

LCQ3: Tear gas residue

Following is a question by the Hon Kenneth Leung and a reply by the Secretary for Food and Health, Professor Sophia Chan, in the Legislative Council today (November 20):

Question:

Since the eruption of the disturbances arising from the opposition to the proposed legislative amendments in June this year, the Police have repeatedly fired tear gas rounds in densely populated areas or even indoor areas. It is learnt that the crystalline particles of the various types of compounds in tear gas, which are non-volatile, will settle downward and may be carried away by the wind and adhere to objects, including textile fibres and the air circulation systems of buildings, posing a threat to public health in the long term. Furthermore, the results of some experiments conducted overseas have shown that groups which have been exposed to tear gas may have a higher risk of developing chronic respiratory problems in future, such as morning cough, production of thick sputum, chest pain, damages to lung tissue and breathing difficulty. In this connection, will the Government inform this Council:

- (1) of the number of person-times for medical consultations sought on respiratory diseases by persons who reported to have been exposed to tear gas and the relevant incidence rates, the average 24-hour concentrations of fine respirable suspended particulates in those areas on those days on which the Police fired tear gas rounds there, since June this year, and the outcome of a comparison of such data with the relevant data for the same period last year;
- (2) whether it has grasped the data and information related to the impacts of tear gas residue on human body and the environment; and
- (3) whether it will arrange professionals to check the concentration of tear gas residue in the indoor areas and nearby buildings affected by tear gas, and thoroughly clean up the contaminants concerned; if not, of the justifications for that?

Reply:

President,

The Government appeals to the public to express their demands in a peaceful and rational manner, to tolerate different views expressed in the community, and to respect the rule of law.

The Government fully understands the public's concern on the environmental and health impact of tear gas. In consultation with the Security Bureau, the Department of Health (DH), the Environmental Protection

Department (EPD), the Food and Environmental Hygiene Department (FEHD) and the Hospital Authority (HA), consolidated reply to the various parts of the question raised by the Hon Kenneth Leung is as follows:

(1) According to the HA, there were cases where people attended the accident and emergency (A&E) departments of the HA due to discomfort after exposure to tear gas. Those who were exposed to tear gas generally experienced mild respiratory and skin irritation, and there was no serious health impact reported. Most of them could be immediately discharged after rinsing and receiving treatment at the A&E departments. Decontamination facilities are available at all 18 A&E departments of the HA for treating patients who have been exposed to biochemical/hazardous substances. Healthcare personnel are also experienced in treating these cases. The DH and HA do not maintain statistics of relevant attendances and incidence rates.

In terms of environmental impact, tear gas is mainly a particulate compound. Since it is heavier than air, its dispersion is limited. The EPD has analysed all the particulate matter (PM) data recorded at the air quality monitoring stations near the areas where tear gas was launched since June this year. 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 the 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. 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 high level for several hour which was almost double the normal levels for that day. This reflects that arson activities will significantly affect the air quality in the vicinity. In the past few months of social events, various protestors hurled thousands of petrol bombs and committed arson at various locations. Activities included open burning of refuse, sundries, shops and even vehicles. These arson attacks generated large amount of smoke and toxic chemicals (including dioxins).

As regards the water environment, the EPD did not find any anomalies in the monitoring results recorded at any water quality monitoring stations since June this year.

(2) and (3) On the health effects of tear gas, the DH has uploaded health information on tear gas to the website of the Centre for Health Protection (CHP) for general public's reference. Please refer to the Annex for the relevant health information. In general, health effects of tear gas depend on a number of factors such as the specific chemical composition of the tear gas, duration and dose of exposure, exposure route, health conditions of the individuals and the physical environment during exposure. Individuals who had been exposed to tear gas with persistent symptoms should promptly consult healthcare professionals.

Cleansing should be carried out should a household is suspected of effects from tear gas residue. Disposable cleaning items are preferable.

Suitable personal protective equipment such as masks, rubber gloves and rubber aprons should be worn. In general, surface with residual materials could be wiped by cloth soaked with soapy water but hot water should not be used in order to avoid evaporating the materials. 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.

On the environmental impact of the tear gas residue, since the tear gas is mainly a particulate compound and 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 mentioned in the first part of the reply, there are no anomalies found in the PM levels recorded at any air quality monitoring stations since June this year. As regards the water environment, the EPD did not find any anomalies in the monitoring results recorded at any water quality monitoring stations since June this year.

The FEHD has issued guidelines to its employees and cleansing service contractors, including points to note and the use of personal protective equipment for cleansing the residues of chemicals in venues under the management of the FEHD. The guidelines stipulate, among others, that cleansing workers should wear face masks, rubber gloves, rubber aprons when conducting relevant work, and put on respirators (N95 type or compatible), goggles and caps if considered necessary. Cleansing workers should, upon discovery of dangerous goods or chemical waste, report to the FEHD which will then refer the case to the relevant departments. The FEHD also conducts routine and surprise inspections to check on its cleansing service contractors' performance.