Use of a small, portable sensor on a blank firing exercise for a university report

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Organisation(s) involved: UCL (University College London) Department of Chemistry, ULOTC (University of London Officers' Training Corps), London Guards

Aim: To measure the concentration of volatile organic compounds (VOCs) present during a standard blank firing exercise by means of a small, portable VOC sensor for the purposes of a university laboratory course assignment.

Information: volatile organic compounds (VOCs) are compounds that exist as a vapour at room temperature and pressure. They are extremely common, and are found in cleaning supplies, vehicle emissions, beauty products, new furniture, and more.

Exercise: ULOTC to support the London Guards' training weekend, 1830 on 07/03/25 to 1600 09/03/2025.

Location: Hankley Common, Surrey.

Implementation: The VOC sensor will be waterproofed and strapped to the right shoulder strap of the wearer's webbing, near to the ejection port.

Operational effectiveness: Presence of the sensor will not affect the wearer's operational effectiveness by restricting movement or distracting the wearer.

Weather forecast (BBC weather, checked 1600 on day of departure): Sunny or cloudy with a light breeze. 0% forecasted rainfall. Temperature forecasted at highs of 15 degrees Celsius and lows of 6 degrees Celsius.

Risk Assessment: Device may become uncomfortable if pressed between the wearer and the ground. Device is connected to power source that may cause electric shock if wet.

Mitigation: Device should be adjusted to be comfortable to wearer. Device is water-proofed in plastic wrap. Weather forecast has been carefully considered. If weather should become unexpectedly wet, or wearer is required to enter a body of water, power source should be disconnected and stored separately. Likelihood of electric shock when in contact with water is very low.

Data gathered will be used only by Tarabella Middleton in the UCL Department of Chemistry, Faculty of Mathematical and Physical Sciences, module CHEM0025: Instrumental 2 report.

No data gathered will be published without permission of the British Army.

All above information is true and accurate to the best knowledge of those involved.

Signed: Tarabella Middleton (lead researcher) .....

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