



## FEATURES

- Available in both half-mask and full-facepiece styles.
- Choice of Hycar rubber or silicone.
- Small, medium and large sizes fit a wide variety of faces.
- Filters/Cartridges are constructed of high-strength metal.
- Parts can be quickly connected and disassembled for ease of maintenance.

## DESCRIPTION

MSA Twin-Cartridge Respirators provide protection against a variety of respiratory hazards. The respirators use chemical cartridges, aerosol filters, or a combination of the two, to remove specific contaminants from the inhaled air. The filters/cartridges are interchangeable among all MSA Twin-Cartridge Respirators.

The respirators are available in two half-mask facepiece versions (Comfo Classic and Comfo Elite) and two full-facepiece styles (Ultra-Twin and Ultra Elite). In addition, with the Twin-Cartridge Adapter, the user can convert any demand-style Ultravue or Ultra Elite Full-Facepiece into a twin-cartridge respirator.

All MSA Twin-Cartridge Facepieces are available in Hycar rubber or silicone, which has a unique sealing surface designed to reduce facepiece slippage. All are formulated to maximize comfort and minimize the possibility of skin irritation, yet are resistant to chemicals and facial oils. They all come in small, medium and large sizes.



# R E S P I R A T O R S

## Comfo Classic® Respirators

The Comfo Classic Respirator is an improved version of the Comfo II Respirator, featuring new SoftFeel™ facepiece material, which increases the comfort factor dramatically. A result of extensive materials research by MSA, SoftFeel material is an exclusive new formulation that improves the pliability and softness of both Hycar™ rubber and silicone— the two facepiece materials available with Comfo Classic Respirators. The textured sealing surface of the SoftFeel silicone material reduces facepiece slippage, and a cradle head harness keeps the respirator secure during use. A metal yoke supports the facepiece body, giving it added strength. The color-coded yoke makes it easy to identify and sort by size. Like earlier Comfo respirator models, the Comfo Classic Respirator features a unique face-seal design that gives wearers an exceptional fit.

### Comfo Classic Respirators

<i>Material</i>	<i>Color</i>	<i>Small</i>	<i>Medium</i>	<i>Large</i>
SoftFeel Hycar	Black	808075	808074	808076
SoftFeel Hycar	Green	808078	808077	808079
SoftFeel silicone	Black	808072	808071	808073



## Comfo Elite® Respirators

The Comfo Elite Respirator is available in standard black silicone, which has a unique sealing surface designed to reduce facepiece slippage. It's formulated to maximize comfort and minimize the possibility of skin irritation, yet is resistant to chemicals and facial oils.

Both Comfo-style Respirators— the Comfo Classic and Comfo Elite Respirators— have a continuous loop suspension system that prevents dangling straps from interfering with vision. They also feature easy-to-adjust metal buckles that assure a comfortable, secure fit by letting the wearer tighten or

### Comfo Elite Respirators

(less filters/cartridges)

<i>Description</i>	<i>Part No.</i>
Black silicone, small	490492
Black silicone, medium	490491
Black silicone, large	490493

loosen the straps while wearing the respirator. A metal yoke supports the facepiece body, giving it added strength. The color-coded yoke makes it easy to identify and sort by size.

The facepiece design on Comfo Respirators integrates easily with protective eyewear, and the low-profile metal cartridges, which are easy to attach, improve both vision and facepiece balance.



## Ultra-Twin® Respirators

The Ultra-Twin Full-Facepiece Respirator has an inturred lip around the edge for a secure, comfortable seal against the face. A large chin cup makes it easy to position. Five suspension headstraps and roller buckles hold the facepiece in place while minimizing hair entanglement. The wide polycarbonate lens is coated to resist scratching and chemical attack. The lens is held in place by a two-piece lens ring, which is color-coded to indicate the size of the facepiece.

Standard equipment includes a speaking diaphragm for clear, short-range communications and a nose cup. The nose cup reduces lens fogging in low temperatures or high-humidity conditions by directing exhaled air down through the exhalation valve. Some Ultra-Twin Respirators can also be ordered with ESP® Mask Communications System for hands-free Voice Amplification (VA).

