Purpose

3M has received a number of inquiries regarding the appropriate personal protective equipment for potential exposures to Ebola Virus Disease (EVD). Following are responses to many of the most commonly asked questions. It is important to note this FAQ is not a substitute for the guidance of the United States Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and your local health authority. Please consult their websites frequently for the most current information and infection control procedures regarding EVD.

Websites for Reference

<p>| | |</p>
<table>
<thead>
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</tr>
</thead>
</table>

Please consult 3M Technical Data Bulletin Personal Protective Equipment (PPE) for Ebola Virus Disease (EVD) regarding WHO and European Centres for Disease Prevention and Control (ECDC) information for EVD.

For further information related to PPE use, please contact your local 3M Personal Safety Division Technical Services team.

As selection of appropriate PPE should be based upon a site-specific risk assessment conducted by qualified individuals, there is no ‘3M recommended list’ of PPE. Specific scenarios and PPE selection will differ depending on many factors including the location and type of work (e.g. caring for patients vs. laboratory tasks; hospitals outside of W Africa preparing for potential patients versus health care in W Africa). As with any use of PPE, there are no standardized solutions, and proper selection and use is critical to protection. There are a variety of options available within the different categories of PPE and associated advantages and disadvantages to the different types and models. It is the responsibility of each facility or organization to determine the appropriate level of protection by conducting a risk assessment which includes elements such as working conditions, tasks, and accessibility to decontamination facilities. As much as possible, engineering and administrative controls should be implemented. 3M cannot select PPE but can assist in helping purchasers identify the specific PPE models that meet or exceed the desired level of protection and the specifics of their situation.

What is Ebola Virus Disease (EVD)?

Ebola Virus Disease (also known as Ebola hemorrhagic fever) is a severe, often-fatal disease caused by infection with a species of Ebola virus. EVD is a severe acute viral illness often characterized by the sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding.

Outbreaks of Ebola have occurred sporadically in parts of Africa, South America, the Middle East and Eastern Europe, with fatality rates ranging up to 90%.
How is it Transmitted?

Ebola is spread through direct contact with blood or body fluids (including, but not limited to urine, saliva, sweat, feces, vomit, breast milk and semen) of an infected person or animal, or through contact with objects that have been contaminated with the blood or other body fluids of an infected person, dead or alive. Transmission is believed to occur via contact with mucous membranes and non-intact skin (i.e., rashes, cuts, etc.). Risk of infection by inhalation of contaminated aerosols by healthcare workers has not been documented but is thought to be low at this time based on case history evidence.

Ebola virus is readily killed by soap, bleach, direct sunlight, or drying. Machine washing clothes that have been contaminated with fluids will destroy Ebola virus. Ebola virus survives only a short time on surfaces that are in the sun or have dried.\(^1\)

US Centers for Disease Control and Prevention PPE Recommendations Against Ebola Virus Disease for Health Care Workers

The prevention of Ebola virus infection depends on avoiding contact with blood and body fluids of infected individuals and with objects contaminated with these fluids. Barrier precautions are used to prevent skin or mucous membrane exposure of the eyes, nose, and mouth with blood, other body fluids, secretions (including respiratory droplets), or excretions.

On August 30, 2018 the US CDC updated “Guidance on Personal Protective Equipment (PPE) To Be Used By Healthcare Workers during Management of Patients with Confirmed Ebola or Persons under Investigation (PUIs) for Ebola who are Clinically Unstable or Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE”.

The CDC document includes guidance on administrative and environmental controls; PPE selection, donning and doffing; training; and use of a trained observer. It is important that anyone involved in infection control for Ebola Virus Disease (EVD) thoroughly read and understand this document.

The following is a short summary of the CDC recommended PPE.

Health Care Workers When Caring for a Patient with Confirmed Ebola or Unstable PUI

- Powered air purifying respirator (PAPR) with full faceshield, helmet, or headpiece; or N95 respirator. Any reusable PAPR headgear must be covered with a single-use (disposable) hood that extends to the shoulders, fully covers the neck and is compatible with the PAPR.

**IMPORTANT NOTE**

For simplicity, users may likely prefer using disposable PAPR hoods instead of covering full facepiece and helmets with accessory disposable hoods. Disposable N95 respirators must be used with a single-use (disposable) surgical hood and a single use (disposable) full face shield.

