



Gas Masks for Law Enforcement

[Respiratory Protection for Homeland Security]



MSA's Gas Masks: from Military Warfare to Civil Unrest to CBRN Threats

introduction



MSA has been making Gas Masks since World War I.

[Military Warfare]

Over 7 million MSA Gas Masks, including the M17, M23, and M40 Series, have protected US military forces throughout the past century. MSA designed and developed the MCU-2/P gas mask for the US military (USAF in Desert Storm). Our Millennium™ Gas Mask is a clone of this USAF-Navy mask that's now available to Law Enforcement users.

A USAF Major who served in Egypt and Somalia is adamant

about wearing an exceptionally designed gas mask. "An enemy can drop blood or blister agents on an airfield, so you never know WHEN you're going to need that protection. The design and shape of the lens and this mask are very important in enabling you to aim and fire your weapon. You're not worrying about comfort; you want to be sure you can SEE."

[Civil Unrest]

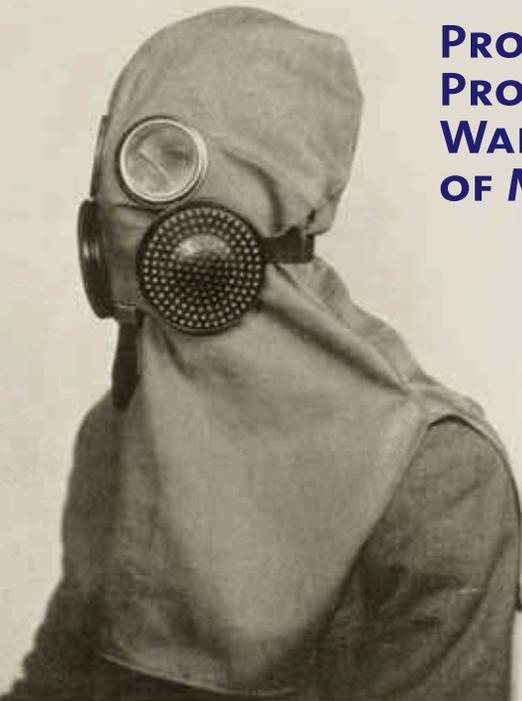
However, law enforcement officers, especially SWAT teams, probably "know MSA" because they've worn our dependable, well designed, reasonably priced gas masks during civil unrest and civilian hostage situations.

As one SWAT officer recently stated, "Equipment needs to be light, dependable, and foolproof. The MSA [Advantage® 1000] mask is."

Another agreed, "If you need to use force in hostage situations, you have to see exactly what you are doing while wearing your mask. The range of visibility and optics are great."

[CBRN Threats]

All threats to US homeland security—home-grown or imported—signify potential destruction of people, places, and ways of life we hold dear. New ideas for preventing or responding to terrorist activities proliferate, as First Responders



PROVIDING RESPIRATORY PROTECTION FOR AMERICA'S WARRIORS IS A PROMINENT PART OF MSA'S 90-YEAR HISTORY.



contemplate the brutality of dealing with chemical, biological, and radiological, and nuclear (CBRN) agents.

This is nothing new for law enforcement personnel, who must always be prepared for anything. But rapidly evolving plans to create new agencies, set new agenda, and expand support for state and local emergency response teams are intensifying the focus. Field training exercises also serve as dress rehearsals for personal protection, including gas masks. This is where MSA comes in. We have the gas masks you need.

After decades of development and millions of users, MSA's gas masks are still greatly preferred by America's fighting forces and First Responders. We are ready to help you meet today's challenges with the best gas masks available.



"Never before has this country depended so heavily on the FBI to protect it at home."

Robert S. Mueller III, FBI Director, May 29, 2002



About MSA

MSA has protected First Responders for almost 100 years! Mine Safety Appliances Company was founded in 1914 by two mining engineers who fought underground mine fires, rescued trapped miners, and developed or improved safety, rescue, and protective gear.

MSA has sold gas masks for military (and industrial) use since World War I, so we understand the demands placed on this crucial protective equipment.

