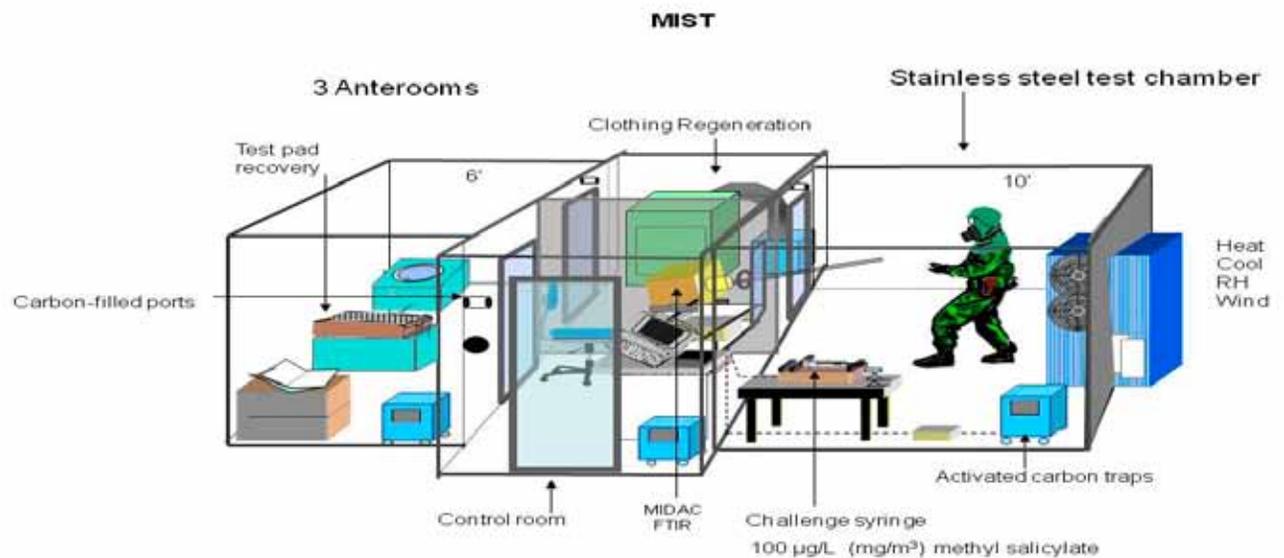




MAN-IN-SIMULANT-TEST (MIST) CHAMBER WITH ARTICULATED MANIKIN

OVERVIEW:

The MIST chamber quickly and efficiently tests complete prototype military chemical and biological agent protective ensembles for leakage with assistance from an articulated manikin. Scientists and engineers can save time and expense of sending their protective clothing to other chambers when a small on-site facility is all that is needed. The range of ensembles spans from protective gear worn on the battlefield to the fully-encapsulated suits worn by first responders at a chemical spill. Because they are not seamless outfits, it's possible for vaporous contamination to enter through places such as zippers or component interfaces (e.g., where the trousers meet the overboots), which is why testing is necessary.



DESCRIPTION:

The MIST complex is divided into four rooms composed of insulated steel walls, similar to those found in industrial refrigerators and freezers. Snug door seals, along with caulking and chemical resistant tape, contain the simulant in the test chamber. The manikin, "Private Paul," moves to computer-controlled commands in his stainless-steel-enclosed chamber. The simulant that penetrates the ensemble is measured using Passive Adsorption Devices (PADs) filled with Tenax powder. They are placed strategically on the manikin before donning the protective ensemble and proceeding through the series of motions. After the test the PADs are analyzed to determine where and how much leakage occurred.

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