: Can the laundry operators still use a dry-cleaning machine that is not on the "Approved Machine Model List" after 31 October 2008?**

**Answer:** Absolutely not. It is illegal to continue using non-type-approved machines after 31 October 2008 unless they have already been modified and certified by a competent examiner meeting with the statutory standards.

**11. Question: What should I do with my existing dry-cleaning machines?**

**Answer:** You should firstly check if any of your dry-cleaning machines is on the "Approved Machine Model List" and fulfill all requirements on the list. If yes, you may continue to use the machine. If not, you should replace the machine with a type-approved machine or modify it to meet with the statutory requirements before 31 October 2008. If you can't meet with such requirements before 31 October 2008, you should render your machine inoperable or remove it from the laundry after 31 October 2008.

Your particular attention is drawn on the case that your dry-cleaning machine is on the "Approved Machine Model List" but does not fully fulfill all requirements on the list such as without installing some accessories (e.g. activated carbon adsorber). You should contact your machine manufacturer to install the relevant required accessories. You are not allowed to use the machine without fulfilling all the requirements on the list after 31 October 2008.

**12. Question: How can I render the existing machines inoperable?**

**Answer:** To render the machines permanently inoperable, we shall find it satisfactory when you have the power supply cable in whole amputated; or have taken similar measures to that effect such as dismantling the motor, control panel or drum etc.

**13. Question: How can I get my existing dry-cleaning machine certified?**

**Answer:** You should check with your machine supplier whether your machine can be modified to meet with the specified standards. After modification, the machine has to be tested in accordance with the Schedule under the Regulation and certified by a competent examiner. The competent examiner has to submit the certificate to EPD for endorsement and registration.

**14. Question: Who is the competent examiner?**

**Answer:** A competent examiner means a registered professional engineer in the building services, gas, chemical, environmental, marine and naval architecture, or mechanical discipline under the Engineers Registration Ordinance (Cap. 409).

**15. Question: After the machine has been modified and certified, do I need to renew the certificate?**

**Answer:** No, the registration is a one-off task. However, you are reminded to regularly maintain the dry-cleaning machine to ensure that it works properly to comply with the specified standards.

16. Question: What are the penalties?

**Answer:** The following are the penalties for violating the provisions of the Regulation:

- ◆ A maximum fine of \$100,000 on the sale or lease of an unauthorized machine.
- ◆ A maximum fine of \$100,000 and a daily fine of \$20,000 for a continuing offence on the use of an unauthorized machine, or for failing to render the machine inoperable or to remove it from the laundry.
- ◆ A maximum fine of \$50,000 for failing to display the certificates for modified machines.

17. Question: What else should I do if my machine is already a complying machine?

**Answer:** Good maintenance and operating practices are essential to maintain the best performance of the machine to reduce process emissions from the machine. You are advised to implement good operation and maintenance practices as given in the EPD's leaflet, "A Guide to Good Operation and Maintenance Practices of Dry-cleaning Machine", for example, don't tampering the pre-set automatic programmes, avoid bypassing the carbon adsorber to adsorb the residual PCE, regenerate and replace the activated carbon filter regularly etc. In addition, proper operation and maintenance would also help keeping your operating cost down.

18. Question: How can I dispose of the used carbon adsorber cartridges after replacement?

**Answer:** The used carbon adsorber cartridges shall be treated as chemical waste and shall be disposed of in accordance with the Waste Disposal (Chemical Waste)(General) Regulation. By the regulation, you are required to register as a chemical waste producer and to hire a licensed chemical waste collector for the disposal.

19. Question: Where can I get further information?

**Answer:** For further information, you may contact EPD Customer Service Hotline at 2838 3111 for assistance or visit our website at <http://www.epd.gov.hk>.