We have historically helped First Responders before, during, and after emergencies, from small house fires to multiple explosions at chemical plants, from hazardous materials spills to hurricanes. We assisted those on duty after terrorists attacked New York City, the Pentagon, and Oklahoma City; and before/during the Seattle WTO meetings and Salt Lake City Olympics.

MSA makes and markets Respiratory Protection; Instruments; Head, Eye, Face, & Hearing Protection; Fire &

Military Helmets; Fall Protection; Thermal Imaging Cameras; and Mining, Emergency, & Specialty Equipment via a national network of trained distributors, product specialists, and knowledgeable contacts.

MSA has been a global company for decades, protecting millions of people around the world who work in almost every industry.

You can always reach us by phone: 1-888-MSA-0018 or e-mail: info@MSAnet.com.

Gas Masks for Law Enforcement

Millennium® CBRN Gas Mask



The new NIOSH government CBRN standard for full-facepiece gas masks was issued on March 7, 2003. After extensive testing to that standard, MSA's Millennium® CBRN Gas Mask was first to receive NIOSH certification as "compliant against CBRN."

A Hycar version of the reliable military-style gas mask (MCU-2/P Mask, used by U.S. Air Force in Desert Storm) that combines high performance, customized fit, comfort, and cost efficiency.

- Flexible, 1-piece polyurethane lens with wide field of vision is bonded to durable Hycar rubber facepiece.
- Dual-canister mount allows weapon sighting from either shoulder

- Drinking tube provides connection for fluid ingestion in contaminated atmospheres
- Fully elastic, 6-point head harness promotes easy on/off and adjustment, with no hair pulling
- Internal nose cup with 2 check valves deflects air from the lens, reduces fogging
- CBRN canister containing chemical sorbents and a P100 filter to attract, retain, and neutralize contaminants
- Standard mechanical speaking diaphragm included, or add MSA's optional ESP® II Communications System
- Optional butyl-coated nylon hood for total head protection
- NIOSH-approved (No. TC-14G-0270) for protection at a CBRN Cap 1 rating

Regarding interoperability, the Millennium CBRN Gas Mask is designed to be used as a system; and while the thread and gasket meet the specs of the standard, only MSA-manufactured components are tested and certified as assemblies.

Part No.	Millennium® CBRN Gas Mask
10051286	Small Millennium Facepiece less Canister
10051287	Medium Millennium Facepiece less Canister
10051288	Large Millennium Facepiece less Canister
10046570	MSA CBRN Canister
Accessories:	
10026265	ESPII Communications system
305022	Butyl Coated Nylon Hood
10034184	Gas Mask Pouch, Police Style
816137	Spectacle Kit
Lens outserts for Millennium Facepiece	
10008907	Small, Clear
10008906	Medium/Large, Clear
10008909	Small, Tinted
10008908	Medium/Large, Tinted



gas mask manufacturing

Advantage® 1000 Riot Control Agent Gas Mask



A clean, simplified respirator with Hycar facepiece (based on a proven facepiece design developed for the U.S. Armed Forces) that's up to 40% lighter than conventional full-face respirators and gives high performance, customized fit, comfort, economy, and user acceptance.

- Flexible, 1-piece polyurethane lens with wide field of vision is bonded to durable Hycar rubber facepiece
- Dual-canister mount (bayonet mount) allows weapon sighting from either shoulder

- Fully elastic, 6-point head harness promotes easy on/off and adjustment, with no hair pulling
- Standard nose cup helps eliminate lens fogging
- Standard mechanical speaking diaphragm included, or add MSA's optional ESP II Communications System
- NIOSH-approved (No. TC-14G-0235) for protection against chloroacetophenone (CN), chlorobenzylidene (CS), P100 particulate efficiency level, and particulates
- Effective against OC

Part No.	Advantage 1000 CBA-RCA Gas Mask, complete with canister, nose cup, and identification tag
813860	Small
813859	Medium
813861	Large
817590	Advantage 1000 CBA/RCA Canisters, Box of 6

Response™ Escape Hood



MSA's Response Escape Hood is a practical solution to the problem of escaping from chemical, biological, or riot-control agents, when every second counts. The hood gives users head and neck coverage and respiratory protection to help them escape from terrorist situations as quickly as possible.

