

laboratories, a so-called central laboratory and a mobile field laboratory, are discussed in detail in chapters 5 to 8.

In chapter 9 it has been assumed that verification tasks could be handled with different combinations of automatic monitors and laboratory analysis. Whenever possible, use of tamper-free automatic monitors of the "black box" type is preferred. For control of the destruction of stocks and of production facilities, these monitors could be used in combination with inspections carried out by qualified inspectors capable of doing field tests and of collecting representative samples for scientific analysis and identifications of prohibited compounds. Samples can be analysed either in a mobile field laboratory or in a central laboratory.

The most demanding analytical task is obviously met when only a small amount of a previously unknown agent is found in a complex environment, such as soil, possibly in an advanced state of decomposition. Two aspects of this general problem are discussed in chapter 11.

This publication, CD/505, completes a cycle of work on systematic identification of chemical warfare agents. The Finnish project will now concentrate on two areas: first, on the development of instruments with better performance in order to meet the requirements of very fast progress in the field of instrumental analysis, and second, on the special requirements of verification of a comprehensive chemical weapons ban, particularly on developing selected monitors with very long time recording capability. The selection of future priorities will of course depend not only on the findings of the project but also on the progress of the negotiations on a comprehensive chemical weapons ban in the Conference on Disarmament.

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The Norwegian research programme on sampling and analysis of chemical warfare agents under winter conditions, which was initiated in 1981, is already known to the Conference through documents CD/311 and CD/396, and two previous research reports.

Working Paper CD/508, which I have the honour to present today, outlines the results of, and the conclusions which can be drawn from, the third part of the research programme, which was carried out during last winter. The research report itself is circulated as an annex to document CD/509.

I would like to underline that our research programme is based on experiments carried out under field conditions. This implies that samples of chemical agents are kept outdoors to deteriorate by exposure to the prevailing weather conditions, such as wind, changing temperature and snowfall. By doing this we have wanted to make sure that our findings have as realistic a basis as possible and that they are of direct relevance to the verification mechanisms to be agreed upon in a future chemical weapons convention.

During the winter 1983/1984 the investigations were extended to examine in depth those chemical warfare agents which are particularly unstable, and where verification may be a problem within a four-week timeframe. This period, we believe, is a reasonable time for an international inspection team to be organized and sent to select samples from an alleged contaminated area. Those agents are the so-called G-nerve agent such as sarin and soman and the blister agent mustard. In order to increase the possibility of definite verification of the two unstable nerve agents sarin and soman, we included analysis of their decomposition products and also the two main impurities formed during their production. In addition, we studied the effect of droplet size and carried out several experiments under different climatic conditions with the three warfare agents. The three research reports presented to CD so far contain, therefore, detailed information on several different factors which will influence the possibility of verification of