

AvonAir Powered Air Purifying Respirator & Combination System Powered Air Purifying Respirator Unit Disinfection

NOTICE: To ensure proper operation of Avon Protection powered air units and achieve maximum protection for users, the following procedures to clean and disinfect are provided. These procedures are supplemental to and may exceed the User Instructions provided with each product. The procedures are based on current knowledge and best practice within the industry; however, precedence should be given to guidance and direction provided by local infection control, health and safety or healthcare professionals. Avon Protection relies upon the expertise of the CDC and EPA for microbiological efficacy and has not evaluated the effectiveness of these agents with regards to inactivating viruses on the equipment. At this time Avon Protection has tested one of the EPA registered chemicals for compatibility with respirator materials, which is Earth Force Neutral Fresh.

Avon Protection would like to remind users of the recommended cleaning procedures when using powered air respirators especially during a possible Coronavirus (COVID-19) deployment.

Always refer to the latest information from trusted sources such as the **U.S. Centers for Disease Control and Prevention (CDC)**, the **U.S. Occupational Safety and Health Administration (OSHA)** and the **European Centre for Disease Prevention and Control (ECDC)** regarding selection, use, maintenance and cleaning of personal protective equipment.

For more information and for an indicative list of authorized disinfectant products in the EU, please visit the European Chemicals Agency (ECHA) at: <https://echa.europa.eu/covid-19>

Direct link to the ECHA biocidal products: <https://echa.europa.eu/information-on-chemicals/biocidal-products>

Although the powered air system will protect the wearer's respiratory system, the outside of the mask, hoses, plenum, and other components, will require cleaning and disinfection after any potential exposure. Processing the entire unit correctly is vital to maintaining its effectiveness in providing the best possible protection while helping reduce the chance of cross contamination.

The survival time of the SARS-CoV-2 virus on soft or hard surfaces has yet to be fully determined. Disinfect any surface that the mask, hoses, wires, or your gear contacts, following your agencies' SOP.

NOTE: Proper decontamination procedures are necessary prior to doffing the equipment after use, to avoid exposure. Follow your agencies' SOP and/or guidance from the CDC. Discard appropriately any filter media that becomes waterlogged.

The CDC defines Cleaning and Disinfecting as the following:

- **Cleaning** refers to the removal of germs, dirt, and impurities from surfaces. Cleaning does not kill germs, but by removing them it lowers their numbers and the risk of spreading infection.
- **Disinfecting** refers to using chemicals to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning it can further lower the risk of spreading infection.

Avon Protection recommends the use of **Earth Force Neutral Fresh**, which is a quaternary ammonium based cleaner and disinfectant. When mixed and used according to the manufacturer's directions, it is effective against the SARS-CoV-2 virus. It is available from Avon Protection, PN 013004, or from the manufacturer:



Distributed by:	
Aero Chemical Company	
P. O. Box 16247	
Atlanta, GA 30321-0247	
EPA REG. NO. 1839-169-13103	
EPA EST. NO. 3862-GA-2	
ACTIVE INGREDIENTS	
Octyl decyl dimethyl ammonium chloride.....	1.627%
Dioctyl dimethyl ammonium chloride.....	0.814%
Didecyl dimethyl ammonium chloride.....	0.814%
Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride.....	2.170%
OTHER INGREDIENTS	
Total.....	100.000%

www.aero.abccompounding.com/products/earthforce/6488/



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PROTECTION

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This product is EPA registered and may be found on “List N: Disinfectants for Use Against SARS-CoV-2” at the EPA website: www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

In lieu of the recommended Neutral Fresh for disinfecting, which may not be readily available during a shortage, other quaternary ammonium-based disinfectants may be utilized at the user's discretion, preferably if they are registered with the EPA and found on List N via the link above. Guidelines for selecting other “quat” disinfectants would be pH in the range of 5-9, with a neutral pH of about 7 being closer to ideal.

- Review datasheet of an available quaternary ammonium chloride disinfectant.
- Verify the EPA registration number is found on List N via the link above (only the first two sets of number, xxxx-xxx, are needed).
- Verify the pH of the disinfectant, when mixed to the recommended dilution, is in the 5-9 pH range (some are very high, 11-12, prior to dilution, but are in the acceptable range once mixed as recommended).
- Contact Avon Protection for any questions or assistance.
- If EPA List N products are not available in your region, alternate quaternary ammonium agents may be approved for use on a case-by-case basis by emailing the proposed product information to Customer Service.