- Hood is made of high-performance laminate material for protection, fit, fast donning, and ease of use when escaping from chemical and biological agents.
- Canister has a high-efficiency particulate filter and activated carbon to combat aerosols, gases, and vapors for respiratory protection during escape.
- Canister has 50% more carbon than similar canisters used by US armed forces, documented by results of extensive testing against simulated and live chemicals.

- Hood fits most head sizes; is compatible with long hair, glasses, and/or facial hair.
- Soft, high-stretch, comfortable elastomeric neck seal eases donning and conforms to irregular neck contours.
- Easy operation: Air flows directly into the facepiece through the filter; inlet check valves maximize carbon performance; and exhaled air exits directly through the exhalation valve.
- Large bonded PVC lens for wide field of view and translucent chemical-resistant hood promote good visibility and face recognition, while reducing claustrophobia.
- Integrated nose cup reduces CO₂ buildup, yet enables communication superior to conventional devices, as well as normal breathing and speaking.
- Cradle-type head straps allow for quick, no-assistance donning.

Part No.	Description
10022208	MSA Response Escape Hood with CBA/RCA canister, packaged

OptimAir® 6A PAPR



A powered air-purifying respirator that filters contaminants from ambient air via CBA/RCA OptiFilter® Cartridges. Belt-mounted motor/blower pro-

vides constant air flow via breathing tube to facepiece.

- Features Millennium Facepiece
- Used with combination cartridges for protection against particulates, toxic gases and vapors, or a combination of these hazards
- Maintenance-free lithium battery with 10-year shelf life
- Optional rechargeable NiCd battery
- Also approved for use with (optional) Millennium Facepiece (see page 4)

Part No.	Description
10046394	OptimAir 6A PAPR, complete with medium Millennium Facepiece, lithium battery, belt, motor/blower module. Add OptiFilter® cartridges/filters.
10011890	CBA/RCA OptiFilter Cartridges, Box of 6
816912	Lithium Battery Pack for OptimAir 6A PAPR
491102	Motor/Blower Module
808494	Protective Covers, Package of 5
Optional Battery and Charger	
491120	Rechargeable NiCd Battery
463471	Standard Single-Unit Battery Charger
486614	Single-Unit, Dual-Rate Battery Charger

OptimAir® 6HC (Health Care) PAPR



A powered air-purifying respirator that designed to protect health care professionals from residual Chemical/Biological/Radiological Agents, when they are performing First Responder duties during Homeland Security or terrorist situations.

The system features an 8-oz. lightweight, chemical-resistant Tychem SL Hood and belt-mounted blower with two HC Cartridges. The hood, compatible with facial hair and glasses, requires no fit testing. The canisters contain a pleated high-efficiency (P100) filter to remove aerosols, radionuclides, and

solid particulates; and an impregnated activated carbon bed to adsorb (filter out) gases and vapors. The carbon bed is the same as used in military canisters and is effective against mustard (HD), Sarin (GB), DMMP (a Sarin simulant), HCN, and CK.

- Maintenance-free lithium battery with 10-year shelf life, 4 hours wear time.
- Optional Advantage 3100 tightfitting Facepiece.
- Optional rechargeable NiCd battery

Part No.	Description
10041550	OptimAir 6HC PAPR with Tychem Hood Includes motor/blower module, lithium battery, hood, breathing tube, belt, and 2 HC Cartridges
10042448	HC Cartridges, Pkg. of 6
10048179	Tychem SL Hood
481980	Breathing Tube for Hood
10048180	Single-use lithium battery
491120	NiCd Battery for training use
463471	Single-Unit Single-Rate Battery Charger for NiCd Battery
10048178	Motor/Blower module
492827	Polyurethane-coated nylon belt

Accessories for Gas Masks

ESP® II Communications System



The ESP II Communications System, a 1-piece, self-contained, electronic speech projection device, allows wearers to speak normally, yet be heard loud and clear.

