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send the samples for final evaluation to a third laboratory together with the analytical data from the two laboratories. The experts from the three laboratories together could then resolve the discrepancies.

The criteria for unambiguous identification were discussed at some length. There was consensus that two independent spectrometric techniques giving identical results are required. If the concentration of the sample is high enough, two different techniques such as mass spectrometry and infrared spectrometry or mass spectrometry and nuclear magnetic resonance spectrometry are to be preferred over two similar techniques, such as two kinds of mass spectrometry.

In all the spectrometric methods, unambiguous identification requires that the analytical results be compared with reference data in a database or with data recorded from an authentic compound using the same individual instrument. The latter procedure involving authentic compounds was considered more reliable because the recorded and database spectra are likely to have been recorded under different conditions.

The present test highlighted the difficulties in identifying chemicals for which there are no earlier data or authentic compounds available. Preliminary identification has to be based on the interpretation of different types of spectra and final confirmation is obtained only after synthesis of the proposed chemical and recording of the identification data for purposes of comparison. In future, such a requirement for synthesis might delay the reporting of analytical results to the technical secretariat and, accordingly, underlines the need for as complete a database as possible at the earliest date after the convention has entered into force.

Unambiguous identification requires that the arrangement of atoms in the molecule be exactly known. The large number of isomeric chemicals in the octyl families made it impossible to determine the exact configuration of the octyl side chain. For purposes of verification, the scientists considered it sufficient to be able to report that octyl methylphosphonofluoridates were identified, without the need to report each of the fluoridates separately. Scientifically speaking this means that identifications were not unambiguous but that they were sufficient for the purpose, especially as the draft convention requires identification of alkyl methylphosphonofluoridates, not the exact structure of the alkyl moiety.

The results of the present test need to be evaluated in terms of success in identifying those samples that would have warranted transport to verification laboratories for more detailed analysis. The most important samples were those containing schedule 1 compounds and those containing methylphosphonates, especially the octyl derivatives. The only schedule 1 chemicals, the mixture of isomeric octyl methylphosphonofluoridates, were reported by only two laboratories, despite the availability of sophisticated in-house equipment. This was partly due to the degradation of the fluoridates during transport of the samples and partly due to the lack of reference data for these compounds. The degradation would of course have been avoided if the analysis had been performed on-site. Both the fluoridates and the