Cleaning/Disinfecting Procedure

Perform the following procedures with appropriate PPE per the CDC or your agencies' SOP, using chemicals prepared per manufacturer's directions. Consult the Avon Protection User Instructions for additional details.

NOTE: Avon Protection does not recommend cleaning or disinfecting internal filter media. The hard plastic filter outer housing may be cleaned by wiping the surface with a damp cloth soaked in the disinfection solution until visibly wet for the appropriate contact time, followed-- by a cloth soaked in clean water and air drying. Filter plugs and caps are available which should be used to help prevent liquid from entering the filter housing.

Facepiece Respirator

- Remove PAPR hose from the mask.
- If applicable, remove the used filter canister from the respirator and dispose of properly in accordance with any local health and safety regulations. NOTE: If the canister becomes water-logged then discard appropriately. A canister becomes ineffective if immersed in or heavily soaked with liquid.
- Remove the communications lead, microphone assembly, and voice projection unit if attached.
- Remove the protective hood if attached.
- Disengage the drink coupler from its housing and from around the VREU main body (if applicable).
- Remove the air deflectors and inlet/outlet disk valves.
- Remove the vision correction frame and outsert if fitted.
- Immerse the mask in warm water containing the properly mixed disinfectant.
- **CAUTION:** Chlorine bleach solutions are not recommended but may be used in an emergency per CDC/ECDC guidelines when the recommended disinfectant is not available.
- Agitate the mask in this solution, wiping with a soft, lint-free cloth particularly under the main seal and inner mask.
- Allow the mask to remain in the solution per the manufacturers instruction for the disinfectant to be effective. (10 minutes for Neutral Fresh)
- Remove the mask and shake off the excess solution.
- Rinse the mask in clean warm water to remove all traces of solution.
- Shake off excess water, then dry with clean, lint-free dry cloth. Do not use tissue or paper towels to dry.
- Separately clean the external components by wiping the surface with a damp cloth soaked in the disinfection solution until visibly wet for the appropriate contact time, followed by a cloth soaked in clean water and air drying.



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- To clean the hydration system (if applicable), fill a canteen with the disinfectant solution and attach to the drink coupler. Open drink valve and allow solution to run through and out of the internal drink tube.
- Rinse with clean water TWICE.
- Replace the inlet/outlet disk valve(s) and air deflectors, ensuring they are properly aligned.
- Take extra care that the fabric head harness and entire facepiece is fully dry before final stowage.
- Replace the mask components and store ready for use.
- To clean the hydration system (if applicable), fill a canteen with the disinfectant solution and attach to the drink coupler. Open drink valve and allow solution to run through and out of the internal drink tube.
- Rinse with clean water TWICE.
- Replace the inlet/outlet disk valve(s) and air deflectors, ensuring they are properly aligned.
- Take extra care that the fabric head harness and entire facepiece is fully dry before final stowage.
- Replace the mask components and store ready for use.

Key points to remember when disinfecting a facemask:

- Use the proper chemical disinfectant.
- Mix per the chemical manufacturers' directions.
- Allow for proper contact time.
- Thoroughly rinse chemical from the mask, drink system, and external components.
- Thoroughly dry mask and head harness prior to stowage.

Avon EZAir Blower

- Disconnect electrical connector from battery if applicable then remove battery.
- Disconnect hose from blower then remove blower from carrier or plenum as applicable.

- Do not allow wet solutions to enter inside of blower assembly. Plugs and caps are available which should be used to help prevent liquid from entering the housing.
- Do not immerse blower or battery in liquid of any kind.
- The hard plastic outer housing and battery may be disinfected by wiping the surface with a damp cloth soaked in the disinfection solution until visibly wet for the appropriate contact time, followed by a cloth soaked in clean water and air drying.
- Wipe dry the allow to air dry fully.
- Deactivate the First Breath mechanism to allow mass air to flow through the regulator for at least 10 seconds to ensure the interior is dry.

Combination Hose

- Disconnect electrical connector from battery.
- Disconnect hose from mask, blower, and medium pressure supply (SCBA backframe).
- Remove textile cover from hose assembly.
- Do not allow wet solutions to enter inside of hose assembly. Plugs and caps are available which should be used to help prevent liquid from entering the hose.
- Clean the external surface by wiping with a damp cloth soaked in the disinfection solution until visibly wet for the appropriate contact time, followed by a cloth soaked in clean water.
- Wipe dry then allow to air dry fully.
- The textile cover may be immersed in the cleaning/ disinfecting solution for the necessary contact time then rinsed thoroughly with clean water.
- Allow to air dry fully.



