Operating Manual

G1 Air Purifying Respirator (APR)

Full Facepiece Respirator

Order No.: 10158743/01

MSAsafety.com
The warranties made by MSA with respect to the product are voided if the product is not installed, used and serviced in accordance with the instructions in this manual. Please protect yourself and your employees by following the instructions.

Please read and observe the WARNINGS and CAUTIONS inside. For any additional information relative to use or repair, call 1-800-MSA-2222 during regular working hours.

For multiple languages see part no. 10162901
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Safety Regulations

This respirator complies with the National Institute for Occupational Safety and Health (NIOSH) regulation under 42 CFR Part 84.

1.1 NIOSH Approval Information

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read and follow all NIOSH approval limitations. Misuse can result in serious injury or death.</td>
</tr>
</tbody>
</table>

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

P95—Particulate Filter (95% filter efficiency level) effective against all particulate aerosols.

N95—Particulate Filter (95% filter efficiency level) effective against all 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.

Certifying Agency Contact Information
National Institute for Occupational Safety and Health (NIOSH)
Phone: 800-CDC-4636

NIOSH Cautions and Limitations for Industrial Application
Note: All cautions and limitations do not apply to all applications. Refer to the NIOSH approval insert to verify the applicable cautions and limitations.

A- Not for use in atmospheres containing less than 19.5 percent oxygen.
B- Not for use in atmospheres immediately dangerous to life or health.
C- Do not exceed maximum use concentrations established by regulatory standards.
H- Follow established cartridge and canister change schedules or observe ESLI to ensure that cartridges and canisters are replaced before breakthrough occurs.
J- Failure to properly use and maintain this product could result in injury or death.
L- Follow the manufacturer's User's Instructions for changing canisters.
M- All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA and other applicable regulations.
N- Never substitute, modify, add or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
O- Refer to User’s Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
FF- Respirators are to be fit tested prior to use with the heaviest cartridges, canisters, filters and/or accessories intended to be used. Fit testing should also be conducted while wearing all personal protective equipment intended to be used. See User’s Instruction for fit test requirements.
## 1.2 Important Notice for Respirator Users and Respiratory Protection Program Administrators

### WARNING

1. An adequate respiratory protection program must include knowledge of hazards, hazard assessment, selection of proper respiratory protective equipment, instruction and training in the use of equipment, inspection and maintenance of equipment, and medical surveillance.

2. This respirator will perform as designed only if used and maintained according to the manufacturer's instructions. The Program Administrator and the users must read and understand these instructions before using or servicing this product.

3. If the respirator does not perform as specified in this manual, it must not be used until it has been checked by authorized personnel.

4. Do not alter, modify, or substitute any components.

5. Inspect the respirator regularly and maintain it according to the instructions. Repairs must only be made by properly trained personnel.

6. This respiratory protective device does not supply oxygen. Use only in adequately ventilated areas which conform to the appropriate standard.

7. This respirator must be used in conjunction with the proper chemical or particulate canister/cartridge(s) for protection against specific contaminants. If you cannot determine that the filter canister/cartridge(s) used with this device is designed for the contaminant, or if you do not know the identity of the contaminant, do not use this device.

8. Do not use when concentrations of contaminants are unknown.

9. Do not use when appropriate exposure limit (PEL, REL, TLV, etc.) is not known.

10. Leave the contaminated area immediately if: a. Breathing becomes difficult b. Dizziness or other distress occurs c. You taste or smell the contaminant d. You experience nose or throat irritation e. Instructed by responsible individuals

11. Use strictly according to the instructions, labels, and limitations pertaining to this device. Follow an established canister/cartridge(s) change-out schedule.

12. This respirator may not provide a satisfactory seal with certain facial characteristics, such as beards or large sideburns, that prevents direct contact between the skin and the sealing surface of the facepiece. Do not use this facepiece if such conditions exist.

13. Do not wear eyeglasses under the facepiece. The temples or sidebars on eyeglasses will prevent an air-tight seal. If you must wear glasses, install the spectacle kit.

