

Personal Protective Equipment Overview



Personal protective equipment, or PPE, is needed during animal health emergencies to prevent disease transfer from animals, locations, and responders. This handout overviews the types and levels of PPE and highlights those frequently used in an animal disease emergency.

What is PPE?

Personal protective equipment is specialized clothing and equipment worn as a barrier between a person and a hazard. During animal disease emergencies, PPE serves two essential purposes:

- **Biosecurity:** to prevent the spread of disease agents between animals and locations
- **Responder protection:** to protect the responder against potential hazards, including organisms that can infect people (i.e., zoonotic pathogens) or chemical exposures (e.g., disinfectant solutions)

Types of PPE Protection

PPE provides protective measures for the skin, respiratory system, eyes, and face.

- **Skin protection:** Protective coveralls, aprons, gloves, and footwear, such as rubber boots. These items may need to be fluid-resistant or chemical-resistant.
- **Respiratory protection:** Dust masks, disposable filtering facepiece respirators, such as an N-95 mask, or an air-purifying respirator. A self-contained breathing apparatus will be needed for higher protection levels.
- **Eye and face protection:** Safety glasses or goggles and a face shield.
- **Hearing protection:** Ear plugs or ear muffs.

Levels of PPE

- All these items are combined into four levels of PPE - Levels A, B, C, and D.
- The level of PPE worn depends on the situation, disease risks, and tasks performed. Level C or Level D are sufficient for most animal health emergency response activities and are described in this handout.
 - **Levels A and B** are the highest levels of protection and involve specialized equipment such as a self-contained breathing apparatus or encapsulating chemical protective suits. These levels are used when expanded levels of protection are required, such as for certain disinfectant chemicals or highly zoonotic pathogens.
 - **Level C** is used when an infectious agent, airborne substance or chemical exposure is known or expected. Responders working with or around (within 6 feet) animals, animal waste, or products, such as milk or eggs, or items or materials potentially contaminated should wear this level of PPE (at minimum). It includes fluid-resistant or chemical resistant coveralls, filtering or air-purifying respirators, protection for the eyes and face, and chemical-resistant footwear and gloves.

- **Level D** is the lowest level of protection. It is worn when there is no risk of skin contamination, respiratory threat, or hazardous material contact. It is generally worn by those onsite who will not have direct contact with animals, animal waste or products, or responders exiting the response site. It includes minimal skin protection, such as cloth coveralls or street clothing, and no to low respiratory protection, such as surgical or dust masks. Gloves, goggles, or face shields are optional, depending on the tasks performed.

This table summarizes appropriate items for Level D and C PPE.

Protection for	Level D	Level C
Skin	Inner Barrier: street clothes Outer Barrier: cloth coveralls or scrubs Hands: disposable gloves	Inner Barrier: street clothes or other items depending on weather conditions (e.g., insulated coveralls) Outer Barrier: hooded, disposable, fluid-resistant or chemical-resistant coveralls (e.g., Tyvek®, Tychem®) Hands: Disposable, chemical-resistant outer and inner gloves
Respiratory	None	Filtering facepiece respirator (e.g., N-95 mask) or air purifying respirator (APR)*: full-mask for unknown risks or zoonotic pathogens; half-mask for non-zoonotic pathogens
Eyes/Face	None	Safety goggles, face shield, or full-mask APR
Footwear	Boots or shoes appropriate to perform duties	Chemical-resistant boots; steel toe cap is best

*A medical evaluation and fit testing are required to wear the designated respirators.

Key Points

- The Incident Commander or Safety Officer will determine the level of protection needed during response situations.
- Always verify the required level of PPE when you report to a response situation.
- Responders should only wear PPE for which they have been thoroughly trained, medically cleared to use, and fit tested to wear.



Additional [Just-In-Time training resources](#) can be found on the CFSPH website.

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