

Procedure:

Pass 50 ml of the aqueous sample through a 200 mg C₁₈ cartridge which has been pre-wetted with 0.5 ml methanol and 5 ml water. In order to prevent clogging of the cartridge, samples containing large amounts of particulate matter should be filtered through a 20 µm pore-size frit filter or through a Whatman microfibre filter grade GF/A.

Phosphonic acids, which are decomposition products from nerve agents, are preserved by sorption to an aminopropyl weak anion exchanger (NH₂). Cartridges filled with 100 mg NH₂ material (Analytichem International Inc.) are attached after the C₁₈ cartridges and the sample solution is passed through the combined cartridges. The chemical warfare agents are retained on the C₁₈ cartridge (top) and the phosphonic acids on the NH₂ cartridge (bottom).

3.6 Sample transport

All samples should be properly secured to avoid injury to personnel handling the samples. This means that all samples should be transported surrounded by activated charcoal in a solid shock-resistant container. In addition, the samples should be treated in accordance with the following guidelines:

To prevent degradation of chemical warfare agents during transport and storage, both the untreated samples and the C₁₈ cartridges should be kept cold, preferably in a box filled with dry ice (-78.5°C). A freezing mixture, for example sodium chloride:ice = 1:3 (-21.3°C) or calcium chloride:ice (min. -55°C) could also be used.

Liquid samples should not be frozen but should be transported cold in an insulated box with cooling elements.