

FROM: LION
DATE: April 8, 2020
SUBJECT: RedZone Turnouts and Hoods Related to SARS-CoV-2 (Covid – 19)

This memo is in response to inquiries related to RedZone Turnouts and Hoods and their efficacy against the SARS-CoV-2 Virus (Covid-19) due to other PPE shortages.

The RedZone Contaminant Control package in LION's turnout uses Dupont's Nomex Nano Flex in the PPE interface areas, while the RedZone hood utilizes Stedair Prevent throughout the entire hood. Both products are particulate blocking layer materials only and do not offer viral or blood-borne pathogen penetration protection in the same way a certified moisture barrier does. Therefore, the particulate blocking features cannot be claimed to offer viral or blood-borne pathogen penetration protection.

However, from a particle blocking perspective, we know the following:

- Generally, viruses range from about 20-nm to 400-nm in size.
- The SARS-CoV-2 virus is about 120-nm in size.
- Bacteria are in the 1000's of nm.
- The RedZone particulate blocking hood blocks 99% of particulates sized 100-nm - 1,000-nm (0.1 – 1 microns).
- The RedZone Contaminant Control Package's particulate blocking features block 99-99.9% of particulates sized 100-nm - 1,000-nm (0.1 – 1 microns).

This indicates these materials can be effective in offering a primary shield for dermal protection. Reducing skin contamination can further help prevent the spread from exposed skin to your face, where the virus can enter through your eyes, nose, or mouth.

Additionally, neither of these products are tested nor meet the NIOSH requirements for an N95. While the requirement for N95's is to block 95% of particles 300-nm (0.3 micron) or larger, the RedZone particulate materials referenced above have not been tested for proper airflow rates and other protective properties relevant to N95 masks.