### Ultra-Twin Respirators

<i>Material</i>	<i>Color</i>	<i>Individual Part No.</i>			<i>With ESP® Part No.</i>		
		<i>Small</i>	<i>Medium</i>	<i>Large</i>	<i>Small</i>	<i>Medium</i>	<i>Large</i>
Hycar	Black	471298	471286	471310	804170	804168	804172
Silicone	Black	480263	480259	480267	804171	804169	804173
Hycar	Green	471300	471287	471312	•	•	•
Silicone	Gray	804046	•	•	•	•	•
Silicone	Teal	•	804044	•	•	•	•
Silicone	Tan	•	•	804047	•	•	•
Silicone	Yellow	•	471288	•	•	•	•



## Ultra Elite®/Ultravue® Twin-Cartridge Respirators

Twin-cartridge respirator users can choose between two demand full facepieces: the state-of-the-art, wide-vision Ultra Elite Facepiece and the proven Ultravue Facepiece with wrap-around lens.

Designed to provide exceptional peripheral and downward vision, the Ultra Elite Facepiece is available in three sizes and in a choice of two materials: SoftFeel Hycar rubber or silicone. Hycar rubber provides a super-soft facepiece texture for a smooth and comfortable fit. It also resists chemical attack and temperature extremes; and withstands rugged day-to-day use without tearing and ripping. Users also have a choice of two colors— light gray or black— which can help in the implementation of a color-coding/identification system.

The design of the Ultra Elite Facepiece is based on extensive anthropometric studies of face length, temple width and chin width, including data from more than 8,000 individuals. The result is a facepiece that provides improved seals against a wide range of facial contours.

Ultravue Facepieces are also available in Hycar rubber and silicone materials, plus small, medium and large sizes, which are color-coded. The small Ultravue facepiece has a gray lens ring; the medium size uses a black ring; and the large size, a gold ring.

To provide a secure fit, MSA full facepieces utilize a five-point rubber head harness. For improved communication, a speaking diaphragm, positioned in front of the wearer's mouth, is standard. A nose cup, which is also standard, reduces lens fogging in low-temperature or high-humidity conditions.



### Ultra Elite Facepieces (less Twin-Cartridge Adapter)

Material	Color	Small	Medium	Large
SoftFeel Hycar rubber	gray	810223	810151	810295
SoftFeel Hycar rubber	black	493064	493020	493108
SoftFeel silicone	gray	810231	810159	810303
SoftFeel silicone	black	493072	493028	493116

### Ultravue Facepieces (less Twin-Cartridge Adapter)

Facepiece Size	Black Silicone	Black Hycar
Small	480251	471218
Medium	480247	457126
Large	480255	471230

Note: Ultra Elite and Ultravue Facepieces must be fitted with a Twin-Cartridge Adapter to be used as a twin-cartridge respirator.

### Twin-Cartridge Adapter

Converts any demand Ultravue or Ultra Elite Facepiece to a twin-cartridge respirator.



### Twin-Cartridge Adapter

Description	Part No.
Twin-Cartridge Adapter for Ultra Elite/Ultravue Facepieces	803622

### Filters/Cartridges

Users can choose from a complete line of cartridges that protect against a wide variety of contaminants. Filter cartridges protect against dusts, particles and mists. Chemical cartridges protect against gases and vapors. Combination cartridges deliver protection from both particulate and gaseous contaminants.

The GME and GME-P100 Super Cartridges from MSA are designed to be used for any applications where GMA, GMB, GMC, or GMD cartridges are currently being used.

The GME-P100 Super Cartridge is NIOSH-approved for 16 specific compounds including gases, vapors, toxic dusts and mists.

The GME Super Cartridge provides protection from 10 specific gases and vapors. Adding a pre-filter to the GME adds protection against paints, pesticides, dusts, mists and fumes.

Designed for easy installation, Comfo Cartridges thread directly to the cartridge receptacles on Comfo and other twin-cartridge respirators. All cartridges are interchangeable and are color-coded to indicate the type of protection offered. Most cartridges are incinerable.

