

(b) As has often been mentioned in previous statements of the Federal Republic of Germany the production of supertoxic methanphosphonic acid derivatives requires safety precautions the absence of which is sufficient proof that compounds of this type are not produced in the controlled plant. By a simple inspection production of CW-agents can therefore be ruled out in the vast majority of chemical plants.

(c) The existence of sophisticated safety precautions is, of course, not a positive proof of production of CW-agents. Additional criteria are therefore required in the inspection of certain plants. The most revealing measure as to the nature of the produced compounds would be chemical analysis of samples. Often, however, the inspected company will object to allowing an analysis of samples, particularly if the analysis is carried out in a way so as to reveal the complete constitution of all the compounds in a reactor. As the objective of the control is not to determine the constitution of the produced compound but only to prove the non-production of banned CW-agents a full analysis is in most cases not required. By very simple means, e.g., it can be shown if a compound contains phosphorous or not. The absence of phosphorous is an absolute proof that the analysed compound does not belong to the aforementioned class of prohibited CW-agents. If the test for phosphorous is positive, an equally simple test for flourine would, if negative, rule out that the compound tested is sarin or soman. The absence of phosphorous and/or flourine would, by the way, also show that the produced compound is not the diflouride of methanphosphonic acid which may be used as one of the components of binary weapons.

(d) These examples refer to phosphorous compounds. The method of negative proof is, of course, not restricted to these compounds only. Nor is chemical analysis the only method to be discussed in this connexion. In the case of phosphorous compounds the inhibition of the enzyme acetylcholinesterase could also be used as an extremely sensitive indicator. Last but not least, the determination of acute toxicity of a sample is a method which shows the presence or absence of compounds relevant for verification without revealing the sample's constitution.

These are a few examples of possibilities for non-intrusive but nevertheless reliable technical means for on-site inspections of current civilian production. These remarks are by no means complete and are only intended to illustrate that verification procedures in chemical plants are possible. This should not divert from the fact that verification in the civilian industry is a secondary problem. The primary problems are in the military sector.