- Lightweight, maintains visibility, comfortable to wear, and easy to use

- Compact, rugged; resists water, heat, and impact
- Compatible with handheld radios for clear, long-range communications
- Uses two standard AAA alkaline batteries, which last up to 15 hours

Part No.	Description
10026265	ESP Communications System for Millennium Facepiece and Advantage 1000 Facepiece



Hood

All skin should be covered when encountering any suspect CW substance. Some suits that completely cover the body may not be complete containment

suits. They will cinch down around the lens of the gas mask. A butyl hood, which protects against liquids, may work as additional protection.

Part No.	Description
305022	Butyl-Coated Nylon Hood



Lens Outsert

Polycarbonate lens outsert snaps into place over Millennium or Advantage 1000 facepiece lens, providing addi-

tional impact protection. Tinted outsert helps conceal identity (suitable only when sufficient light exists).

Part No.	Description
	Lens Outsert for Millennium Facepiece
10008907	Small, clear
10008906	Medium/Large, clear
10008909	Small, tinted
10008908	Medium/Large, tinted
	Lens Outsert for Advantage 1000 Facepiece
806463	Small, clear
806462	Medium/Large, clear
806465	Small, tinted
806464	Medium/Large, tinted

Carrier

Part No.	Description
10034184	Gas Mask Pouch, police style

Spectacle Kits

Part No.	Description
816137	Spectacle Kit for Advantage 1000 and Millennium Gas Masks

FireHawk® Air Mask with CBRN Protection



First Responders should never approach unknown or IDLH (Immediately Dangerous to Life or Health) atmospheres without SCBA.

MSA's new FireHawk SCBA will provide you with positive protection from CBRN agents, according to the stringent live-agent test regimen of the NIOSH approval process. Our positive protection design seals the new diaphragm of the Firehawk™ regulator from initial contact with contaminants, preventing CWA from contacting the vital components of the regulator and entering the user's air stream.

These components, plus one of the industry's best-fitting facepieces, MSA's Ultra Elite®, ensure reliable and effective respiratory protection from CBRN agents as well as many lethal byproducts of chemical plants, nuclear facilities, laboratories, and other life-threatening environments that you might have to face.

Sleek, rugged, and lightweight, the FireHawk Air Mask has the best of everything: a comfortable, wide-vision facepiece; low-profile mask-mounted regulator (MMR); combination PASS and Redundant Alarm; lightweight 30- or 60-minute air cylinder; and advanced carrier/harness assembly.

Custom-order FireHawk Air Masks by ATO (Assembled To Order) to get the features you need. All NIOSH-approved, fire-fighting SCBA comply with the 2002 edition of the NFPA 1981 Standard.

To find the FireHawk Air Mask with CBRN Protection ATO that will best suit your needs, contact MSA's award-winning customer service at 1-888-MSA-0018.

For more product details and/or information about respiratory protection and services from MSA, please contact your MSA distributor or MSA's Customer Service Center at 1-888-MSA-0018.

What do SWAT team members like about their MSA gas masks?

"My mask is light, pliable, good in cold weather. I like how it folds for carrying and storage."

"MSA's mask is the only one we can use for sighting when using guns, and we can see downward as well, which is great."



"Great peripheral vision, and you can get your sighting device close to your face."

"Until last year, our SWAT team wore five different masks. We needed to standardize, and some [brands] were not good. If my mask leaks, I am OUT of it. . . . They HAVE to be dependable, so we chose the Advantage 1000."

"We need to move fast, without being seen. We can't think about if our masks work, but they HAVE to."



First Responder's Guide to Weapons of Mass Destruction (WMD)

Terminology

CBRN: Chemical, Biological, Radiological, Nuclear agents/weapons

Chemical Agents: Typically man-made chemical compounds

Biological Agents: Bacteria or viruses that are dangerous to the life or health of biological organisms, i.e. human beings

Radiological Hazards: Can occur from nuclear devices as well as a “dirty bomb,” which disperses radiation by means of a non-nuclear device

Nuclear Hazards: Classical nuclear hazards are associated with radiation received in the aftermath of a detonation of a nuclear device

Radiological Threats/Response Definitions/Threats

Radiation is a form of energy that occurs naturally in the air we breathe, water we drink, food we eat and in our own bodies. Radiation doses that people receive are measured in “rem” or “sievert” (1 sievert = 100 rem).