The cartridges are made of metal, which allows for easy detection of damage. The cartridge holders securely retain the screw-in cartridges and resist damage from impact, corrosion and most chemicals. The color of each cartridge indicates the type of protection for which it is approved.

The complete Comfo line of particulate, chemical and combination cartridges is approved under 42 CFR Part 84.



# Comfo® Respirator Cartridges

MSA Cartridge Designation	Part No.	Acid Gases														Filter Type & Efficiency***	See Notes Below	
		OV	CL	SD	CD	HC	HS*	AM	MA	FM	HF	MV	P100	R95	N95			
GMA (OV)	464031 (10 in pkg.)																	2,3
GMA (P100)	81 51 78 (6 in pkg.)																	2,3,4
GMA (P100) Short Stack	81 51 86 (6 in pkg.)																	2,3,4
GMB (AG)	464032 (10 in pkg.)																	2
GMB (P100)	81 51 79 (6 in pkg.)																	2,4
GMC (OV/AG)	464046 (10 in pkg.)																	2,3
GMC (P100)	81 51 80 (6 in pkg.)																	2,3,4
GMC (P100) Short Stack	81 51 88 (6 in pkg.)																	2,3,4
GMD	464033 (10 in pkg.)																	2,3
GMD (P100)	81 51 81 (6 in pkg.)																	2,3,4
GME (Multigas)	492790 (10 in pkg.)																2,3	
GME (P100)	81 51 82 (6 in pkg.)																	2,3,4
GMI (P100)**	81 51 84 (6 in pkg.)																	2,4
Mersorb®	466204 (10 in pkg.)																2,4	
Mersorb (P100)	81 51 85 (6 in pkg.)																	2,4
(P100)	81 51 75 (10 in pkg.)																	1,4
Sparkfoe® (P100)	81 51 76 (10 in pkg.)																	1,4
Low Profile (P100)	81 51 77 (10 in pkg.)																	1,4
Stand-alone & cover	81 6662 N95 (10 in pkg.) 81 6661 N95 (50 in pkg.) 489353 Reusable snap-on cover (1 in pkg.; 2 req.)																	1
Pre-filter & cover	81 6662 N95 (10 in pkg.) 81 6661 N95 (50 in pkg.) 489353 Reusable snap-on cover (1 in pkg.; 2 req.)																	1
Pre-filter & cover	81 6287 R95 (20 in pkg.) 489219 R95 Reusable snap-on cover (1 in pkg.; 2 req.)																	1

\*Escape only \*\* Effective against, but not NIOSH approved for Iodine Vapor.

## WARNING

Below is a partial list of gaseous materials for which chemical cartridge respirators must not be used for respiratory protection (for routine use) regardless of concentration or time of exposure unless: (1) the cartridge is equipped with an end-of-service-life indicator, or (2) a documented cartridge change-out schedule is developed based in objective information or data (including MSA service-life performance data against the specific material) that will ensure that cartridges are changed before the end of their service life. Failure to follow this warning can result in serious personal injury or death. This partial list is far from complete and is offered as a guide to many of the contaminants found in industry. Contact MSA for further information on other specific materials.

Acrolein	Diisocyanates	Nickel carbonyl	Phosphorus trichloride
Aniline	Dimethyl sulfate	Nitric acid	Stibine
Arsine	Hydrogen cyanide	Nitro compounds	Sulfur chloride
Bromine	Hydrogen selenide	Nitrogen oxides	Urethane or other diisocyanate-containing paints
Carbon monoxide	Methanol	Nitroglycerin	Vinyl chloride
	Methyl bromide	Nitromethane	
	Methyl chloride	Phosgene	
	Methylene chloride	Phosphine	

### \*\*\* Definitions

**N95-Particulate Filter (95% filter efficiency level)** effective against particulate aerosols *free of oil*, time use restrictions may apply

**R95-Particulate Filter (95% filter efficiency level)** effective against *all* particulate aerosols; time use restrictions may apply.

