
Subject: Post Fire Decontamination for Firefighting Personnel

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- I. Purpose: To provide post fire decontamination procedures for personnel operating at a fire scene. This policy is designed to assist personnel in minimizing exposure to carcinogens and the byproducts of combustion.
- II. All personnel exposed to toxic/hazardous environment shall go through a decontamination process of their PPE and their person. Detailed decontamination procedures will be used upon exiting any IDLH environment (including but not limited to a structure fire, vehicle fire, dumpster fire, outside trash fire) where smoke, byproducts of combustion and/or debris is possible. This document includes PPE exchange, SCBA decontamination, and personal hygiene after the fire.
- III. Overview:
 - A. Contamination is the exposure to chemicals (including carcinogens), radioactive or biological material on personnel or physical material (equipment, vehicles, etc.)
 1. Personnel and equipment should be considered ‘contaminated’ when they are exposed to a potentially toxic/hazardous environment.
 2. All members should be cognizant that an exposure to toxic/hazardous environments does not require visible smoke; inhalation and absorption of low doses, in the part per million (PPM) range or microscopic amounts, can have a negative effect.
 - B. Decontamination may be necessary for exposed or contaminated civilians and/or emergency responders.
 - C. The decontamination process described in this policy strictly refers to an immediate Gross Decontamination of personnel in full protective ensemble following exposure to products of combustion. This procedure has to be systematic and orderly to reduce exposure.
 - D. The Gross Decontamination process shall be utilized for all fires where Personal Protective Ensembles (PPE) are worn and exposed to products of combustion. This shall include, but not be limited to, brush fires, vehicle fires, structure fires, training fires, and/or any other incident in where the combustion process occurs.
 - E. The marking of formal isolation or control zones may not occur at every fire incident. All personnel should be aware that isolation or control zones

still exist. It is important to remember that many toxins are colorless and/or odorless gases. To limit the amount of exposure and the subsequent required decontamination, consider apparatus placement and approach during any fire attack. Personnel can greatly reduce the amount of exposure by performing a fire attack from the upwind position, when possible, and utilizing the reach of the fire stream.

IV. Gross Decontamination Setup:

- A. Generally, gross decontamination should be set up by the first arriving suppression apparatus driver, closest to the incident where the byproducts of combustion exist.
 - 1. Where resources are sufficient, it is beneficial to assign an additional officer/crew to oversee the decontamination process.
- B. The gross decontamination area shall be designated by deploying the approved decontamination hose line and marking the nozzle location with a traffic cone.

V. Decontamination Line Set Up:

- A. The Decontamination Hose Line(s) shall include an in-line pressure regulator with a garden style hose and nozzle. This garden hose setup is preferred as it will provide a flushing with sufficient flow but lower water pressure, which eliminates the possibility of embedding particulates (toxins) further into the fabric. It is also easier to control water flow and direction while performing the gross decontamination process.

VI. Gross Decontamination Process:

- A. Personnel assigned to the decontamination process shall wear personal protective equipment to reduce their exposure to carcinogens and products of combustion. At a minimum, personnel should wear EMS gloves, a HEPA mask or other appropriate respiratory protection, and splash protection for their eyes.
- B. All fire personnel that were exposed to products of combustion shall perform gross decontamination prior to entering rehabilitation or leaving the scene. After exiting the IDLH, it is recommended that crews remain on-air when possible, and report directly to the designated Decontamination Hose Line(s).
 - 1. NOTE: Those members with the lowest air supply should be decontaminated first and as a rule, personnel will remain on air until the gross decontamination is complete.
 - 2. Maintaining crew integrity, the crew shall assist each other in rinsing off debris and products of combustion in a systematic and thorough manner from the collar-line down, being mindful of higher potential collection points such as under arms and between the legs.
 - 3. Personnel shall also use caution to not saturate the inner lining of the protective ensemble. The goal is to keep the PPE operationally

dry on the interior, but rinsed as clean as possible on the exterior. Soft bristled scrub brushes and department approved soap/cleaners may be used to facilitate the cleaning process.

