



Personal Protective Equipment

Food Industry PPE: Using Safety Gear to Reduce Injuries, Contamination Risk

Vanessa Jo Roberts | Feb 13, 2020

This page was updated March 8, 2023

In all likelihood, if you don't work in the food manufacturing industry, you might not immediately think of chemical exposure as a major hazard.

"From anhydrous ammonia used in cooling systems to disinfectants used to clean equipment, there are many hazardous chemicals found in food plants," according to a ***Food Industry Executive article***. "Workers who may come into contact with these chemicals must be informed, use proper work practices and wear appropriate personal protective equipment."

In fact, it's enough of a risk that citations involving the safe management of highly hazardous chemicals (***CFR 1910.119***) ranked No. 8 on the Occupational Safety and Health Administration's Top 10 violations list for the food manufacturing industry in 2019—and third (at more than \$730,000) in total fines.

What's more, OSHA citations for improper PPE use (***CFR 1910.132***) ranked No. 10 and accounted for another \$103,000 in fines.

Why Is PPE Selection So Tough in the Food Industry?

In food manufacturing, PPE must play a unique balancing act. Not only must manufacturers protect their workers, they must also protect the food. Protective clothing and its use are critical factors in both reducing harm to the worker and contamination of the food product.

Slips, Trips and Falls: Why Food Manufacturers Need Footwear and Matting

Working in a food processing and manufacturing facility can involve a lot of liquids, both for preparation and for cleaning.

Preventing slips, trips and falls through the use of proper foot PPE, such as chemical-resistant and nonskid shoe covers, must be part of all safety planning.

"Injuries from slips and falls occur at a rate of 30.9 in food and 28.5 in beverage per 10,000 workers, according to the Bureau of Labor Statistics, higher than the 24.8 incidences in overall manufacturing," an article in *Food Processing* magazine notes

In addition to appropriate foot PPE, the OSHA standard for walking-working surfaces (***CFR 1910.22***) requires the following:

- Floors must be clean and dry (whenever possible).
- Plants must address hazards caused by inclement weather, loose boards, spills and more.
- Employers must ensure facilities have adequate drainage and dry standing places, such as ***floor mats***, during wet processes.
- Safety teams must conduct regular inspections and maintain walking-working surfaces in safe condition.

For more, read "Preventing Slips, Trips and Falls in the Food Processing Industry."

"Protective clothing can become a risk to your food product through both microbiological contamination and physical contamination," an ***HACCP Mentor post*** notes. "Because of this, your risk assessment (or hazard analysis) should document associated hazards at each step in your process where this type of clothing may come into contact with food product."

Food manufacturing workers use a wide array of ***protective clothing***, including suits, overalls, smocks, jackets, aprons, sleeves and hair covers. ***Gloves***—both those resistant to cuts and chemicals and disposable varieties—are also critical. And if there's potential for exposure to toxic fumes, ***respirators*** may also be required.

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Specific materials can be critical for PPE used in food processing and manufacturing. ***DuPont***, for instance, recommends protective clothing made from its Tyvek fabric. The ***materials*** "are designed to help prevent contamination from dust particles, bacteria, spores and parasites carried on regular clothing or the human body," according to the company.

Both employers and PPE producers are working to increase best practices among wearers by making safety gear more comfortable. When it's uncomfortable, workers may take it off when they shouldn't or become distracted from their jobs, which can affect performance.

Read More: *Food Safety PPE: A Guide to PPE Selection in Food Manufacturing*

DuPont's Tyvek suit, for instance, is designed to be breathable, for comfort, as well as to provide a protective barrier from particles, says Dan Bowen, northeast regional sales manager for DuPont's Personal Protection group. (*Better MRO talked with Bowen at 2019's **ASSP Safety show.***)

Fit is equally important for safety, says safety consultant Abby Ferri.

"PPE needs to conform to each employee's body dimensions to be effective; otherwise, it can be a safety hazard itself," she explains in an ***article in Refrigerated & Frozen Foods magazine.*** "PPE that's too loose can get caught in machinery and cause injury, while PPE that's too tight can be uncomfortable, which discourages its use. Employers must make every effort to purchase the sizes needed."

Curbing Food Contamination Risk with PPE

To identify areas where food production facilities should consider contamination risk related to PPE, conducting regular hazard analyses is critical.

Read More: ***Why You Need to Perform Workplace Hazard Assessments***

The HACCP Mentor post identifies seven items across three contamination categories that safety teams should consider when conducting hazard analyses.

Potential physical contamination risks:

- Damaged or torn plastic gloves.
- Loose threads falling from clothing or aprons.
- Head coverings not effectively restraining hair.

Potential microbiological contamination risks:

- Gloves not changed between raw and ready-to-eat foods.
- Boots not cleaned between low-risk and high-risk production areas.
- Overalls not removed prior to visiting restrooms.

Potential metal contamination risks:

- Damaged metal mesh gloves.

How does your food manufacturing facility strike the ideal balance between worker safety and food safety?