
Ad Hoc Committee on Chemical Weapons

UNITED STATES OF AMERICA

Sample Preparation, Preservation, Security and Transportation under
the Chemical Weapons Convention

Summary: This paper provides a description of methods for obtaining, preserving and transporting samples of highly toxic chemical agents, degradation products and biomedical material regarded as analytically important in the support of a Chemical Weapons Convention.

Introduction: A critical assumption in Chemical Weapons Convention technical discussions continues to be that analytical samples obtained under a wide variety of circumstances ranging from verification of declared stockpiles to examination of the casualties of alleged use, will be subjected to chemical analysis. Hence, the techniques for preserving the chemical integrity as well as the identity, authenticity and origin of collected samples assumes an importance equal to the reliability of the analytical methods selected to support the Convention.

Credible samples and their subsequent analysis are an integral part of the verification process whether acquired as part of an inspection regimen or in the investigation of proscribed production or alleged use. The details of sample acquisition methods and the formidable problems of sample transport are described in the following paragraphs derived from operational manuals largely designed to instruct troops assigned to operate in contaminated environments under emergency conditions. Thus, the tone of the instructions is insistent and the methods are rigidly defined. It is clear, however, that some methods described will not scale to the enormous numbers of samples required by a verification regime for declared chemical stocks. Environmental and biomedical samples may be more directly accessible by methods similar to those outlined. Nonetheless, the descriptions provide a point of departure for devising generally acceptable methods for sampling and transport of a spectrum of toxic materials.