14. The user must perform a respirator fit test (Quantitative Test or Qualitative Test) and follow all warnings and limitations specified.

15. Wear impermeable protective clothing to prevent exposure to gases and vapors which can poison by skin absorption.

16. Do not use this respiratory protective device in explosive atmospheres.

17. Do not use for urethane paints or other paints containing diisocyanates unless an appropriate cartridge change-out schedule is developed. Due to their poor warning properties, over exposure can occur without user awareness and result in severe permanent damage to the respiratory system. If unable to develop an appropriate change-out schedule, use an air-supplied respirator or SCBA.

Failure to follow all warnings, instructions, and established protective measures can result in serious personal injury or death.
WARNING

This respirator/filter provides LIMITED protection. Do not use this respirator, filters, or cartridges for protection against exposure to radiation. They may not provide sufficient protection.

The respirator may help reduce exposure to airborne biological agents, including H1N1 (swine) flu virus, avian (bird) flu virus, other types of influenza, SARS, or other bacterial or viral biological agents and help reduce the risk for influenza infection during a pandemic, but will NOT eliminate the risk of exposure, infection, illness, or death.

This respirator/filter is certified by NIOSH to comply with the requirements specified for the designated filter efficiency level; however, appropriate authorities have NOT established a safe level of exposure to biological agents. Therefore, the respirator may NOT prevent transmission of influenza virus.

Refer to the Centers for Disease Control and Prevention (CDC) at www.cdc.gov for guidance on the use of respirators to help decrease exposure to H1N1 virus or other airborne biological agents in community, home, and occupational settings. The CDC recommends fit testing, medical evaluations, and training for optimal effectiveness when a respirator is used in a non-occupational setting. Neglecting these preparatory measures may cause an unsafe condition. Respirators used in an occupational setting MUST be used in accordance with a complete respiratory protection program as required by OSHA, which includes proper selection, training, fit-testing, and fit-checking. Detailed information on a respiratory protection program is available by contacting OSHA or visiting www.osha.gov.

Do NOT remove respirator in contaminated areas. The outer surface of the respirator MUST be treated as if it is contaminated at all times. Tight-fitting safety goggles, or a full-facepiece respirator, may further help prevent transmission of influenza virus.

The CDC recommends frequent hand washing and wearing gloves to help prevent transmission of disease due to exposure to surfaces where contaminants may be present, and also immediately following removal of the respirator.

Do NOT reuse or share maintenance-free respirators. ALWAYS clean cartridge-style respirators before reuse in accordance with the instructions provided.

This respirator/filter is NOT for use by (a) children, or (b) people with a medical condition that may be adversely affected by using it.

Failure to follow all warnings and instructions can result in serious personal injury or death.

CAUTION

When using filters in an application that produces sparks, ensure that they are protected by a shield. Contact with sparks can damage filters and reduce protection.
1.3 **Contact Information**

In the event of a product concern, contact your local MSA authorized repair center or distributor, who will provide the necessary information to MSA for issue resolution. To report any serious concerns or to inquire about the products use the following contact information:

<table>
<thead>
<tr>
<th>MSA North America Corporate Center</th>
<th>MSA Canada</th>
<th>MSA de Mexico, S A De C V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 Cranberry Woods Drive</td>
<td>16435 118th Avenue</td>
<td>Fraccionamiento Industrial Avenida</td>
</tr>
<tr>
<td>Cranberry Township, PA 16066</td>
<td>Edmonton AB T5V 1H2</td>
<td>Del Conde #6</td>
</tr>
<tr>
<td>Phone 1-800-MSA-2222</td>
<td>Phone 1-800-MSA-2222</td>
<td>Phone 01 800 672 7222</td>
</tr>
<tr>
<td>Fax 1-800-967-0398</td>
<td>Fax 1-800-967-0398</td>
<td>Fax +52-44 2227 3943</td>
</tr>
</tbody>
</table>

1.4 **Warranty**

MSA - The Safety Company (MSA) warrants MSA G1 Air Purifying Respirator (APR) to be free from defects in materials and/or faulty workmanship for a period of fifteen (15) years from the date of sale by MSA. This warranty applies to all components of the APR including all accessories and optional equipment purchased and supplied at the time of the original sale of the APR, except consumable parts, as defined by the terms of sale. MSA’s obligation under this warranty is limited to the repair or replacement, at MSA’s option, of the APR or components shown to be defective in either workmanship or materials.