- Single-use (disposable) impermeable gown that extends to at least midcalf or single-use (disposable) impermeable coverall without integrated hood. Coveralls with or without integrated socks are acceptable. Consider selecting gowns or coveralls with thumb hooks to secure the sleeves over the inner glove.
- Two pairs of single-use (disposable) examination gloves with extended cuffs.
- Single-use (disposable) boot covers that extend to at least mid-calf. Single-use (disposable) shoe covers are acceptable only if they will be used in combination with a coverall with integrated socks.
- Single-use (disposable) apron that covers the torso to the level of the mid-calf should be used over the gown or coveralls if patients with Ebola are vomiting or have diarrhea; or routinely if using a coverall with an exposed, unprotected front zipper

Trained Observers During PPE Doffing

- Single-use (disposable) fluid-resistant gown that extends to at least midcalf or single-use (disposable) fluid-resistance coverall without integrated hood.
• Single-use (disposable) full face shield.
• Two pairs of single-use (disposable) gloves with extended cuffs.
• Single-use (disposable) ankle-high shoe covers.

The CDC recommends that if facilities elect to use different PPE from what is outlined in their guidance, such as coveralls with an integrated hood, they must train workers in use and adjust and practice donning and doffing procedures.

The CDC emphasizes hand hygiene and instructs that hand hygiene be performed thoroughly and often including before and after donning and before and after doffing.

Please see appendices 1-3 for examples of 3M goggles, face shields, coveralls and respirators.

**Eye Protection**

Eye protection provides a barrier to infectious materials from entering the eye and is often used in conjunction with other personal protective equipment (PPE) such as gloves, gowns, and masks or respirators. See Appendix 1.

**Goggles**

Goggles are designed to fit snugly, but not necessarily seal around the wearer’s eyes. NIOSH states: “appropriately fitted, indirectly-vented goggles* with a manufacturer’s anti-fog coating provide the most reliable practical eye protection from splashes, sprays, and respiratory droplets. However, to be efficacious, goggles must fit snugly, particularly from the corners of the eye across the brow. While highly effective as eye protection, goggles do not provide splash or spray protection for other parts of the face.

* Directly-vented goggles may allow penetration by splashes or sprays; therefore, indirectly-vented or non-vented goggles are preferred for infection control.”

**Face Shields**

Face shields are designed to help protect portions of the wearer’s face to certain exposures. While goggles help protect a wearer’s eyes from splashes, sprays, and droplets, a face shield can help reduce exposure to both the eyes and other facial areas.* Face shields should have crown and chin protection and wrap around the face to the point of the ear. This will help reduce the possibility of splash, sprays and droplets from going around the edges of the shield and reaching the eyes or other facial areas.

*The CDC notes that ANSI Z87.1 recommends face shields should be used in addition to goggles, not as a substitute for goggles, in a chemical exposure or industrial setting.

**Safety Glasses**

Safety glasses provide impact protection but do not provide the same level of splash or droplet protection as goggles and generally should not be used for infection control purposes.

For more information, consult [3M Tech Data Bulletin #192 – Eye Protection for Infection Control](#).
Protective Clothing

Selection of personal protection ensembles should be based on a site-specific PPE hazard assessment and consideration of recommendations made by health authorities. Performance Requirements and Test Methods for Protective Clothing Against Infective Agents should be considered. See Appendix 2.

In general, protective clothing offering the highest level of protection from infective agents, such as the 3M™ Protective Coverall 4570, is also the least breathable and may introduce hazards related to heat stress and dehydration.

Breathable protective clothing offers less protection but may be desired for tasks in extremely hot conditions where the risk of contacting infective agents is low, where sufficient decontamination facilities are available at the completion of work tasks, and where the risk of harm from heat stress and dehydration is high.

Selection for EVD should be based primarily on the potential exposures and need for protection against infective fluids and agents. However, work conditions, environmental conditions, tasks and accessibility to decontamination facilities should be considered.

In 2018 CDC released guidance on Personal Protective Equipment (PPE) to be used by healthcare workers during management of patients in two scenarios; 1) patients with confirmed Ebola or persons under investigation for Ebola who are clinically unstable or having bleeding, vomiting, or diarrhea in U.S. hospitals, including procedures for donning and doffing PPE 2)patients under investigation for Ebola who are clinically stable and do not have vomiting or bleeding.

Guidance on Personal Protective Equipment (PPE) | Personal Protective Equipment (PPE) | Public Health Planners | Ebola (Ebola Virus Disease) | CDC

This document provides details on the principles of PPE, training and correct use and selection of PPE for both scenarios stated above. Specifically, for coveralls it suggests impermeable coveralls to be used in scenario one, with confirmed patients and fluid-resistant coveralls to be used in scenario two, with patients under investigation, but clinically stable.

