

#### 4. Chemical warfare agents

The chemical warfare agents are needed as reference compounds to ascertain identifications in cases when reference spectra in the database are not considered reliable enough. Thus, authentic compounds certified by the Technical Secretariat should be available for the inspection teams and laboratories. <sup>1) 2)</sup>

Main use of agents is as reference standards to ascertain the analyses when there is obvious need for such analysis, e.g. ion intensity variations in mass spectra recorded in tandem mode. On the other hand, use of the analytical database as a reference should be enough in case of spectrometric verification of declared activities. <sup>3)</sup>

#### 5. Standards for semiquantification

Quantitative analyses on-site during inspection seldom require accurate quantification. Accordingly, agents can be quantified against accurately diluted calibration standards and e.g. using phosphorus-containing compounds as references for nerve agents. Gas chromatographic quantifications should be done with FI-detector.

#### 6. Validated spectra in the database

The spectra included in the database should be obtained by using internationally agreed and validated standard operating procedures using validated authentic compounds. The validations should be done by the Technical Secretariat.

#### 7. Reference laboratory

The preparation of the reference compounds (calibration compounds and authentic agents and databases) to be used by the inspectors and off-site laboratories is a critical issue which will affect the universal confidence on the results obtained. Thus this activity should be controlled by the Technical Secretariat. This can be achieved by concentrating these tasks to a laboratory owned by the TS or to laboratories designated and supervised by the TS. <sup>2)</sup>

1) Toxin standards may pose difficulties as they often are mixtures of closely related compounds especially macromolecular toxins.

2) At present the rolling text does not include a provision which allows the synthesis and transfers of CW agents for reference purposes by the TS or by a designated laboratory.

3) Toxins may require other analytical techniques than those referred to in this paper.