No agent, employee or representative of MSA may bind MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. MSA makes no warranty concerning components or accessories not manufactured by MSA, but will pass on to the Purchaser all warranties of manufacturers of such components.

MSA shall be released from all obligations under this warranty in the event that repairs or modifications are made by persons other than its own or authorized service personnel, or if the warranty claim results from accident, alteration, misuse, or abuse.

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN ADDITION, MSA EXPRESSLY DISCLAIMS ANY LIABILITY FOR ECONOMIC, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY CONNECTED WITH THE SALE OR USE OF MSA PRODUCTS, INCLUDING, BUT NOT LIMITED TO, LOSS OF ANTICIPATED PROFITS.**
2 Description

The G1 Air Purifying Respirator (APR), referred to as respirator in this manual, is an air purifying respirator intended for use in atmospheres which are not immediately dangerous to life or health (non-IDLH). This device is intended for applications which may require the user to enter or exit a hazardous area, or work within the area for a limited time.

The device consists of the following subassemblies:

- Full-facepiece mask with Single-Port
- Filter cartridge
- APR adapter

Inhaled air is drawn through the cartridge, which contains adsorbents and a filter that removes or neutralizes specific contaminations. Exhaled air leaves the facepiece through the exhalation valve. It is important that the user becomes familiar with the application and operation of the device and ensures that it fits properly before use.

Filter/Cartridge
See insert for NIOSH Approval Information (P/N 10160485).
3 Size Selection

**WARNING**
The user must perform a respirator fit test (Quantitative Test or Qualitative Test) and follow all warnings and limitations specified. Failure to do so can result in serious personal injury or death.

Facepiece size is identified on the front of the facepiece on the lower left head harness attachment.

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Size</th>
<th>Nosecup size</th>
<th>Head harness</th>
</tr>
</thead>
<tbody>
<tr>
<td>10156458</td>
<td>Small</td>
<td>Small</td>
<td>4 pt adjustable</td>
</tr>
<tr>
<td>10156459</td>
<td>Medium</td>
<td>Medium</td>
<td>4 pt adjustable</td>
</tr>
<tr>
<td>10156460</td>
<td>Large</td>
<td>Large</td>
<td>4 pt adjustable</td>
</tr>
<tr>
<td>10156461</td>
<td>Small</td>
<td>Small</td>
<td>Rubber</td>
</tr>
<tr>
<td>10156462</td>
<td>Medium</td>
<td>Medium</td>
<td>Rubber</td>
</tr>
<tr>
<td>10156463</td>
<td>Large</td>
<td>Large</td>
<td>Rubber</td>
</tr>
</tbody>
</table>

For other facepiece and head harness options see ATO for availability.

When properly fitted to the user, the full facepiece with nosecup and head harness, combined with the appropriate cartridge, becomes a complete respiratory protective device.

3.1 Respirator Fit Test

Regardless of facial dimensions and respirator sizing charts, an actual respirator fit test, either qualitative or quantitative, must be performed to ensure the correct respirator size selected.

Fit test the respirator size relative to your facial features and dimensions. The Safety Administrator or Program Manager might assist in selecting the initial size to try.

Carefully don the respirator and conduct a negative pressure seal test. See donning instructions for procedure.

If the respirator does not pass the Negative Pressure Seal Test or feels uncomfortable, try the next nearest size relative to your face.

Passing the Negative Pressure Seal Test does not verify the size is correct. The size selected must be verified by successfully passing a Respirator Fit Test, either qualitative or quantitative. If the respirator passes a Negative Pressure Seal Test but DOES NOT pass a Respirator Fit Test, the next nearest size relative to your facial features and dimensions should be tried.

