

SPOKANE COUNTY FIRE DISTRICT 8

Standard Operating Procedures

120.02.02 EMERGENCY DECONTAMINATION



Adopted: 12/20/16
Reviewed: 12/20/16
Revised: 00/00/00

Approved:

A handwritten signature in black ink, appearing to read 'Amy Fisher', is written over a horizontal line.

Purpose: It shall be the procedure of Spokane County Fire District 8 to provide for the cleaning and decontamination of personal protective clothing and equipment following exposure of personnel, PPE, or fire equipment to hazardous and non-hazardous materials or agents they may be exposed to while on duty.

References: WAC 296-824
NFPA 472 (1997 Edition) 3-2.3.1.2, 3-3.4 (1) (2) (3) (4), 3-4.1 (3) (4)
WAC 296-305-08000 Appendix A

Procedure:

1. It shall be the guideline of Fire District 8 that all personnel will follow the procedures and general guidelines for decontamination established herein.
2. Members shall be trained to the Operations-Level in order that they may decontaminate other emergency responders coming out of and emergency area.
3. Definitions.
 - a) **Fire Debris:** Any byproducts, residues, or damaged building components with a low level of toxicity, left after a structure fire. e.g. carbon deposits from burned materials, insulation, drywall residues, plastic residues, etc.
 - b) **Hazardous Chemicals:** Any chemical known to be harmful to people the environment or property. Hazardous household chemicals, corrosives, chemicals used by clandestine drug labs, manufacturing processes, etc.
 - c) **Biological Hazards:** Any bacterial/viral agent known to be harmful to people. e.g. blood borne pathogens such as hepatitis B or the HIV virus.
 - d) **Level 1 Decontamination (gross decon):** Level 1 is used for contaminates which have a low level of toxicity to personnel or the environment. Level 1 includes the light cleaning of PPE and equipment performed by the end user without taking the elements out of service. Level 1 decon includes a combination of brushing or vacuuming off dry debris, and/or rinsing with water.
 - e) **Level 2 Decontamination:** No skin contamination is suspected. The material has a moderate toxicity to personnel and there is a low to moderate environmental danger.
 - f) **Level 3 Decontamination:** No skin contamination is suspected. The material is toxic to personnel and the environment. Level 3 involves special cleaning procedures depending on the nature of the contaminate.

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4. Responsibilities.

- a) The Incident Commander (IC) shall consider the circumstances of each incident to determine if decontamination is appropriate. Crews with contaminated PPE shall decontaminate prior to leaving the emergency scene. The IC or his/her designee shall establish a decontamination zone and a decontamination group as appropriate. If there is a question as to the type of contamination that may have occurred the hazardous materials team should be call in for technical and decontamination support.
- b) The Incident Commander may establish a Decontamination Group when conditions indicate that residual fire debris, hazardous materials or biological agents have contaminated crews. The Incident Commander or the Decon Officer will determine the location and the type of decontamination.
- c) Company officers shall maintain an awareness of the on-scene conditions and potential contaminants to members under their span of control. Any unusual conditions or potential hazardous materials, which could prove harmful to the member's safety and health, shall immediately be reported to the incident commander or scene safety officer.
- d) Company officers shall be responsible for ensuring that the proper procedures for decontaminating personal protective clothing, equipment, and uniforms are followed.
- e) Members shall beware of, and on the lookout for, any potentially hazardous materials at the incident site or during any emergency incident or operation, Members should immediately notify their company officer of any potentially hazardous chemicals. Members who think they have been exposed shall follow decontamination procedures as outlined below.

5. Procedures.

- a) Contamination Requiring General Cleaning.
 - i. Hose down at the fire scene. Scrub gently with a soft bristle brush using a mild detergent and rinse thoroughly. Hosing down immediately after the termination of an emergency can remove substantial amounts of surface contaminants before they have a chance to "set in". Avoid unnecessary direct skin contact with contaminated clothing or equipment and wash exposed skin areas as soon as possible to remove contaminants and to prevent spreading to other body parts and/or personnel.
 - ii. While wearing protective gloves, inspect the PPE for damage and the level of soiling.