- C. After rinsing the exterior portion of the PPE, personnel may go off-air and begin to doff their PPE. Depending on the extent and length of the fire, all PPE, other than bunker pants and fire boots, shall be left in a prepared 'Drop Zone.' If a formal rehabilitation area is not established due to a quicker knock-down and/or demobilization, a 'Drop Zone' would not necessarily be needed.

- 1. The 'Drop Zone' shall be located in the warm zone and shall be remote and downwind of the rehab area due to off-gassing.

- D. Personnel should then move towards the cold zone and use department approved wipes for a gross cleaning of their head, neck, face, hands, and other exposed areas as deemed necessary.

- 1. Personnel must resist the urge to consume food or liquids until the gross decontamination process is completed and they have entered the rehabilitation area.

VII. Reporting to Rehab:

- A. Once in rehab, personnel shall lower their bunker pants to allow for rapid cooling and increase the distance between off gassing contaminated gear and their respiratory system and skin.

VIII. Reporting for Re-Assignment:

- A. If a crew is returned to an assignment in the 'Hot Zone' they are to repeat the gross decontamination procedure before returning to rehab or leaving the scene.

IX. Personal Protective Equipment Exchange:

- A. Personnel determined by the Incident Commander (IC) and/or the Incident Safety Officer (ISO) to have been exposed to products of combustion due to IDLH source proximity shall have their hood exchanged prior to leaving the scene.

- 1. These exposed PPE components shall be bagged and returned to the Shop for cleaning by Extractor/Washer before being placed back into circulation.

X. Demobilization:

- A. To keep the cab of the apparatus as clean as possible and to avoid transferring toxins and harmful products back to the fire station, it is extremely important to perform gross decontamination prior to leaving the incident scene.

- B. Once released by command and prior to leaving the scene, it is recommended that all PPE be bagged at the scene using department approved bags that are at least 6 mils. thick. The bag opening will be twisted and taped (or otherwise closed without being tied), then "goose-necked" (folded over on itself, then twisted and taped (or otherwise

closed) a second time. This process will greatly minimize any off-gassing in the apparatus cab.

- C. Decontamination of the helmet will follow the same objective as all PPE for gross decontamination. When cleaning the helmet, it is acceptable to carefully wash the exterior to remove any heavy particulates or debris. However, when cleaning the interior, DO NOT saturate any fabric, including the liners, with water.

XI. Post Fire Decontamination at the Fire Station:

- A. Upon return to the station, all gear that was bagged at the scene shall be removed from the bag. The exterior shell shall be further decontaminated if needed, remembering to keep the inner liners dry and ready for response.
- B. The PPE shall be hung to dry in a manner that allows for drying but also allows for good turn-out times.
 - 1. Gear should be hung relatively close to, or on the apparatus, to minimize the time to get dressed.
- C. It is highly recommended that all personnel exposed to the products of combustion, or any potentially harmful toxins, complete a full personal decontamination as soon as possible after the exposure.
 - 1. “Shower within the Hour” shall be a priority.
 - 2. Showering shall be accomplished with the goal of reducing the absorption rate of toxins into the body.
 - a. Soaps that contain alcohol should not be used because they open the pores and increase the absorption rate of the skin.
- D. Officers are responsible for verifying the readiness of the crew and the unit is back in service.
- E. All personnel shall ensure their assigned apparatus has a clean cab. The potential for secondary exposures during routine apparatus use is high and must be limited. To aid in reducing secondary exposures, apparatus cabs shall be cleaned and decontaminated at a minimum on a weekly basis; more often may be necessary depending on call volume.

XII. Post Fire – At the Scene: Fire Investigators:

- A. The fire Investigator’s duties often place them in a “post fire”, chemical laden, hazardous environment. Protection is just as vital and important with this position. They must adhere to respiratory and personal protective requirements to protect against exposure to possible contaminants. It is strongly recommended that all investigators wear SCBA or respirator masks to protect their airway. Once the investigation of any fire is completed, the Fire Investigator should undergo the same gross decontamination process noted above.
- B. Personal decontamination should also be performed at the nearest fire station to the incident. The goal is to prevent any transfer of contaminants from the fire scene to their homes and/or vehicles.