

# MSA's Position on the Selection and Use of CBRN Respiratory Protection for First Responders

Dear First Responder,

Chemical, biological, radiological, and nuclear threats are a reality we need to prepare for. Consequently, Federal agencies have invested millions of dollars and developed stringent respiratory protection standards to guard our first responders from these real dangers. As with the use of any personal protective equipment, field applications vary. Due to the seriousness of the CBRN threat, MSA believes it is important for first responders to understand the most effective deployment of CBRN respiratory protection.

To date, NIOSH has published two standards for CBRN respiratory protection: the Self-Contained Breathing Apparatus (SCBA) Standard (*for use in unknown concentrations of contaminant over short durations of use*), and the Air-Purifying Respirator (APR) Standard (*for use in known concentrations of contaminant over longer durations*).

MSA's position on the selection and use of CBRN respiratory protection for first responders is based upon using a common Ultra Elite® facepiece platform for both APR and SCBA applications, allowing standardized training, and eliminating redundant fit testing. Despite sharing a common platform, the facepieces are intentionally separate in specific aspects of their design to provide the appropriate level of protection for each unique application. This recommendation is summarized in the following three sections:

**SCBA bearing a NIOSH CBRN approval label** should be used on all calls by all firefighters and other rescue personnel who routinely use SCBA. Since a terrorist incident may not be readily apparent and even seem to resemble a typical call, CBRN SCBA should always be used. SCBA are positive-pressure facepiece devices that provide the highest level of user protection; they are intended for entry into and escape from unknown contaminants. The positive pressure in the facepiece ensures that any leakage of the face seal will leak outward to prevent the entry of external contaminants.

MSA was the first manufacturer to receive a NIOSH CBRN approval for an NFPA-2002-edition SCBA, which carries approvals for a complete line of high- (4500 psi) and low- (2216 psi and 3000 psi) pressure SCBA with the Ultra Elite facepiece.

**APR respiratory protective equipment bearing a NIOSH CBRN approval label** should be available to all firefighters and rescue personnel trained for responding to terrorist incidents. These products are known as lightweight "gas masks" in this application, and they should be used for extended-duration activities in known concentration levels for which the equipment has been approved for safe use. Because they are **negative-pressure** devices, they do not provide the higher level of protection afforded by **positive-pressure** SCBA.

MSA was the first manufacturer to receive a CBRN Gas Mask approval from NIOSH. The Millennium Gas Mask was officially NIOSH-certified on March 12, 2004. The Ultra Elite CBRN Gas Mask was granted a NIOSH approval on October 27, 2004.

**APR and SCBA facepieces should not be used interchangeably.** The harsh environment of routine firefighting may degrade an SCBA facepiece. Although this normal wear from daily use will not affect the protection afforded by a positive-pressure SCBA, it may not be suitable in a chemical warfare environment when converted to a negative-pressure APR device.

APR facepieces of this type do not have positive pressure to protect the face seal from the entry of external contaminants. Therefore, they are highly dependent on the integrity of the facepiece seal and the integrity of the facepiece components. This is evidenced by the NIOSH CBRN fit requirements for APR facepieces which are set at 2000, as compared to the much lower fit requirement of 500 for SCBA. For this reason, **operating procedures that prevent the interchanging of SCBA and APR facepieces should be developed.**

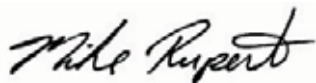
**Equipment that precludes interchangeability by design is recommended.** This eliminates the cross-use of facepieces and **prevents** the loss of dedicated APR facepieces from permanent conversion to SCBA use.

The Millennium facepiece, used primarily by the military and police, features a flexible lens and hydration capabilities. Although the Millennium is a high-performing facepiece, the APR version of the Ultra Elite is recommended for the municipal fire service, due to the common platform it shares with the SCBA Ultra Elite. The SCBA and APR Ultra Elite facepieces are similar enough to eliminate redundant training and fit testing, but different enough to prevent misuse for their intended purposes. These three MSA facepieces are shown at right.

The terrorist threats facing our nation are real, with increasingly lethal consequences. They can take on many different forms and occur any time, anywhere. As the largest manufacturer of personal protective equipment, MSA is dedicated to providing the most appropriate high-quality safety equipment, training, and information to meet the needs of the first responders protecting our homeland.

Please contact MSA's Customer Service Center (1-877-MSA-FIRE or 1-800-MSA-2222) if you have questions regarding the use or availability of CBRN respiratory protection.

Sincerely,



**Michael Rupert**  
Product Group Manager,  
Supplied Air Respirators



**SCBA Ultra Elite**



**APR Ultra Elite**



**Millennium  
Gas Mask**