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- iii. Determine the proper cleaning procedure for the protective equipment. Procedures for the following methods are described in the appendix section.
 1. In-house cleaning by:
 - a. Utility Sink.
 - b. Machine Cleaning.
 - c. Contract Cleaning (Out-of-house).
 - b) Contamination Involving Body Fluids.
 - i. Remove the personal protective equipment from the body.
 - ii. Isolate and bag the equipment.
 - iii. Observe Universal Precautions.
 - iv. Determine what type of cleaning procedure is necessary.
 - c) Contamination Involving HAZMAT Materials.
 - i. PPE should be rinsed off with a 1" or 1-3/4" hose line with a fog pattern or vacuumed off with a HEPA vacuum. Asbestos contamination requires special respiratory precautions as noted below. PPE and equipment may require Level 2 decontamination for hard to remove stains or dirt.
 - ii. Level 2 Decontamination: No skin contamination is suspected. The material has a moderate toxicity to personnel and there is a low to moderate environmental danger. Level 2 involves the thorough cleaning of PPE and equipment by the end user. Materials should level 1 decontaminated followed by Level 2 decontamination upon returning to quarters. Materials should be washed with appropriate cleaning agents after arriving at the station.
 1. Equipment should be cleaned with soap and water using the apparatus floor hose (rinse water can go into the floor drains.
NOTE: Level 2 may require elements be temporarily taken out of service.
 - iii. Level 3 Decontamination: No skin contamination is suspected. The material is toxic to personnel and the environment. Level 3 involves special cleaning procedures depending on the nature of the contaminate. In some cases PPE or equipment may be disposed of in lieu of decontamination. The Hazmat team should be consulted before decontamination PPE and equipment contaminated with toxic substances.
 1. PPE should be bagged for decontamination at a later time.
 2. Equipment should be bagged, wrapped, overpacked etc. for decontamination at a later time.

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- d) Emergency Decontamination with skin contaminate known or suspected. Contaminate known or suspected to be harmful to personnel or the environment. Personnel should have their contaminated clothing removed and bagged for decontamination at a later time. Personnel should be emergency field decontaminated with a continuous flow of water in an attempt to remove or dilute the contaminant. The use of water may be contraindicated when dealing with strong bases (alkali's). The Hazmat team should be consulted for proper decon procedures for specific chemicals. Shelter shall be established to secure privacy for the person being decontaminated.
- e) Decontamination Team.
 - ii. The decon site shall be located far enough away from the incident scene to provide protection to members from any chemical contamination falling debris, heat or smoke.
 - iii. Consideration should be given to the materials used for decon and any potential runoff or additional contamination issues resulting for the decon procedures.
- f) Decontamination procedures when exiting an asbestos zone.
 - i. Personnel should use Level 1 decon procedures to remove asbestos fibers from PPE and equipment. In addition the following respiratory precautions shall be used when exiting a fire scene for bottle changes, rehab or returning in service.
 - ii. Personnel should brush gross contaminants off their PPE prior to exiting the asbestos zone. Crews should perform decon procedures on each other before going "off air".
- g) When exiting for bottle change and reentry members shall decon around the face piece or regulator.
 - i. The entire face piece, shoulder area and bottle connection shall be wiped down with a damp cloth before going off air and taking the face piece off.
 - ii. Personnel electing to leave the face piece on shall have a wipe down around the regulator prior to regulator removal. Personnel shall check the regulator for debris prior to reconnecting to the face piece.
 - iii. Members performing the decon will be on air or wearing an approved asbestos filter mask.
- h) When exiting and going to rehab or to return in service.
 - i. PPE shall be gross decontaminated by vacuuming or hosing with water prior to going "off air". Vacuuming versus hosing will be at the company officer's option. Members performing the decon will be on air or wearing an approved asbestos filter mask.

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- ii. Fire Debris. Level 1 decontamination should be performed on PPE and equipment contaminated by normal fire debris. A plastic sack should be used to prevent getting the apparatus seats wet or dirty when returning to quarters. Upon return to quarters PPE may need Level 2 decontamination depending on the degree of contamination and effectiveness of Level 1 decontamination.
- i) Hazardous Chemicals from clandestine drug labs and nonspecific chemical exposures (Potential Exposure of PPE or Equipment).
 - i. If personnel were in close proximity to the fire, smoke, or unidentified liquids, then exposure is a possibility and Level 1 and 2 decontamination is required. Personnel performing the decon shall take precautions to avoid cross contamination by wearing Tyvek® coveralls and latex gloves.
 - ii. When returning to the station either remove your bunker gear prior to getting into your apparatus or use a disposable seat cover to protect your apparatus seat.
- j) Hazardous Chemicals from clandestine drug labs and nonspecific chemical exposures (Confirmed Exposure of PPE or Equipment).
 - i. Level 1 and 2 decontamination is required for confirmed exposure to drug lab chemicals.
- k) Toxic or Corrosive Chemicals.
 - i. Personnel contaminated with toxic or corrosive chemicals shall receive emergency field decontamination.
 - ii. Personnel performing the decon, shall wear Level B suits, rubber gloves and SCBA unless the Hazmat team determines a higher level of protection is needed.
 - iii. Following emergency decon, medical monitoring, treatment and transportation as appropriate, shall be performed.
 - iv. PPE and equipment contaminated with hazardous chemicals may require specialized cleaning depending on the type and amount of chemicals involved. The Hazmat team should be contacted for advice on cleaning requirements.
- l) Bio-Hazards.
 - i. Personnel contaminated with bio hazards should decontaminate themselves immediately.
 - ii. If your eyes are splattered with blood or body fluid.
 - 1. Flush immediately with water for at least five minutes.
 - 2. Rinse under clean running water.