It provides a table to explain the difference between impermeable vs fluid resistant coveralls and gowns, including which testing standards to look for with each classification (see description below)

<table>
<thead>
<tr>
<th>Description</th>
<th>ISO Test Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impermeable coverall</td>
<td>ISO 16604 Blood-borne pathogen penetration resistance</td>
</tr>
<tr>
<td>CDC suggested for confirmed Ebola or unstable patient under investigation</td>
<td></td>
</tr>
<tr>
<td>Fluid-resistant coverall</td>
<td>ISO 16603 Synthetic blood penetration resistance</td>
</tr>
<tr>
<td>CDC suggested for patient under investigation</td>
<td></td>
</tr>
</tbody>
</table>

Respiratory Protection

Surgical/medical masks or respirators are another type of PPE recommended for those in contact with potential EVD cases. These products may need to be fluid resistant depending upon the eye and face protection being worn. This section discusses the use of respiratory protection.

For more information on the differences between surgical masks and respirators, please consult 3M Technical Data Bulletin #231 - Respirators and Surgical Masks: A Comparison.

A respirator is a device designed to help provide the wearer with respiratory protection against inhalation of a hazardous atmosphere.
To help reduce nose, mouth and respiratory system exposures to airborne particles, particulate-filtering respirators are often recommended. Particulate respirators are available as:

1. A filtering half facepiece respirator, where the filter is the entire respirator
2. An elastomeric (reusable) half mask with a particulate filter
3. An elastomeric (reusable) full facepiece with a particulate filter
4. A powered air purifying respirator (PAPR) that includes a particulate filter
5. A supplied air respirator.

Particulate respirators are designed to help reduce the wearer’s exposure to certain airborne particles. Currently, health authorities have not documented EVD as being transmitted from infected individuals via airborne Ebola virus. However, droplets containing the Ebola virus that have become aerosolized (e.g. from coughing, sneezing, vomiting, medical procedures, and surfaces etc.) may have the potential to come into contact with a person’s mucous membranes in their nose or mouth or non-intact skin. Therefore, respiratory protection may be helpful in providing a barrier to help prevent infectious materials from contacting a wearer’s mucous membranes. They may also help limit inadvertent touching of the nose, mouth and/or eyes (if a full-facepiece or powered-air respirator is used). Respiratory protection is recommended for workers performing certain tasks such as aerosol-generating procedures, laboratory procedures, and autopsies.

See Appendix 3 for examples of different types of respirators.

For more information consult 3M Tech Data Bulletin #174 – Respiratory Protection for Airborne Exposures to Biohazards.

Advantages and Disadvantages of Different Types of Respirators

Respiratory protection may be a component of the PPE selected based upon the risk assessment. A control banding approach has been suggested for choosing between different levels of respiratory protection based on the organism, generation rate, level of control and respirator protection factor.


Following are some general advantages and disadvantages of different types of respirators.

**Disposable Filtering Facepiece Respirator**
- Disposable, no maintenance
- Lightweight
- Less expensive
- Need separate eye and face protection
- Fit testing required in certain countries, including the US, to ensure respiratory protection

**Reusable Half mask or Full Facepiece Respirator**
- Often available in multiple sizes
- Facepieces can be disinfected and reused
- Full facepieces may provide eye and face protection
- Fit testing required in certain countries, including the US, to ensure respiratory protection
- Facepieces must be maintained
- Unit needs to be maintained

**Powered Air Purifying (PAPR) Respirator**
- Some elements can be disinfected and reused
- No fit testing required for systems with loose fitting head covers
- May not need separate eye and face protection depending on the head covering
• Batteries need to be charged and entire unit maintained
• Higher initial cost
• Unit needs to be maintained
• Wearer may not need to be clean-shaven, depending on the type of head cover and style of facial hair

Supplied Air Respirators
• Some systems provide cooled air to the wearer
• Some components can be disinfected and reused
• No fit testing required for systems with loose fitting head covers
• May not need separate eye and face protection depending on the head covering
• Need adequate supply and pressure of compressed breathable air (Grade D)
• Unit needs to be maintained
• Higher initial cost

Please see 3M Technical Data Bulletin: Cleaning Reusable Respirators and Powered Air Purifying Respirator Assemblies following potential exposure to the Ebola virus.

Summary

Those who will be exposed to individuals with known or suspected cases of EVD should wear PPE that provides a barrier to help prevent infectious material from contacting mucous membranes (mouth, nose, eyes) and non-intact skin (i.e., rashes, cuts, etc.). Respiratory protection should be utilized if there is a risk of aerosolized particles (i.e. aerosol-generating procedures, certain laboratory tasks, autopsies), or according to local health authorities. Always ensure that PPE users are properly trained in the benefits and limitations of the equipment per all applicable guidance and regulations and the manufacturer’s user instructions. Please consult your occupational safety and health professional, the appropriate health authority and the PPE manufacturer with questions.