Once the proper size is selected, the respirator must pass a Negative Pressure Seal Test every time the mask is donned to ensure proper fit before using the respirator.

If other than facial seal leakage is detected, the condition must be investigated and corrected before another test is made.

The respirator must also pass the tightness test before the user attempts to enter a toxic atmosphere. The respirator will not furnish protection unless all inhaled air is drawn through a suitable cartridge.

A qualitative or quantitative respirator fit test must be routinely carried out for each wearer of this respirator to determine or confirm the amount of protection that the respirator provides. A qualitative or quantitative respirator fit test must also be conducted after installing the Clear Command communications system and after repairs or maintenance to verify the amount of protection that the respirator provides. The fit test method chosen may impact the maximum use concentration.
Quantitative Test
If a quantitative fit test is used:
For use in a CBRN application a fit factor of at least 2000, based on ambient aerosol fit test methods or equivalent, is required before any type of respirator is assigned to an individual.

Qualitative Test
If a qualitative fit test is used, only validated protocols are acceptable.
Respirator fit tests are explained fully in the American National Standard Practices for Respiratory Protection, ANSI Z88.2-1992 which is published by the American National Standards Institute, 11 West 42nd Street, New York, New York, 10036 and Occupational Safety and Health Standards, OSHA 1910.134, which is published by the Occupational Safety and Health Administration, 200 Constitution Avenue, NW, Washington DC, 20210.

4 Use
4.1 Respirator Use Limitations
The wearer must comply with the following MSA respirator use limitations:
Do not exceed the following maximum use concentrations during use:
- 50 times the exposure limit for the contaminants present if using a quantitative fit test method. Using a qualitative fit test may reduce the maximum use concentration. See the Respirator Fit Test section 3.1.
- Immediately Dangerous to Life or Health (IDLH) concentration for any contaminant present.
This is an approved air purifying respirator ONLY when used with an approved negative pressure respirator and corresponding approved air filtration cartridge. Do not exceed maximum use concentrations established by regulatory standards.

WARNING
An appropriate cartridge change-out schedule must be developed by a qualified professional, unless the cartridge utilizes an end-of-service-life indicator. The change-out schedule must take into account all factors that may influence respiratory protection including specific work practices and other conditions unique to the workers' environment. If using against substances having poor warning properties, there is no secondary means of knowing when to replace the cartridge. In such cases, take appropriate additional precautions to prevent overexposure, which may include a more conservative change-out schedule or using an air-supplied respirator or SCBA. Failure to follow this warning can result in serious personal injury or death.
As a reference, a partial list of substances having poor warning properties follows:

<table>
<thead>
<tr>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrolein</td>
</tr>
<tr>
<td>Aniline</td>
</tr>
<tr>
<td>Arsine</td>
</tr>
<tr>
<td>Bromine</td>
</tr>
<tr>
<td>Carbon monoxide</td>
</tr>
<tr>
<td>Diisocyanates</td>
</tr>
<tr>
<td>Dimethyl sulfate</td>
</tr>
<tr>
<td>Hydrogen cyanide</td>
</tr>
<tr>
<td>Hydrogen selenide</td>
</tr>
<tr>
<td>Methanol</td>
</tr>
<tr>
<td>Methyl bromide</td>
</tr>
<tr>
<td>Methyl chloride</td>
</tr>
<tr>
<td>Methylene chloride</td>
</tr>
<tr>
<td>Nickel carbonyl</td>
</tr>
<tr>
<td>Nitric Acid</td>
</tr>
<tr>
<td>Nitro compounds:</td>
</tr>
<tr>
<td>Nitrogen oxides</td>
</tr>
<tr>
<td>Nitroglycerin</td>
</tr>
<tr>
<td>Nitromethane</td>
</tr>
<tr>
<td>Ozone</td>
</tr>
<tr>
<td>Phosgene</td>
</tr>
<tr>
<td>Phosphine</td>
</tr>
<tr>
<td>Phosphorous trichloride</td>
</tr>
<tr>
<td>Stibine</td>
</tr>
<tr>
<td>Sulfur chloride</td>
</tr>
<tr>
<td>Urethane or other diisocyanate containing paints</td>
</tr>
<tr>
<td>Vinyl chloride</td>
</tr>
</tbody>
</table>
Use

