USER NOTIFICATION

MARCH 2020 Revision B

Avon APR Disinfecting Standard Operating Procedure

NOTICE: To ensure proper operation of Avon Protection Air Purifying Respirators and achieve maximum protection for users, the following procedures to clean and disinfect are provided. The procedures are supplemental to 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 would like to remind users of the recommended cleaning procedures when using Air Purifying Respirators, especially during a possible Coronavirus (COVID-19) deployment. While the CDC recommends use of a NIOSH-approved particulate respirator, an Avon Protection APR with approved Avon Protection filter will protect the wearer to ≥99.97% efficiency.

NOTE: Fit test masks should be processed similarly to APR masks, as in this procedure.

Although the mask and filter will protect the wearer's respiratory system, the outside of the mask and filter will require cleaning and disinfection after any potential exposure. Processing the mask correctly is vital for 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 fully determined. Any surface that the mask, filter, or your gear touches, should also be disinfected following your agencies' SOP.

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:

http://aero.abccompounding.com/products/earthforce/6488/

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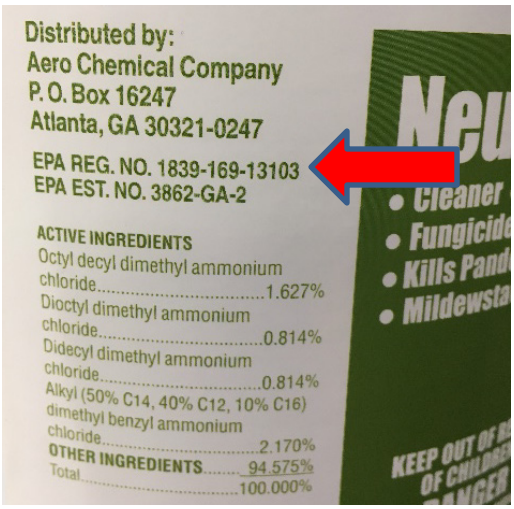

This product is EPA registered and may be found on "List N: Disinfectants for Use Against SARS-CoV-2", at the EPA website:

https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

Avon Protection also recommends the use of 5% Hibitane in a 1/2000 dilution, where available.

Perform the following procedure with appropriate PPE, at minimum, gloved hands, using chemical prepared per manufacturer's directions. Consult the Avon Protection User Instructions for further details.

APR Facepieces

- Remove the used canister from the respirator and dispose of properly in accordance with any local health and safety regulations. If the canister becomes water logged then it must be replaced immediately. A canister becomes ineffective if immersed in, or heavily soaked with, water.
- 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 outserts, if fitted.
- Immerse the mask in warm water containing the properly mixed disinfectant.
- **CAUTION:** Chlorine bleach solutions are not recommended.
- 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 for 10 minutes for the disinfectant to be effective.
- Remove the mask and shake off the excess solution.
- Immerse the mask in clean warm water ensuring that all trace of solution is removed.
- Lift out the mask and 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, vision correction system, and outsert, if fitted.
- 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.

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- 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 are:

- Use the proper chemical disinfectant.
- Mix per the chemical manufacturer's 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.

In lieu of the recommended Neutral Fresh or Hibitane solutions for disinfecting, which may not be readily available during a shortage, other quaternary ammonium based disinfectants may be utilized at the user's discretion provided 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.

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

Although alcohol is not recommended for use on these respirators, 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.

Please note the section on using commonly available household chlorine bleach, with additional guidelines available here:

https://www.cdc.gov/disasters/bleach.html

The chlorine bleach solution would be the last option to disinfect the respirator, but is included here to be comprehensive. The chlorine bleach solution will greatly accelerate the deterioration of the respirator components, especially textiles such as head harnesses. It is also corrosive to metals and may deteriorate the mask visor. Chlorine bleach is not recommended for use on the respirator, however if utilized for disinfection, adhere to the specific guidelines given by the CDC for selection of fresh chemical, 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 disinfecting respirators, this User Notification may be updated. Please be mindful and check back for updates.

Be safe!

Any question or concern, please contact Avon Protection Customer Service:

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