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Standard Hose

- Disconnect electrical connector from battery if applicable.
- Disconnect hose from mask and blower.
- Remove textile cover from hose assembly.
- Do not allow wet solutions to enter inside of hose assembly. Plugs and caps are available which should be used to help prevent liquid from entering the hose.
- Clean the external surface by wiping with a damp cloth soaked in the disinfection solution until visibly wet for the appropriate contact time, followed by a cloth soaked in clean water.
- Wipe dry then allow to air dry fully.
- The textile cover may be immersed in the cleaning/ disinfecting solution for the necessary contact time then rinsed thoroughly with clean water.
- Allow to air dry fully.

PAPR Plenum

- Ensure filter cartridges and blower are removed.
- Remove plenum from textile carrier.
- **Do not** allow wet solutions to enter inside of plenum assembly. Plugs and caps are available which should be used to help prevent liquid from entering the plenum.
- Clean the external surface of plenum by wiping with a damp cloth soaked in the disinfection solution until visibly wet for the appropriate contact time, followed by a cloth soaked in clean water.
- Wipe dry then allow to air dry fully.
- The textile cover may be immersed in the cleaning/ disinfecting solution for the necessary contact time then rinsed thoroughly with clean water.
- Allow to air dry fully.

SCBA Backframes

- Do not disconnect the cylinder prior to cleaning or disinfection.
- To clean: Remove any dirt or debris with a brush or a sponge using mild neutral soap and warm water.
- To disinfect: Mix the approved disinfectant, then apply using a brush, sponge, or spray. Be sure to coat the entire apparatus with the solution. Allow to remain in contact for the recommended time.
- Rinse: Use low pressure water to thoroughly rinse and remove all disinfectant solution.
- Dry: Wipe dry, then allow to air dry.
- Perform a functional test prior to returning to service.

Key points to remember when disinfecting a backframe:

- Do not disconnect the cylinder until after the unit has been final rinsed.
- Pay particular attention to textiles such as harness, sleeves, and buddy breather pouches.
- Wipe down and allow to dry fully.
- Perform a functional test prior to returning to service.

Additional Disinfection Notes

The Centers for Disease Control also have additional guidelines for cleaning and disinfection:

<https://www.cdc.gov/coronavirus/2019-ncov/community/home/cleaning-disinfection.html>

Alcohol: Although alcohol is not recommended for use on the SCBA, it is described on the CDC website, with concentrations for proper disinfection to be 70-90%, either **isopropyl** or **ethyl alcohol**. **NEVER** use methanol as it is extremely poisonous.

As with any disinfectant, a minimum contact time is necessary to be effective. Also be mindful that alcohol is extremely flammable and evaporates quickly, making it difficult to obtain the minimum contact time.



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Bleach (sodium or calcium hypochlorite): Please note the section on using commonly available household chlorine bleach, with additional guidelines available here: <https://www.cdc.gov/disasters/bleach.html>

Chlorine bleach solution would be the least desirable option to disinfect your SCBA and facemask, but is included here to be comprehensive. The chlorine bleach solution will accelerate the deterioration of the SCBA components, especially textiles such as Kevlar on the backframe harnesses, as well as head harnesses and other textile sleeves and pouches. It is also corrosive to metals and may deteriorate the mask visor. Chlorine bleach is not recommended for use on the SCBA, however if utilized for disinfection, adhere to the specific guidelines given by the CDC for selection of fresh chemical and mix ratio, and ensure a thorough rinsing beyond that normally performed, as well as drying.

As knowledge of the SARS-CoV-2 virus increases and additional information becomes available regarding the disinfecting of breathing apparatus, this User Notification may be updated. Please be mindful and check back for updates.

Be safe!

Before using any of the chemicals or information detailed herein, you must evaluate it and determine if it is suitable for your intended use. You assume all risks and liability associated with such use. Avon Protection makes no warranties relating to the efficacy of any of the products detailed herein in preventing the spread and/or contraction of coronaviruses. Avon Protection will not be liable for any loss or damage arising from any information contained herein, whether direct, indirect, special, incidental or consequential, regardless of the legal or equitable theory asserted, including warranty, contract, negligence or strict liability. Technical information provided by Avon Protection is based on experience and/or test data believed to be reliable, but the results may not be relevant to every user's application. For this reason, Avon Protection does not accept any responsibility or liability, direct or consequential, arising from reliance upon any information provided. The user should determine the suitability of any disinfectant product for compatibility for use with Avon Protection products.

For any questions or concerns, please contact Avon Protection Customer Service:

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