**P100-Particulate Filter (99.97% filter efficiency level)** effective against *all* particulate aerosols.

### Notes

- Do not use in atmospheres containing less than 19.5 percent oxygen, in atmospheres containing gases or vapors or in atmospheres immediately dangerous to life and health.
- Do not use in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life and health.
- Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reaction with the sorbent material in the cartridge.
- 99.97 percent efficient against 0.3 micron DOP.

## APPLICATIONS

Applications for MSA Twin-Cartridge Respirators include welding, smelting, construction and hazardous waste remediation, as well as others in the chemical, oil and gas, marine, and pulp and paper industries.

These comfortable respirators are ideal for both intermittent and extended exposure situations.

## LIMITATIONS

As an air-purifying device, all MSA twin-cartridge respirators must not be used in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life and health (IDLH).

Twin-cartridge respirators must not be worn for protection against gases or vapors with poor warning properties.

Twin-cartridge respirators must not be used in atmospheres containing more than 100 times the exposure limit for the contaminant present.

## ACCESSORIES

### Carrying Pouch

Belt-mounted carrying pouch with Velcro closures.



<i>Description</i>	<i>Part No.</i>
Carrying pouch for Comfo half-mask respirators	468730
Carrying pouch for full facepiece respirators	817040

### MSA Cleaner-Disinfectant Liquid

Mix 2 1/2-ounces with a gallon of warm water (not to exceed 120° F) for a cleaner-disinfectant that is effective against bacteria and odors. Mixes readily in water and has a pleasant mint odor. Plastic container has a built-in measure. Registered with EPA.



<i>Description</i>	<i>Part No.</i>
32 oz. bottle	697284

### Personal Safety Equipment Towelettes

Provides an excellent method for wiping and refreshing respirators, hard hats and other safety equipment between full cleaning periods.



<i>Description</i>	<i>Part No.</i>
Canister with 220 towelettes	697382
Box of 100 individually wrapped towelettes	697383

### Nosecup to Reduce Fogging

Molded from a soft rubber compound that is resistant to facial oils, the optional nosecup helps reduce the possibility of lens fogging. The nosecup is particularly effective under conditions of high humidity and/or low temperatures by inhibiting contact of moist exhalation with the facepiece lens. A nosecup can be easily affixed to the facepiece without tools, and any size nosecup may be installed in any size MSA facepiece, resulting in a customized facepiece for more comfortable use.



<i>Size</i>	<i>Color</i>	<i>Facepiece</i>	<i>Part No.</i>
Small	Black	Ultravue/Ultra-Twin	813138
Medium	Black	Ultravue/Ultra-Twin	813139
Large	Black	Ultravue/Ultra-Twin	813140
Medium	Gray	Ultra Elite	810412
Large	Gray	Ultra Elite	810413

### Spectacle Kits for Full Facepiece Respirators

For use by workers who must wear corrective lenses, the Spectacle Kit can be easily inserted into the facepiece. The kit includes a wire support, rubber guide and pair of metal-frame spectacles. Desired adjustment is obtained by moving the spectacles in and out of the rubber guide and up and down the wire support. One size of spectacle frame is used (S-7 shape, 44-mm lens size) with Universal Bridge Corrective Lenses that can be obtained from local sources. The Spectacle Kit can be used in conjunction with a nosecup. There are two kits for the Ultra Elite facepiece; one uses a side wire support to hold the lenses in the facepiece while the other uses a center support to position the unit (spectacle adjustments are similar).



<i>Description</i>	<i>Part No.</i>
Ultra Elite Spectacle Kit (side wire support)	804638
Ultra Elite Spectacle Kit (center support)	493581
Ultravue/Ultra-Twin Facepiece Spectacle Kit	454819



## Cover Lens for Full Facepiece Respirators

Lens covers, available in a variety of types, provide a convenient way to add a layer of protection against scratches. The self-adhesive covers can be easily installed and removed when necessary. The tinted versions are intended for applications in direct sunlight.

Protects the facepiece lens from scratches during storage, handling and use.



