

RESPIRATORY PROTECTION STANDARDS FOR CHILDREN

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There is a need to provide children with a respirator for protection and survival in the event of war or non-conventional terrorism. The development of respiratory protection systems for children began in the Second World War when the two main powers in the European arena (Britain and Germany) were preparing their population against chemical warfare. In due course, during the "Cold War", more development of protection systems for children was taking place in the US.

In the end of the 60's, the government of Israel established a national stockpile of protective masks for its civilian population and endorsed some of the products developed in Germany and the US. Since then, efforts have directed at developments and improvement of infants and children respiratory systems. Much experience has been accumulated in R&D, testing, evaluation and approval, as well with use.

Children place several challenges on the design and development of respiratory systems, starting with size adjustment and anthropometric considerations, and ending with physiological and psychological aspects, functionality and a protected parent-child interface. The main lesson learnt from these projects is that children's respiratory protective systems must be based on the combination of a blower, for the elimination of breathing resistance and increasing protection factors, and improvement of the adjustment of the mask to take account of child behaviour during emergency.

Development having been completed there is a need to approve the system and ensure that the developed product meets the requirements. This stage comprises criteria definition, challenge (human test vs. dummies trials), protection factors and breathing safety tests in laboratory condition vs. functionality test in the field close to reality scenarios.

With the cooperation of TSWG, we intend to dedicate the coming year to standards setting for testing and approval of children respiratory systems, and we ask the international community to join us and assist us.