Exposure Limits
A listing of applicable exposure limits from the following sources is provided in MSA’s Response® Respirator Selector, available online at www.MSAsafety.com.
- American Conference of Governmental Industrial Hygienists (ACGIH)
- Occupational Safety and Health Administration (OSHA)
- National Institute for Occupational Safety and Health (NIOSH)
- American Industrial Hygiene Association (AIHA)
Contact MSA at 1-800-MSA-2222 for information.

Exposure Limits For Mixtures
The American Conference of Governmental Industrial Hygienists (ACGIH) publishes the following information to determine the TLV (Threshold limit value) of a mixture:
First, determine the total concentration of the chemical mixture ($C_{\text{Mixture}}$) from the individual contaminant concentrations ($C_1, C_2, C_3...$) using the following formula:

$$C_{\text{Mixture}} = C_1+C_2+C_3+...$$

The TLV of the mixture is found by using the following formula where $T_1, T_2, T_3, ...$ are the individual contaminant TLVs and $C_1, C_2, C_3...$ are the individual contaminant concentrations:

$$T_{\text{Mixture}} = \frac{C_{\text{Mixture}}}{\frac{C_1}{T_1} + \frac{C_2}{T_2} + \frac{C_3}{T_3} + ...}$$

Only use these equations if the contaminants present are actually mixed. Some substances do not mix and may be present separately, for example, in pockets or at different levels. In that case, the lowest TLV of the substances present must be used to determine the appropriate respirator category for protection against all contaminants present.
See MSA’s Response Respirator Selector for additional information.

4.2 Preparations for Use

Checks before Use
(1) Check that all parts of the respirator are complete and undamaged. See section 4.3 for Inspections Procedures.
(2) Check head harness straps for physical degradation.
(3) Check that the filter cartridge approval is appropriate and effective against the contaminant in the environment.
Installing/Replacing the Cartridge

**WARNING**

Know the contaminant(s) in the environment before entering. Always check that the cartridge is appropriate for use in the environment. A filter cartridge which is not designed for the contaminant present may not provide protection. Failure to follow this warning can result in serious personal injury or death.

After verifying that the cartridge type is appropriate for use in the environment:

1. Verify shelf life expiration date on carton, bag, and cartridge label has not been exceeded.

**WARNING**

DO NOT use an expired cartridge.

DO NOT use the cartridge if the bag is opened, damaged, or missing. The cartridge must be in its original packaging prior to use in a contaminated environment. Do not reuse the cartridge. Failure to follow this warning can result in serious personal injury or death.

2. Remove cartridge from its packaging.

3. Inspect the cartridge to be sure that it is not damaged.

4. Thread the filter cartridge into the facepiece port and hand-tighten.

Use the cartridge immediately upon opening the bag.

Discard cartridge after each use.

Replace the cartridge after each use.

Follow the established cartridge change-out schedules to ensure that cartridges are replaced before breakthrough occurs.

When used at defined occupational exposure limits, the rated service time cannot be exceeded.

**WARNING**

DO NOT replace cartridge in a contaminated area. Be sure to follow applicable decontamination procedures. Failure to follow this warning can cause inhalation of contaminated air, resulting in serious respiratory injury or death.

**CAUTION**

When using filters in an application that produces sparks, ensure that they are protected by a shield. Contact with sparks can damage filters and reduce protection.
4.3 Visual Inspection

Facepiece Visual Inspection

(1) Inspect the lens for cracks, scratches, deformation, or color changes.

(2) Check the facepiece rubber for a tight seal and secure fit to the lens ring.

(3) Ensure the exhalation valve is clean and operates easily. The valve must move off the seat and return when released (from inside the facepiece).

(4) Inspect the facepiece inlet for damage. Ensure the inhalation valve is in place.

(5) Inspect the nosecup to ensure the check valves are in place and the nosecup is secure to the component housing.