<i>Description</i>	<i>No./Pkg</i>	<i>Facepiece</i>	<i>Part No.</i>
Clear cover lens	25	Ultra Elite	491500
Smoke-tinted cover lens	25	Ultra Elite	805456
Smoke-tinted cover lens	6	Ultravue	494254
Smoke-tinted cover lens	25	Ultravue	480326
Mirror-reflective cover lens	6	Ultravue	494255
Yellow-tinted cover lens	6	Ultravue	494256
Clear cover lens	25	Ultravue	456975

## Qualitative Fit Test Kits

The Occupational Safety and Health Administration (OSHA) requires fit tests to ensure proper fit for workers who use respirators. The Qualitative Fit Test Kits allows you to qualitatively check the fit of MSA respirators. NOTE: Qualitative testing methods rely on objective data to determine a proper fit, are subjective in nature and rely on the judgment of the test subject.



### Bitrex and Saccharin Qualitative Fit-Test Kits

Both the Bitrex and Saccharin Qualitative Fit-Test Kits contain everything needed to implement a qualitative respirator fit-test program in accordance with OSHA requirements. The kits include a test hood, two nebulizer bulbs, fit-test solution, sensitivity solution and two sets of replacement nebulizer inserts. Also included is a 10-minute instructional videotape.

#### Bitrex Qualitative Fit-Test Kit

<i>Description</i>	<i>Part No.</i>
Bitrex QLFT Kit	697444
Replacement Fit-Test Solution, 55 ml bottle	697446
Sensitivity Solution	697447
Replacement Hood	697448
"Using the Qualitative Fit-Test Kit" videotape	697449

#### Saccharin Qualitative Fit-Test Kit

<i>Description</i>	<i>Part No.</i>
Saccharin QLFT Kit	697287
Replacement Sensitivity Test Solution, 55 ml bottle	697285
Replacement Fit-Test Solution, 55 ml bottle	697286
Replacement Hood	697448
"Using the Qualitative Fit-Test Kit" videotape	697325

### Banana Oil Fit-Test Kit

MSA's Banana Oil Fit-Test Kit relies on a test subject's ability to detect a 95% pure solution of Isoamyl Acetate (banana oil).

#### Banana Oil Fit-Test Kit

<i>Description</i>	<i>Part No.</i>
Qualitative Fit-Test Kit	801628
Qualitative Fit-Test Kit, in rugged Pelican case	801629





## QuikChek™ II Adapter

The QuikChek II Fit-Test Adapter allows quantitative fit testing of any Comfo II, Comfo Classic, Comfo Elite, Duo-Twin or Ultra-Twin Respirator. Advantage 200 and Advantage 1000 Respirators also can be used with the QuikChek II Adapter when equipped with a special cartridge receptacle adapter.

Description	Part No.
QuikChek II Fit-Test Adapter	812022
Replacement Kit with 25 feet of sampling tubing and 25 connectors, clips and suction cups	803196
Cartridge Adapter for Advantage Series Respirators	809999



## Online Response® Respirator Selector

Available on the Internet at [www.MSAnet.com](http://www.MSAnet.com):8001

- Helps identify the proper respirator you need
- Has broadest range of respiratory protective devices available
- Recommends respirators for more than 700 chemical hazards
- Has nearly 3,000 chemical synonyms
- Lists up to 27 categories of respirators, with MUCs
- Is generic in nature



## Probed Respirator Facepieces for Fit Testing

All Models Available

To make it easy for you to perform quantitative fit tests, MSA offers a full line of specially-modified facepiece assemblies. Each probed facepiece is equipped with a built-in probe assembly, sampling line, and a clothing clip to hold the sampling line. The probes are made of solid brass. In all MSA half-facepiece models, the probe is attached to the body of the respirator. Full-facepiece respirators are probed through the lens and sealed with a neoprene washer and brass fittings.

MSA also offers probed lenses for use with existing Ultravue facepieces. These lenses come completely assembled with the same brass probe, sealing hardware, and sampling line as the probed full-facepieces. All respirators use standard MSA high-efficiency filters for tests.

