The confidence levels attained by these options vary as does the complexity and sophistication of the associated technical requirements. The technical demands and confidence level of option 1 would be the highest whilst those of option 5 would be the lowest.

At present there are several interrogation techniques in the developmental phase and their potential remains to be proved. The most adequate techniques have to be tested singly and in combinations to find the most reliable and cost-effective way of using them. Testing should be combined with analytical method development of the same munitions to demonstrate good collaboration between the two types of techniques. Also, the miniaturization of these instruments is required to allow their use in a mobile laboratory.

If CW agents are in bulk containers the problems described above are reduced.

(ii) Monitoring of known compounds

The monitoring of known compounds is performed to identify the declared chemicals in the storage facilities. The analytical techniques used for this purpose are GC-IR or GC-MS. The IR could be used without preseparation of compounds with GC if background information were collected and a multivariate analysis were established and validated allowing the identification of agents in mixtures.

(iii) Unambiguous identification

GC-IR, GC-LRMS instruments or IR with multivariate analysis can be used for unambiguous identification by comparing the spectra with authenticated spectra in the database of the instrument. The choice of the technique will be made on the basis of the declared chemicals.

(iv) Semiquantification

Semiquantification is obtained using the instruments mentioned in paras (ii) and (iii). For quantitative reference standards, authenticated standards other than chemical agents could be used (see reference standards above) to reduce the need to transport agent standards.