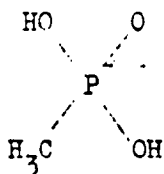
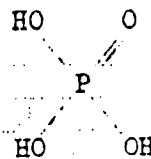


whereas most of the commercially available organophosphorus pesticides have phosphoric acid (II) as their basic structure apart from a few pesticides based on I which generally have an experimental status⁽³⁻⁵⁾.



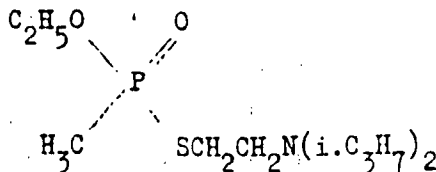
I



II

The Japanese delegation to the Conference of the Committee on Disarmament drew attention to the fact that the phosphorus-carbon bond is not cleaved under mild decomposing conditions. Besides gas chromatography in combination with a specific detection was mentioned as a suitable method to detect organophosphorus compounds at very low concentrations.⁽⁶⁾

A verification procedure, based on the above-mentioned considerations, is presented in this report. Samples from the Rhine and Meuse, both considered as heavily polluted rivers, were used as models for substantially diluted waste water downstream of chemical production plants. As such the procedure provides a rather non-intrusive inspection method. Ethyl S-2-di-isopropylaminoethyl methylphosphonotioate (VX).



was used as a representative of the nerve agents.

After a discussion of the investigations concerning the different aspects of the procedure in part 2 the ultimate procedure is described in part 3. Part 4 comprises some results obtained on application of the ultimate verification procedure on Rhine and Meuse river water samples. Some directions for future work conclude the report as part 5.