APR Adapter Visual Inspection

(1) Inspect the APR adapter for cracks, scratches, deformation, or color changes.

(2) Inspect the adapter green gasket, o-ring, and seal ring for signs of wear or damage.

(3) Remove the adapter cover and inspect exhalation valve. The valve must move off the seat and return when released.

(4) Inspect the Rd40 threads for signs of damage.
5 Donning

![WARNING]

- This respirator may not seal properly with your face if you have a beard, large sideburns or similar physical characteristics (see NFPA-1500 and ANSI Z88.2). An improper facial seal may allow contaminants to leak into the facepiece, reducing or eliminating respiratory protection. Do not use this device if such conditions exist.
- The face-to-facepiece seal must be tested before each use.
- A nosecup must be installed in the facepiece.
- In order to guarantee a proper fit for those wearing glasses, the G1 spectacle kit must be worn since ordinary glasses cannot be worn under the facepiece.
- Never remove the respirator except in a safe, non-hazardous, non-toxic atmosphere.
- Users must wear suitable protective clothing and precautions must be taken so that the device is not exposed to atmospheres that may be harmful to it.

Failure to follow these warnings can result in serious personal injury or death.

5.1 Preparation

The device must have passed all visual inspections (see section 4.3) and leak tests (see section ) before use.

5.2 APR Adapter Installation

- Grasp the APR Adapter and insert it into the facepiece by pushing inward.
  - If correctly installed, the MSA logo will be properly aligned when holding the facepiece in an as-worn position.
  - Check proper engagement by pulling on the adapter to ensure that the adapter is securely attached to the facepiece.
5.3 Donning Procedure

Donning the Respirator

The facepiece is either carried using the neck strap in front of the chest or using the clip on the shoulder strap. To ensure protection from dirt and debris, ensure the facepiece opening is towards the user's body.

(1) Spread the harness with both hands.

(2) Position the chin into the chin cup.

(3) Pull the head straps over your head.

▷ Ensure that the harness is sitting correctly and is not twisted.
(4) Adjust facepiece and tighten the straps firmly and evenly.

> ![Image](image92x542to250x677)

**WARNING**

Ensure that the top of the facepiece seal directly contacts the user's forehead. Ensure that there is no hair between the facepiece's seal and the user's skin. Failure to follow these warnings can result in serious personal injury or death.

**Negative Pressure Seal Test**

In order to check the facepiece-to-face tightness a leak test must be performed before each use.

(1) Seal the cartridge inlet with the palm of your hand.

(2) Test tightness.

- Inhale and hold breath for 10 seconds.
  - The facepiece must stay collapsed on the face.
- Exhale.
  - The exhalation valve should open and release the pressure inside the facepiece.

(3) If necessary retighten the straps.

- If the leak test fails the facepiece must not be used.
6  During Use

![WARNING]

**Before use, the product operability must be verified. The product must not be used if:**
- the leak test is unsuccessful,
- the product is damaged,
- proper servicing/maintenance has not been made or
- genuine MSA spare parts have not been used.

**Leave a contaminated area immediately if:**
- Breathing becomes difficult
- Dizziness or other distress occurs
- You taste or smell the contaminant
- You experience nose or throat irritation
- Respirator not functioning according to the instructions or training

**Return to a safe atmosphere** immediately if discoloration, crazing, blistering, cracking, or other deterioration of the facepiece lens material is observed.

**Misuse and/or failure to follow this warning can result in serious injury or death.**

Before using the device, ensure all NIOSH Approval Labels and Approval Inserts have been reviewed to ensure the configuration of the device is an approved configuration. Refer to the Safety Regulation for more details and a complete list of CAUTIONS and LIMITATIONS for the device. For NIOSH 42 CFR Part 84 approval configurations, see Approval Insert (P/N 10160485).

When the respirator is adjusted properly, the wearer should not taste or smell the contaminant, or experience eye, nose, or throat irritation. The wearer's inhalation resistance should be as experienced during training.

