

THE RISKS OF VINYL DISPOSABLE GLOVES

The food safety, environmental and occupational hazards of vinyl disposable gloves

1 FOOD SAFETY RISKS

Because of their molecular structure, vinyl gloves are an ineffective barrier protection for food:

- The PVC polymer is a rigid and weak structure, and micro-punctures can occur within a few hand movements, meaning vinyl gloves can begin leaking as soon as they are donned.
- Scientific studies have proven a 10-fold increase in average failure rate of vinyl gloves compared to nitrile gloves, after simulated use. **The average failure rate of vinyl gloves was 51%.**
- Due to the increase in failure rate numerous studies have shown vinyl gloves have an increased permeability to bacteria and virus, increasing the risk of cross-contamination for both the glove user and the food they are handling.
- An estimated 50-90% of punctures go unrecognized by glove wearers. Because “glove juice” and sweat build-up is particularly common in vinyl gloves, this results in the contamination of contact surfaces through glove holes, often so small they are unnoticed by the glove wearer.
- Vinyl disposable gloves (over other types) are more frequently responsible for cross-contamination events in food handling where glove type is identified.

2 ENVIRONMENTAL RISKS

PVC is described by the U.S. Green Building Council as “consistently among the worst materials for human health impacts.”

- Dangerous quantities of dioxin and other carcinogens are released during the manufacture and disposal of PVC.
- Up to 50% of vinyl gloves rip on donning, significantly increasing glove usage and therefore waste, compared to better quality gloves.
- Vinyl gloves have a poor resistance to stretch and elongation, and are produced thicker in an attempt to reduce ripping. This leads to a heavier weight of glove, and increased waste disposal.

3 WORKER ISSUES

Vinyl gloves can also be a health threat for wearers:

- Musculoskeletal Disorders: Vinyl gloves are made from PVC, and are therefore poorly fitting, thick, rigid and inflexible. These factors often cause repetitive fatigue injuries and trauma to the wearer’s fingers and thumbs.
- Phthalates and BPA: Up to 50% of vinyl glove raw materials are made from plasticisers, often containing the inexpensive phthalates such as DiNP or DEHP and can also contain BPA.
- Phthalates have been shown to leach from products into the human body. Exposure to DEHP has been associated with adverse reproductive, neuro-behavioral and respiratory outcomes and metabolic diseases such as insulin resistance.
- DiNP and DEHP are on the Proposition 65 list of chemicals known to California to cause cancer.
- BPA is an endocrine disruptor, affecting hormones, and is linked to reproductive disorders, heart disease and cancers.

Eagle Protect does not recommend the use of vinyl gloves for food handling. The development of thinner and stronger nitrile gloves are recommended for improved food safety practices, environmental impact and worker safety.



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