

ISRP 2002 abstract

Presenter/author	Title	Abstract
Steenweg, Leo Tuinman , Ilse van Bokhoven, Jacques <i>TNO Prins Maurits Laboratory, Chemical and Biological Protection, Physical Protection</i>	Simultaneous determination of face seal leakage with gas and particles	<p>The protection offered by gas masks against particles is an important parameter that, with the current technology, depends mainly on face seal leakage, since the filters and exhalation valves are generally quite good. Standard leakage tests include the SF6 test or tests with very small aerosols such as salt particles or oil droplets. A preliminary study showed that leakage increases with decreasing particle size with little change between 0.5 and 1.5 µm.</p> <p>In this study the face seal leakage of two types of full face gas masks was tested simultaneously with an aerosol consisting of monodisperse 1 µm oil droplets and SF6 gas for comparison. The tests showed that the protection against gas is nearly equal to the protection against the oil particles when the PF is less than 104. When the aerosol PF is higher than 104, the ratio of the SF6 PF and aerosol PF drops to less than 1. When the aerosol PF is 106 the PF against SF6 was 105 on average but values ranged between 104-106. So, although there seems to be a correlation between the gas PF and aerosol PF, the relationship is far from unambiguous.</p>