References and Resources
5. WHO “Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Hemorrhagic Fever in Health-Care Settings, with Focus on Ebola.” http://www.who.int/csr/resources/publications/ebola/filovirus_infection_control/en/
## Appendix 1 - Examples of 3M Protective Eyewear

<table>
<thead>
<tr>
<th>Image</th>
<th>Goggles</th>
<th>Face Shields</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>GG501SGAF</td>
<td>82501-00000 and 82582-00000</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>GG501NSGAF</td>
<td></td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>GG6001NSGAF-BLU</td>
<td></td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>GG2891-SGAF</td>
<td></td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Eye Protection (Splashes, sprays, and droplets)</th>
<th>Face Protection (Splashes, sprays, and droplets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GG501SGAF</td>
<td>3M™ GoggleGear™ 500 Series, Clear Scotchgard™ Anti-fog</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>GG501NSGAF</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>GG6001NSGAF-BLU</td>
<td>3M™ GoggleGear™ 6000 Series, Blue Shroud, Scotchgard™ Anti-Fog Coating, Clear AF-AS Lens, Neoprene</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>GG2891-SGAF</td>
<td>3M™ GoggleGear™ GG2891-SGAF, Indirect vent, Clear Scotchgard™ Anti-fog lens, 10ea/case</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>82501-00000 and 82582-00000</td>
<td>3M™ Ratchet Headgear H8A with 3M™ Clear Polycarbonate Faceshield WP96X</td>
<td>Yes (Secondary Protector)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### IMPORTANT NOTE

These products will not eliminate the risk of infection. Currently there is no established guidance specifying performance criteria for protective clothing specific to EVD. This information is presented to help safety professionals make informed decisions as part of a site and task specific PPE hazard assessment.

<table>
<thead>
<tr>
<th></th>
<th>3M™ Protective Coverall 4570</th>
<th>3M™ Protective Coverall 4565</th>
<th>3M™ Protective Coverall 4545</th>
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<tbody>
<tr>
<td>PPE Directive Approval</td>
<td>CE Category 3</td>
<td>CE Category 3</td>
<td>CE Category 3</td>
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<tr>
<td>Fabric Type</td>
<td>Multi-layered laminate</td>
<td>Non-breathable laminate</td>
<td>Micro-porous laminate</td>
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</table>

<table>
<thead>
<tr>
<th>General Data</th>
<th>Test Method</th>
<th>3M™ Protective Coverall 4570</th>
<th>3M™ Protective Coverall 4565</th>
<th>3M™ Protective Coverall 4545</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suit Type</td>
<td>ISO 16602:2007</td>
<td>Type 3</td>
<td>Type 4</td>
<td>Type 5/6</td>
</tr>
<tr>
<td>Hood/collar options</td>
<td>Hood only</td>
<td>Hood only</td>
<td>Hood only</td>
<td>Hood only</td>
</tr>
<tr>
<td>Seam construction</td>
<td>N/A</td>
<td>Serged &amp; Taped</td>
<td>Serged &amp; Taped</td>
<td>Serged</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection against Infective Agents</th>
<th>Synthentic blood penetration resistance</th>
<th>Blood-borne pathogen penetration resistance</th>
<th>Contaminated solid particle penetration resistance</th>
<th>Contaminated liquid aerosol penetration resistance</th>
<th>Wet bacteria penetration resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetration resistance</td>
<td>6/6</td>
<td>6/6</td>
<td>3/3</td>
<td>3/3</td>
<td>6/6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6/6</td>
<td>0</td>
<td>0</td>
<td>6/6</td>
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</tbody>
</table>
### Appendix 3 - Overview of 3M Respiratory Protective Devices

<table>
<thead>
<tr>
<th></th>
<th>Half-face</th>
<th>Full Face</th>
<th>PAPR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filtering Facepiece</td>
<td>Elastomeric Facepiece</td>
<td>Elastomeric Facepiece</td>
</tr>
<tr>
<td>Image</td>
<td><img src="image1" alt="Filtering Facepiece" /></td>
<td><img src="image2" alt="Elastomeric Facepiece" /></td>
<td><img src="image3" alt="Elastomeric Facepiece" /></td>
</tr>
<tr>
<td>Eye Protection (splashes, sprays, and respiratory droplets)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Face Protection (splashes, sprays, and respiratory droplets)</td>
<td>No</td>
<td>No</td>
<td>Limited</td>
</tr>
<tr>
<td>Head Protection (splashes, sprays, and respiratory droplets)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Respiratory Protection* (airborne aerosols and respiratory droplets)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* When equipped with appropriate and approved filter and/or cartridge.

