

**PRODUCT SPECIFICATION FOR THE
MSA MILLENNIUM® CBRN GAS MASK**

PRODUCT SPECIFICATION
RADIOLOGICAL,

CHEMICAL, BIOLOGICAL,
AND NUCLEAR (CBRN) FULL FACEPIECE
AIR PURIFYING RESPIRATOR (APR)

I. Purpose

- A. To establish a minimum performance level for this respirator

II. Type

- A. The respirator covered by this specification shall be certified by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR, Part 84, as a Chemical, Biological, Radiological, and Nuclear (CBRN) Full Facepiece Air Purifying Respirator (APR).

III. Component Parts

- A. The Respirator shall consist of the following component parts:
1. A single flexible lens facepiece with a clear polycarbonate outsert.
 2. A single canister with CBRN NIOSH approvals.
 3. Instructions for use and maintenance of the respirator.
 4. A storage case.

IV. Facepiece

- A. The Facepiece shall be constructed as follows:
1. The facepiece shall be available in three sizes. The standard or medium facepiece shall be designed to adequately fit a wide range of face sizes. Small and large facepiece sizes shall be available to adequately fit those few individuals who will not achieve an adequate fit with the standard or medium size. A specific size indication is to be marked on the appropriate facepiece.
 2. The facepiece shall have mounting locations for the canister, on both right and left sides. One side will be utilized as the canister attachment point. The other side will be sealed off in some way as to easily switch the canister attachment point. This flexibility will allow the user to sight and fire a hand-held riot-control gas launcher or other self-defense device if needed, from either the right or left side of the body.
 3. The facepiece shall have canister-mounting points utilizing a threaded attachment. The threaded attachment shall be 40 mm thread and NATO-Canister compatible.
 4. An adjustable head harness with 6 points of suspension shall be utilized. The harness shall be designed to adequately fit a wide range of head sizes: small, medium and large.
 5. The facepiece lens shall be a monocular lens located on the unit so as to provide a satisfactory field of vision for persons of widely varying facial shapes and sizes. The lens shall provide 90% unimpeded vision. The lens shall be a flexible polyurethane material that has a high chemical resistance. The lens shall be permanently bonded to the facepiece blank to eliminate potential contaminant penetration.
 6. Air shall enter the facepiece in a manner that will reduce the possibility of accumulation of moisture on the lens. An air deflection baffle located in the

facepiece shall divert the dryer inhaled air over the lens before it enters the breathing zone.

7. The facepiece shall have an inhalation check valve to prevent exhaled air from entering the canister.
8. The facepiece will have a low-opening demand exhalation valve. The valve design will be of the umbrella type to limit the amount of back leakage. The valve assembly will be designed for easy cleaning.
9. A suitably protected speaking diaphragm shall be available. The diaphragm shall project the voice directly from the mouth in the normal direction the user is speaking.
10. The facepiece shall include a drinking tube to provide connection for fluid ingestion in contaminated atmospheres. The drinking tube shall incorporate a quick-disconnect compatible with the M1 Canteen Cap.
11. All replaceable parts are to be easily replaced when necessary, in the field.
12. A standard nose cup shall be packaged with each facepiece. Nose cups shall be available for use in reducing facepiece fogging in cold conditions. The nose cups shall fit a variety of face sizes and shapes.
13. A clear polycarbonate outsert lens shall be packaged with each facepiece. The standard outsert shall be made of clear polycarbonate. Optional outserts made of dark-tinted polycarbonate shall be available. Laser protection outserts in 2-band and 3-band shall be available.
14. A removable spectacle kit shall be available for mounting corrective lenses inside the facepiece.
15. The facepiece shall be available in Hycar rubber.

V. Canister

A. The canister shall be constructed as follows:

1. The canister shall have a particulate filter internal to the canister assembly. The canister must be a one-piece permanent assembly with protection for the particulate filter from punctures and/or sparks.
2. The canister shall utilize impregnated carbon to filter out the required gases and vapors.
3. The canister shall attach to the facepiece by hand (no tools), and use a threaded means of attachment.
4. The canister shall be shall minimize interference with the overall facepiece vision.
5. The canister external body components shall be black in color. Associated labels are to be located on the canister in such a manner as to limit light reflection during clandestine operations.
6. The canister must meet or exceed the NIOSH requirements for filtering Chemical, Biological, Radiological, and Nuclear (CBRN) agents as described in 42 CFR, Part 84.

VI. Instruction Manual

A. An instruction manual shall be provided with each respirator. Such instructions shall contain complete use and limited maintenance procedures.

VII. Carrying Case

- A. A gray tinted plastic (PET) storage case shall be included with each respirator. The case shall be designed to contain one respirator and one canister.

VIII. Respirator Accessories

- A. The respirator shall accommodate certain accessories for use in various situations.
 1. The respirator shall have an Electronic Speech Amplifier that is mountable onto the facepiece. The unit will be powered by two standard AAA alkaline batteries and have an on / off switch.
 2. A removable spectacle kit shall be available for mounting corrective lenses inside the facepiece.
 3. Polycarbonate outserts shall be available to provide additional lens impact protection. The outserts shall fasten to the facepiece without the use of any special tools. Outserts shall be available in clear and dark-tinted polycarbonate. Laser protection outserts in 2-band and 3-band shall be available.
 4. A belt-mounted nylon fabric drop leg gas mask carrier shall be available. The carrier shall be made of 1000 denier NyTaneon™ Nylon lined with closed cell foam and be black in color. The carrier shall be 4 inches deep x 10 inches high x 6 ½ inches wide. The carrier shall have a double snap lid. The carrier shall have two leg straps. Both the belt hanger and the leg straps are fully adjustable and removable.
 5. A butyl-coated nylon hood shall be available to provide additional protection for the head.