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- iii. If blood or any body fluid gets into your mouth: rinse your mouth with 50/50 mix of hydrogen peroxide and water and rinse with plain water.
- iv. If you get a needle stick or puncture wound.
 - 1. "Milk" the wound to induce bleeding.
 - 2. Wash thoroughly with soap and water.
 - 3. Dress and bandage the wound appropriately.
- v. For any bite, scratch or lesion that may have had blood or body fluid exposure.
 - 1. Wash the area thoroughly with soap and water, or pour a small amount of hydrogen peroxide on the wound. (Hydrogen peroxide is known to destroy HIV and other viruses within seconds.)
 - 2. Cover the wound with a sterile dressing.
- vi. PPE or clothing contaminated with biological agents.
 - 1. Clothing and uniforms that are soiled with blood or other potentially infectious materials shall be treated as though contaminated.
 - 2. Remove contaminated clothing as soon as possible.
 - 3. Place and transport clothing in biohazard bags to prevent leakage.
 - 4. Wear gloves when bagging and placing in washer.
- vii. Hand Washing PPE (General).
 - 1. Wash turnout gear with currently stocked hand washing product.
 - 2. Second step, soak turnout gear in a 5-gallon container with 6 oz. of IDO® and 5 gallons of water for at least 10 minutes.
 - 3. Third step, re-wash turnout gear with currently stocked hand washing product.
 - 4. Proper personal protection should be instituted prior to handling. Put on disposable gloves and wear appropriate face and eye protection if you anticipate splashing.
 - 5. Remove visible material by cleaning with disposable towels using soap and water. Place soiled toweling in a biohazard bag to prevent contamination of other surfaces.
- viii. Hand Washing Equipment (General).
 - 1. After removal of visible material, decontaminate non-disposable equipment with a solution of 5.25 percent sodium hypochlorite (household bleach) diluted 1-10.

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2. When using bleach, mix it with cool water. It needs to be made fresh (no more than 96 hours old) in order to be effective.
3. A spray bottle is recommended for wetting down surfaces.
4. After cleaning and decontaminating equipment, remove contaminated items and gloves and place in biohazard bag for disposal. Remove gloves last.
5. Wash hands after removing gloves.
6. All equipment retrieved from local hospital emergency departments should be considered contaminated until thoroughly cleaned and inspected.

m) Washing Turnouts (Machine).

Note: The turnout ensemble should be washed separately from other garments.

- i. Do not use chlorine bleach (sodium hypochlorite) as this will adversely affect the tear strength of your protective clothing and lessen its life. Use currently stocked hand washing product for the outer shell and use Winsol® specialty fabric cleaner for the inner liner. Washing inner liner with any other type of solution will destroy the moisture barrier and breathing properties of the liner.
- ii. The outer shell may be spot treated or pre-treated for hard to remove stains with products such as liquid Spray and Wash®, liquid Tide®, liquid dishwashing detergent or liquid Shout®. Solvents shall not be used as they lessen the life of the garment, reduce visibility on the trim, and degrade leather.
- iii. When pre-treating or spot treating a garment, apply the detergent onto the soiled area. Gently rub the fabric together until a light foam appears on the surface. Use a soft bristle brush (toothbrush type) and scrub the area for about 1-1/2 minutes. Reapply liquid detergent onto the soiled area and place the garment into the washing machine.
- iv. When cleaning turnout clothing, the garment should be turned inside out, the hooks and D-rings fastened, the liner removed, the Velcro fastened together, and the garment placed in a laundry bag.
- v. Washing machines should be programmed for a double rinse. If the machine will not adding detergent or oxygenated bleach. Double rinse helps remove any automatically double rinse, a complete second cycle can be run without residual dirt and ensures detergent removal.

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- vi. If heavy soiling remains or contaminants are suspected wash twice with currently stocked hand washing product and Winsol® cleaner.
- vii. After the garments have been removed, run the laundry machine empty or with dummy (rugs) with detergent at least once, but preferably several times to purge the machine of any residue