Radiation cannot be seen, smelled, felt or tasted by humans. Discarding of contaminated clothes and washing your body reduces the amount of radioactive contamination in the body and thus effectively reduces your exposure.

Radiation adverse health effects may not be determined for many

years depending on the amount, type, route and length of the exposure. The effects can range from mild to cancer and death.

Interior radiation—radiation that goes inside our bodies

Exterior radiation—radiation that comes from sources outside our bodies

Three basic ways to reduce your exposure to radiation—

Time: decrease the amount of time near the source of radiation

Distance: increase your distance from the radiation source

Shielding: increase the shielding between you and the radiation source

Biological Warfare Agents*

*Note: List not all-inclusive.

Agent	Indications	Comments
Anthrax	<ul style="list-style-type: none"> Inhalational anthrax (most lethal form): sore throat, mild fever, muscle aches and malaise Cutaneous anthrax: raised bump resembling spider bite within 1-2 days 	<ul style="list-style-type: none"> Not contagious. Prophylactic inoculation available. Spores do not have a characteristic appearance (e.g., color), smell, or taste.
Botulism	<ul style="list-style-type: none"> Symptoms begin within 6 hours to 2 weeks (most commonly 12 to 36 hours) after eating food that contains the toxins. Double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, muscle weakness that descends from the shoulders down through the upper arms, lower arms, thighs, calves, etc. 	<ul style="list-style-type: none"> Not contagious. Caused by a nerve toxin that is produced by the bacterium <i>Clostridium botulinum</i>. About 110 cases of botulism are reported yearly in the US.
Smallpox	<ul style="list-style-type: none"> Fever, rash, small blisters on skin, bleeding of skin and mucous membrane, malaise, head and body aches, and sometimes vomiting. The fever is usually high, in the range of 101 to 104 degrees F. Incubation period: 10-12 days. Onset of illness: 2-4 days later 	<ul style="list-style-type: none"> Contagious. Prophylactic inoculation available. Direct and fairly prolonged face-to-face contact is required to spread smallpox from one person to another. Also can be spread through direct contact with infected bodily fluids or contaminated objects (bedding, clothing, etc.). Can be carried by air in enclosed settings such as buildings, buses, and trains.

Chemical Warfare Agents

Chemical/Agent Classes	Characteristics*	Exposure Symptoms*	Identifying Characteristics	MSA Detector Tubes
Chemical Nerve Agents Tabun Sarin Soman VX	<ul style="list-style-type: none"> Attack nervous system, can enter body through inhalation or skin Effect begins within seconds & minutes (large amounts) to 18 hours (small amounts) 	<ul style="list-style-type: none"> Pinpoint pupils Runny nose Drooling Coughing Tightness in Chest Muscle twitching, jerking Nausea, vomiting, diarrhea Convulsions Coma Death 	<ul style="list-style-type: none"> Tabun—Odor: None or fruity Sarin—Odor: None or fruity (used in Tokyo subway attack a few years ago) Soman—Odor: None or camphor (mothballs) VX—Odor: None or sulfur 	10007654
Chemical Blister Agents Mustard Gas Lewisite	<ul style="list-style-type: none"> Attack skin and can also be inhaled Are absorbed rapidly into skin Skin effect varies with agent—Mustard Gas: no immediate effect Lewisite: immediate pain 	<ul style="list-style-type: none"> Itching of eyes Nausea, vomiting Hoarseness or hacking cough Initial redness of skin, followed by blisters Death 	<ul style="list-style-type: none"> Mustard Gas—Odor: Garlic, onions or mustard. Color: Clear to yellow or brown Lewisite—Odor: Geraniums 	10007652—HD and HN 10007653—HD only 10007650
Chemical Choking Agents Phosgene Diphosgene Chlorine	<ul style="list-style-type: none"> Attack respiratory tract Effects begin in 2–24 hours 	<ul style="list-style-type: none"> Coughing, nausea, vomiting Irritated eyes, nose, throat Shortness of breath Pulmonary edema Frothy secretions Death 	<ul style="list-style-type: none"> Phosgene—Odor: Newly mown hay 	10007651
Chemical Blood Agents Hydrogen Cyanide Cyanogen Chloride	<ul style="list-style-type: none"> Attack circulatory system Have rapid onset Effects occur immediately Small amounts: no effects 	<ul style="list-style-type: none"> Effects occur immediately Loss of consciousness Convulsions Apnea Headache 	<ul style="list-style-type: none"> Hydrogen Cyanide—Odor: Bitter almonds Cyanogen Chloride—Odor: Bitter almonds 	10007651