![WARNING]

**If the respirator does not perform as specified, it must not be used until it has been checked by authorized personnel.**

Return to a non-contaminated area immediately if you experience unusual sensations (nausea, dizziness, eye irritation, unusual odor or taste, excessive fatigue, or difficulty breathing).

Failure to follow this warning can result in serious personal injury or death.
7  After Use

7.1  Decontamination

**WARNING**

DO NOT remove respirator until respirator and protective clothing are decontaminated; otherwise, exposure to contaminants may result. Follow decontamination and disposal procedures established by appropriate authorities. Failure to follow this warning may result in serious personal injury or death.

Once the protective equipment has been decontaminated, proper disposal of affected equipment must be performed. Disposal is to be performed as required by federal, state, and/or local laws.  
**NOTE:** Before the next use, check the respirator facepiece and if necessary, clean and disinfect. Always use a new cartridge. Do not reuse the cartridge.

7.2  Removing the Facepiece

(1) Loosen the head harness by pulling the buckles forward using your fingers.

(2) Grip the chin straps and pull the head harness forward over the head.

(3) Grip the front of the facepiece (as shown) and pull the facepiece away and down from the user.
Depending on the cleaning policy adopted, either a designated person or the user should clean each device after each use. ANSI standards suggest that users should be trained in the cleaning procedure. Confidence Plus® Cleaning Solution (P/N 10009971) from MSA is recommended. It cleans and disinfects in one operation. It retains its germicidal efficiency in hard water to inhibit the growth of bacteria. It will not deteriorate rubber, plastic, glass, or metal parts. Refer to the label for user instructions.

If the device is soiled (i.e. heavy smoke residue or dirt accumulation) use a damp sponge with a mild soap solution or use a soft/medium bristle brush to remove deposits that may interfere with normal operation of:
- Harness (straps and buckles)
- APR adapter
  - Inspect the entire device as it is reassembled. Follow the Inspection Instructions.

Preparing Solution
Follow the instructions with the Confidence Plus® Cleaning Solution.
If the Confidence Plus Cleaning Solution is not used, wash in a mild cleaning solution, rinse thoroughly, and submerge in a germicide solution for the manufacturer's recommended time.
8.1 Cleaning and Disinfecting the Facepiece

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Do not use cleaning products containing hydrocarbons or solvents [e.g. nitro-thinner].</td>
</tr>
<tr>
<td>- Cleaned parts must not be dried in radiant heat [sun, radiators].</td>
</tr>
<tr>
<td>- When using a drying cabinet, the temperature must not exceed 140 °F (+60 °C).</td>
</tr>
<tr>
<td>- Perform a tightness test after every cleaning, disinfection and maintenance or after every exchange of parts.</td>
</tr>
</tbody>
</table>

Failure to follow these warnings can result in serious injury or death.

In general, only the facepiece requires cleaning and disinfecting after each use.

- Remove the facepiece mounted cartridge from the facepiece.

Cleaning and Disinfecting by Hand

1. Prepare a bucket or sink with Confidence Plus® Cleaning Solution as described on the container.
2. The head harness can be removed to separate cleaning or as part of the facepiece.
3. Submerge the facepiece in Confidence Plus Cleaning Solution for a minimum of 30 seconds. A soft brush or sponge can be used to clean the soiled facepiece.
4. Rinse the facepiece and components in clean, warm (110°F (43°C)) water (preferably running and draining).
Cleaning and Disinfection

G1 Air Purifying Respirator (APR)

Cleaning and disinfecting the APR Adapter by Hand

(5) Be sure to clean and rinse the pressure-demand exhalation valve by pressing in on the stem with a blunt object and flushing it with clean water.

(6) Allow the facepiece to air dry. Do not dry the parts by placing them near a heater or in direct sunlight.

(7) Operate the exhalation valve by hand to be sure it works properly.

(8) Perform a tightness test before putting the facepiece back in service.

**WARNING**

- Do not use cleaning products containing hydrocarbons or solvents [e.g. nitro-thinner].
- Cleaned parts must not be dried in radiant heat [sun, radiators].
- When using a drying cabinet, the temperature must not exceed 140 °F (+60 °C).
- Perform a tightness test after every cleaning, disinfection and maintenance or after every exchange of parts.