Respirator	Hycar Rubber		
	Small	Medium	Large
Comfo Classic	808253	808247	808259
Ultra-Twin	471683	465457	471684
Ultravue	471681	465425	471682
Ultra Elite (Gray)	813210	813208	813212
Respirator	Silicone		
	Small	Medium	Large
Comfo Classic	808258	808252	808264
Comfo Elite	491862	491860	491864
Ultra-Twin	482025	482024	482026
Ultravue	482009	482008	482010
Ultra Elite (Gray)	813211	813209	813213



## Cradle Conversion Kit

For simple, snap-on replacement of elastic headstraps with a cradle headband and/or neckstrap.

Description	Part No.
Cradle headband only	479875
Cradle headband and 2-piece neckstrap	480234



## Comfo Cartridge Adapter for Advantage® 100/1000 Respirators

This adapter allows for the use of threaded Comfo Cartridges on the Advantage 100 Half-mask Respirator or Advantage 1000 Full-face Respirator.

Description	Part No.
Advantage Adapter, package of 2	809999



## Training Aids

MSA offers VHS videotape training aids on the proper care, use and maintenance of MSA Twin-Cartridge Respirators.

Description	Part No.
Proper Care and Use of the Comfo Classic Respirator	697282
Use and Maintenance of the Ultra-Twin Respirator	696820



## ESP® Mask Communications System

Designed for use with MSA tight-fitting Ultra-Twin, Ultra Elite and Ultravue Facepieces, the ESP Mask Communications System is a battery-powered, self-contained unit that provides hands-free voice amplification (VA) for local, short-range communication. Weighing only eight ounces, the ESP System consists of a microphone and speaker, housed within a waterproof, injection-molded, high-strength polymer case. The system is compatible with most popular brands of two-way radios.



### Ultra-Twin Facepiece with ESP System installed

Battery and cartridges not included.

<i>Description</i>	<i>Part No.</i>
Black Hycar, small	804170
Black Hycar, medium	804168
Black Hycar, large	804172
Black Silicone, small	804171
Black Silicone, medium	804169
Black Silicone, large	804173

### ESP System Conversion Kit for Ultra-Twin Facepiece

Battery not included.

<i>Description</i>	<i>Part No.</i>
Conversion Kit	804011

### ESP System Conversion Kit for Ultravue Facepiece

Battery not included.

<i>Description</i>	<i>Part No.</i>
Conversion Kit	811737

### ESP System Conversion Kit for Ultra Elite Facepiece

Battery not included.

<i>Description</i>	<i>Part No.</i>
Ultra Elite ESP	817297
Ultra Elite ESP with PTT	817296
Pressure Demand Component Housing	817374
Demand Component Housing	817373



## Welder's Adapter

For eye protection in welding applications where respiratory protection is required, a welder's adapter can be installed easily over an Ultravue Facepiece lens. The clip-on style adapter can be easily removed as necessary, whereas the integral adapter model is used in place of the facepiece lens. Both models are made of polycarbonate and feature a flip-up lens with large 4 1/2" x 5 1/4" (11.4 cm x 13.3 cm) vision area.

<i>Description</i>	<i>Part No.</i>
Clip-On Welder's Adapter for Ultravue and Ultra-Twin Facepiece; with cover lens, less filter plate	472859
Integral Welder's Adapter for Ultravue and Ultra-Twin Facepiece; with cover lens, less filter plate	470786
Clip-On Welder's Adapter for Ultra Elite Facepiece; with cover lens, less filter plate	806482
Rayfoe Filter Plate, shade 6, heat-treated	38346
Rayfoe Filter Plate, shade 10, heat-treated	38347
Rayfoe Filter Plate, shade 12, heat-treated	38277
Rayfoe Filter Plate, shade 14, heat-treated	38348
Cover Lens	88379
Welder's Hood, glass yarn material	486568

**MSA** Be sure. Choose MSA.

### NBC Safety

World Leaders in Defense Technology

fax: (858) 488-6320

tel: (858)488-3300

sales@NBCsafety.com

www.NBCsafety.com

Note: This Data Sheet 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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