THREAT AGENT DEFEAT MODELING AND TESTING

Rejection Of Lewisite And Other Arsenicals By Reverse Osmosis Membranes - Impact Of Temperature, Ph-value And Recovery

Jeldrik Moritz Bundeswehr Research Institute for Protective Technologies and NBC-Protection

Mobile water treatment plants have to be capable purifiying any surface water to provide clean water for decontamination purposes or drinking water according to STANAG 2136 with AMedP-4.9. In contrast to stationary water works, mobile treatments plants have to cope with different qualities of raw water or even with CBRN contaminations in conflict zones. Raw water temperature, pH-value and operating conditions are well known for their impact on the rejection efficiency of reverse osmosis membranes.

Investigations on a technical scale were conducted in order to determine the rejection of Lewisite by reverse osmosis membranes. The investigations cover relevant raw water temperatures, pH-values and operating conditions. Results uncovered the principle of Lewisite rejection by reverse osmosis membranes. Understanding the principle of Lewisite rejection enables a quite reliable prediction of the rejection of other organic arsenic substances including corresponding warfare agents.