

## **Internal quality control of the identification of the active substance in tear gas weapons**

The identification of the active substance used in tear gas weapons is performed by GC-MS. The analyte identity is checked through retention time, RT, and the ratio, RA, of the abundance of characteristic fragments from the compound fragmentation in mass spectrometer. The variability of RT and RA was quantified in repeatability and intermediate precision conditions and tested for its normality. Statistical criteria for checking these performance parameters were tested for its fitness for the intended use and subsequently applied in internal quality control. A strategy for applying these tools in routine analysis was developed. Reliability of identity assessment was checked through the analysis of samples with known active substances.