Failure to follow these warnings can result in serious injury or death.

(1) Prepare a bucket or sink with Confidence Plus Cleaning Solution as described on the container.
(2) Remove the adapter cover, exhalation valve, green gasket, o-ring, and seal ring.
(3) Submerge the adapter in Confidence Plus Cleaning Solution for a minimum of 30 seconds. A soft brush or sponge can be used to clean especially soiled adapters.
(4) Carefully submerge the adapter cover, exhalation valve, green gasket, o-ring, and seal ring for a minimum of 30 seconds.
(5) Rinse the adapter and all of its components in clean, warm (110°F (43°C)) water (preferably running and draining).
(6) Be sure that the exhalation valve, seal ring, o-ring, and green gasket are thoroughly clean and rinsed.
(7) Allow the adapter and parts to air dry. Do not dry the parts by placing them near a heater or in direct sunlight.
(8) Operate the exhalation valve by hand to be sure it works properly.
(9) Ensure the adapter properly connects to the facepiece and perform a leak test before using the facepiece.
9 Spectacle Kit

**WARNING**

Before using a spectacle kit, an optometrist must inspect the spectacle kit and prescribe the correct lenses to fit into the lens frame on the spectacle kit. Failure to follow this warning could result in serious personal injury or death.

1. Flip the head harness over the front of the facepiece so the harness is covering the lens of the facepiece.
   - This will open up the faceblank to make it easier to install the spectacle kit.

2. Squeeze in on the wire frame of the spectacle kit at the large bends about 2" from the ends.

3. Push the top part of the frame into the lens. The faceblank has three rubber tabs to grab the frame.
   - Place the frame in the middle of the lens with the smaller tabs grabbing the wire frame.
(4) Take one end of the wire frame and push it up into the face-piece so it follows the edge where the lens and the face-blank meet.

> The end of the wire frame must be positioned into small pockets in the faceblank on the edge of the lens.

(5) Repeat step (4) on the opposite side.

(6) The lens frame can be adjusted up/down and in/out depending on the facial features. Don the facepiece and adjust to optimize visibility.
10 Maintenance

Maintenance Instructions

This product should be regularly checked and serviced by trained specialists. Inspection and service records must be maintained. Always use original parts from MSA.

Repairs and maintenance must be carried out only by authorized service centers or by MSA. Changes to devices or components are not permitted and will result in an unapproved configuration.

MSA is liable only for maintenance and repairs carried out by MSA.
11 Safekeeping and Storage

Store only undamaged respirators for further use. When not in use, store the respirator in cool, dry, and clean ambient air. Do not distort the facepiece during storage. When disposing of the respirator or its components, do so in accordance with local, state, and federal regulations. Discard the cartridge if the original bag or carton is opened or damaged.

**WARNING**

DO NOT store the cartridge above 120 °F (49 °C). Failure to follow this warning can alter the performance of the cartridge and result in serious personal injury or death.

11.1 Facepiece

**WARNING**

In order to avoid damage to or the deformation of the facepieces keep no additional loose objects in the facepiece container. Failure to follow this warning can result in serious injury or death.

For the safekeeping of the facepiece, a facepiece pouch or container should be used. MSA rubber products are protected by an anti-ageing agent that can become visible as a light coating. This coating is harmless and can be removed.

To ensure a long life of rubber components, follow ISO 2230 by storing them in a cool, dry place protected from ultraviolet radiation.

11.2 Shelf Life

Follow the shelf life expiration date stamped on the carton, bag, and/or cartridge(s) as applicable. The expiration date will only apply if factory sealed and undamaged or the proper procedure is followed, otherwise the cartridge must be discarded.

**WARNING**

DO NOT use an expired cartridge. Failure to follow this warning can result in serious personal injury or death.
12  Ordering Information
<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
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<tr>
<td></td>
<td>1</td>
<td>Faceblank Medium</td>
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Because every life has a purpose...

For local MSA contacts, please visit us at MSAsafety.com