### Examples of 3M Disposable Respirators

<table>
<thead>
<tr>
<th>Product</th>
<th>Valve</th>
<th>Size</th>
<th>Classification</th>
<th>Fluid Resistant</th>
<th>FDA Clearance</th>
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</thead>
<tbody>
<tr>
<td>3M™ Particulate Respirator 8210</td>
<td>Unvalved</td>
<td>8210 - one size</td>
<td>N95</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3M™ Particulate Respirator 8511</td>
<td>Valved</td>
<td>8511 - one size</td>
<td>N95</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3M™ Health Care Particulate Respirator and Surgical Mask 1860</td>
<td>Unvalved</td>
<td>1860 - regular 1860S - small</td>
<td>N95</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3M™ Aura™ Health Care Particulate Respirator and Surgical Mask 1870+</td>
<td>Unvalved</td>
<td>1870+ - one size</td>
<td>N95</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: Other models of 3M disposable respirators are available, but supply may be constrained if demand increases.
### Examples of 3M Reusable Respirators

<table>
<thead>
<tr>
<th>Image</th>
<th>Product</th>
<th>Half Facepiece Respirator</th>
<th>Full Facepiece Respirator</th>
<th>Particulate Filters</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>3M™ Half Facepiece 6000 Series</td>
<td>3M™ Half Facepiece 6000 Series</td>
<td>3M™ Half Facepiece 7500 Series</td>
<td>3M™ Full Facepiece 6000 Series</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>3M™ Half Facepiece 6500 Series</td>
<td>3M™ Half Facepiece 6500 Series</td>
<td>3M™ Half Facepiece FF-400 Series</td>
<td>3M™ Full Facepiece FF-400 Series</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>3M™ Half Facepiece 7500 Series</td>
<td>3M™ Full Facepiece 6000 Series</td>
<td>3M™ Full Facepiece 7800 Series</td>
<td>3M™ 2291 P100</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>3M™ Full Facepiece 6000 Series</td>
<td>3M™ Full Facepiece 6000 Series</td>
<td>3M™ Full Facepiece 6000 Series</td>
<td>3M™ 7093 P100</td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td>3M™ Full Facepiece FF-400 Series</td>
<td>3M™ Full Facepiece FF-400 Series</td>
<td>3M™ Full Facepiece FF-400 Series</td>
<td>3M™ Full Facepiece FF-400 Series</td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td>3M™ Full Facepiece 7800 Series</td>
<td>3M™ Full Facepiece 7800 Series</td>
<td>3M™ Full Facepiece 7800 Series</td>
<td>3M™ Full Facepiece 7800 Series</td>
</tr>
</tbody>
</table>

**Description**
- **6100 - small**
- **6200 - medium**
- **6300 - large**
- **6501 - small**
- **6502 - medium**
- **6503 - large**
- **7501 - small**
- **7502 - medium**
- **7503 - large**
- **6700 - small**
- **6800 - medium**
- **6900 - large**
- **7001 - small**
- **7002 - medium**
- **7003 - large**
- **FF-401 - small**
- **FF-402 - medium**
- **FF-403 - large**
- **7800S-S - small**
- **7800S-M - medium**
- **7800S-L - large**

Note: Chemical cartridges are available to help reduce exposures to chemical disinfectants (e.g. chlorine).
## Examples of 3M Powered Air Purifying Respirators (PAPRs)

<table>
<thead>
<tr>
<th>Models</th>
<th>S-Series</th>
<th>M-Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assigned Protection Factor</td>
<td>1000</td>
<td>1000</td>
</tr>
</tbody>
</table>

### S-Series

- **3M™ Versaflo™ TR-300+ PAPR with TR-3712N HEPA Filter**

- **3M™ Versaflo™ Powered Air Turbo TR-600 with TR-6710N Filter**

### M-Series

- **3M™ Versaflo™ Breathing Tube Disposable Cover BT-922**

### Breathing Tube

- **3M™ Versaflo™ Breathing Tube BT-20, BT-30, BT-40**

- **3M™ Versaflo™ Breathing Tube TR-300+ PAPR with TR-3712N HEPA Filter**

### S-Series

- **Models**
  - S-403

- **Assigned Protection Factor**
  - 1000

- **TR-630/TR-659 battery and adapter**
  - BE-324

Note: Other PAPR’s, hoods, helmets and headcovers are available.