

THE RISKS OF VINYL GLOVES

Food safety, environmental & occupational hazards

1 FOOD SAFETY RISKS

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

- Vinyl gloves can begin leaking as soon as they are donned - the PVC polymer is a rigid and weak structure, and micro-punctures can occur within a few hand movements.
- 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.
- Scientific studies have proven a 10-fold increase in average failure rates of vinyl gloves compared to nitrile gloves, after simulated use. The average failure rates 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.
- 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.”

- The manufacture and disposal of PVC uses or releases numerous other hazardous chemicals and carcinogens, and can include PFAS, dioxins, chlorine gas, ethylene dichloride, dioxins, mercury and asbestos.
- 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 & increased waste disposal.

3 WORKER & CONSUMER 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 plasticizers, 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 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 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 lightweight yet stronger nitrile gloves are recommended for improved food safety practices, environmental impact and worker safety.

For short term and light food handling STRETCHPoly gloves are a superior food safety and environmental option.