Respiratory Protection Chart

Dirty Bomb—Dirty bombs combine conventional explosives, such as dynamite, with radioactive materials to disperse radiation.

Sound Response Recommendations

- Position upwind of suspected event.
- Isolate/secure the area (DOT-ERG No. 136 recommends a minimum distance of 80 to 160 feet).
- Be alert for small explosives designed to disseminate radioactive agent(s).
- Use time, distance and shielding as protective measures.
- Use full PPE including SCBA.
- Avoid contact with agent. Stay out of visible smoke or fumes.
- Establish background levels outside of suspected area.
- Monitor radiation levels.
- Remove victims from high-hazard area to a safe holding area.
- Triage, treat and decontaminate trauma victims as appropriate.
- Detain or isolate uninjured persons or equipment. Delay decontamination for such persons/equipment until instructed by radiation authorities.
- Use radiation detection devices, if possible, to determine if patients are contaminated with radiological material.

Canisters are matched to respirator models and hazards

Canister or cartridge name	Canisters Millennium	RCA Canisters Adv. 1000	RCA OptiFilter Cartridges	RCA OptiFilter Cartridges	GME-P100 (multi-gas) OptiFilter Cartridges	CBRN
Style of Canister Thread or Attachment	RD 40 military-style	Bayonet type	RD 40 military-style	RD 40 military-style	RD 40 military-style	RD 40 military-style
Respirator Type	Millennium	Adv. 1000	Millennium	OptimAir 6A PAPR w/Advantage 1000 or Millennium Facepiece	Ultra Elite	Millennium
CBA/RCA Canisters or Cartridges, box of 6	818264	817590	10011890	10011890	10024847	
Respirator Model						
Advantage 1000 Gas Mask	X	X		X		
Millennium Gas Mask	X		X	X	X	X
Ultravue Demand					X	
Ultra Elite Demand					X	
For protection against:						
Organic Vapors					X	E
Chlorine			E	E	X	E
Sulfur Dioxide			E	E	X	E
Chlorine Dioxide			E	E	X	E
Hydrogen Chloride			E	E	X	E
Hydrogen Sulfide					X	E
Ammonia					X	E
Methylamine					X	E
Formaldehyde					X	E
Hydrogen Fluoride					X	E
DMMP	E	E	E	E	E	E
Cyanogen Chloride (CK)	E	E	E	E	E	E
Hydrogen Cyanide (AC)	E	E	E	E	E	E
Phosgene (CG)			E	E	E	E
Chloropichrin (PS)			E	E	E	E
Sarin (GB)	E	E	E	E	E	E
Mustard (HD)	E	E	E	E	E	E
Chlorobenzylidene (CN)	X	X	X	X	X	E
Tear Gas						
Chlorobenzylidene - malonitrile (CS) Tear Gas	X	X	X	X	X	E
Oleoresin capsicum, the active ingredient in OC Tear Gas	E	E	E	E	E	E
Carbon Tetrachloride (CCl ₄)					E	E
Phosphine (PH ₃)			E	E	E	E
Proo or TYPE HE for PAPR	X	X	X	X	X	E

X = NIOSH-approved
 E = Effective against but not NIOSH-approved
 1 = Approved with Advantage Air-Line Adapter (PN 10003601)

“Law enforcement is only as good as its relationships. Our combined resources, expertise, and ideas are far beyond the sum of their parts, and the potential for greater successes through mutual cooperation and respect is boundless.”

FBI Director Robert S. Mueller III

“We must develop a seamless relationship with state and local law enforcement.”

Attorney General John Ashcroft





Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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