

## LCQ18: Health impacts of tear gas residue

Following is a question by the Hon Wu Chi-wai and a written reply by the Secretary for Food and Health, Professor Sophia Chan, in the Legislative Council today (December 4):

Question:

The Government has repeatedly stated that given the short duration of combustion of tear gas rounds, cyanide produced during combustion will be in a very small quantity and will quickly disperse in the air, and that no literature on dioxin poisoning cases caused by the use of tear gas has been found. However, some members of the public are still concerned about the adverse health impacts of tear gas. Several secondary schools in the vicinity of the locations where a massive quantity of tear gas rounds had been fired suspended classes earlier and hired experts to carry out thorough checking and cleaning at the campus. In this connection, will the Government inform this Council:

(1) whether the Government provides services for checking and removing residues of tear gas at public facilities such as schools, hospitals, elderly centres and MTR stations; if so, of the respective numbers of times for which such checking and removal services were provided since June this year, and set out by name of facility the dates on which such services were provided and whether tear gas residue was found; if it does not provide such services, whether it will do so;

(2) whether the Government has issued guidelines to the managers of such public facilities to advise on the precautionary measures to be taken during the firing of tear gas rounds by the Police, as well as the arrangements on checking and cleaning to be made afterwards so as to reduce the impacts of tear gas residue on users of such facilities; if so, of the details;

(3) given that the Police have recently fired a massive quantity of tear gas rounds at the Hong Kong Polytechnic University and in the vicinity of Nathan Road, of the measures the Government has put in place to ensure that the indoor air quality of the Hong Kong Science Museum and the Hong Kong Museum of History conforms with the safety standards;

(4) of the measures in place to assist owners of the private properties (e.g. shopping malls and housing estates) in the vicinity of the locations where tear gas rounds were fired in ensuring that the indoor air quality of their properties conforms with the safety standards;

(5) whether the Environmental Protection Department will send staff to collect environmental samples from the locations where the Police have fired a massive quantity of tear gas rounds repeatedly (e.g. the campus of the

Chinese University of Hong Kong and Nathan Road) so as to test if there are toxic substances from tear gas rounds remaining in the community; if so, of the details; if not, the reasons for that; and

(6) whether it has been stated in the guidelines issued by the authorities to the cleansing service contractors for cleaning streets or public housing estates that at the locations where tear gas rounds have been fired, practices which will stir up residual materials (e.g. the use of high pressure water jets) should not be adopted; if so, of the details?

Reply:

President,

In consultation with the Home Affairs Bureau, the Development Bureau, the Environment Bureau and the Transport and Housing Bureau, my reply to the Member's question is as follows:

(1) and (2) The Food and Environmental Hygiene Department (FEHD) has all along been concerned about the environmental hygiene conditions of public places and provide street cleansing services on a routine basis. After large-scale public order events, the FEHD will, subject to road conditions, provide timely street cleansing services and increase the frequency of cleaning the affected streets.

As for non-public places, cleansing services should be provided by venue owners/management. Health information on tear gas, with details on post-exposure treatments and recommendations on cleaning procedures, has been made available to the public on the website

([www.chp.gov.hk/en/healthtopics/content/460/102308.html](http://www.chp.gov.hk/en/healthtopics/content/460/102308.html)) of the Centre for Health Protection (CHP) of the Department of Health.

Specifically, it is preferable to use disposable cleaning items for cleaning up tear gas residues. Suitable personal protective equipment such as masks, rubber gloves and rubber aprons, etc. should be worn. In general, surface with residual materials can be wiped using a cloth soaked with soapy water, but hot water should not be used in order to avoid evaporation of the residues. Also, residual materials should not be stirred up and therefore tools such as high pressure water jet and brooms, as well as electric fans, should not be used. The disposable cleaning items should be properly packed (such as in a sealed plastic bag) after cleaning and then disposed of.

(3) In response to the unforeseen circumstances that occurred lately in the Hong Kong Polytechnic University and its vicinity, the Leisure and Cultural Services Department (LCSD) took necessary measures at the Hong Kong Science Museum and the Hong Kong Museum of History, including co-ordinating with the Electrical and Mechanical Services Department (EMSD) to close the fresh air dampers of the air-conditioners with a view to reducing the impact of outdoor environment on the indoor air quality. Both museums were closed from November 17 to 26, 2019, during which the venues were cleaned up by the LCSD and arrangement was made for the EMSD to clean or replace the filters of the air-

conditioning system. This was to ensure that the indoor conditions of the museums are suitable for public visits. The two museums are now re-opened.

(4) and (5) Tear gas is mainly a particulate compound. Since it is heavier than air, it will settle on the ground soon after it is launched. The residue in general will settle on surface of objects, and it will not suspend in the air for a long time as well as its dispersion is limited.

The Environmental Protection Department (EPD) has analysed the particulate matter (PM) data recorded at the air quality monitoring stations near the areas where tear gas was launched since June 2019. The analysis is done by comparing the PM levels recorded at the monitoring station during the period when tear gas was launched and the period before, as well as comparing the data with those recorded at other monitoring stations near areas where no tear gas was launched. According to the analysis, the EPD did not find any anomalies in the PM levels recorded at the monitoring stations near the areas where tear gas was launched. This shows that tear gas does not cause any significant increase in the PM concentration in the area.

On the other hand, there were instances showing that when arson activities took place near a monitoring station, the PM concentrations recorded at the station increased to a high level, which was almost double the normal levels for that day, for several hours. This reflects that arson activities will significantly affect the air quality in the vicinity.

(6) The FEHD has issued guidelines to its staff and cleansing service contractors, while the Housing Department, having referred to the CHP's health information, has done the same for its cleansing service contractors. These guidelines contain points to note on cleaning chemical residues and stipulate that high pressure water jet should not be used in order to avoid stirring up the residual materials. Also, when operating street washing vehicles, staff of the FEHD should either turn off the auxiliary engines or adjust the water pressure of the nozzles to the minimum to avoid stirring up the residual materials.