



**ARCADIA FIRE DEPARTMENT
STANDARD OPERATING GUIDELINE**

EMERGENCY DECONTAMINATION

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PURPOSE

Emergency responders are exposed to chemical and biological agents that are used in the day-to-day operations of many businesses located in our community. When hazardous chemicals or biological agents are released “accidentally”, first responders place themselves in dangerous positions in an attempt to mitigate the problem.

Today the threat of chemical and biological terrorism has become a pressing public safety concern. History has shown that no community is immune. Acts of terrorism transcends all geographic and demographic boundaries. These acts, which are also known as weapons of mass destruction (WMD), have created an urgent need to provide protection for first responders in a manner that has not been a concern in the past. First responders must be trained and equipped to protect themselves and provide initial action for the public. Decontamination should be conducted to protect citizens, personnel, equipment and the environment from harmful effects of the contaminates. Decontamination minimizes the uncontrolled transfer of contamination from the hazard site to clean areas. This includes being able to manage and mitigate incidents effecting large numbers of victims. The process of decontamination involves specialized training and equipment to ensure the safety of the public.

California Code of Regulations (CCR) Title 8, Chapter 4, Section 5192 (q) (6) (B) 5, states that first responders as the operations level shall “...know how to implement basic victim, equipment and rescue personnel decontamination procedures”.

29 Code of Federal Regulations (CFR) 1910.120 (q) states decontamination must be addressed at all incidents involving hazardous materials.

CONSIDERATIONS

Decontamination must be considered as soon as possible to save lives. Firefighters should use resources that are immediately available and start decontamination. In most cases water carried on the apparatus might be the most expedient means to deliver water at a low pressure.

PROCEDURE

Methods of Decontamination

Dilution – The use of copious amounts of water to flush off or dilute contaminates from persons, clothing tools and equipment. This is the preferred method due to ease of implementation, effectiveness and relative low cost.

Absorption – The “picking-up” of a liquid material like a sponge. This method may require the use of specially products designed for a particular material.

Discarding –The process of removing and disposing of the contaminated clothing and equipment. This is also a preferred method for ease of implementation, effectiveness and relatively low cost.

Neutralization – Chemically altering the contaminant to an innocuous or less harmful state (not normally used for decontamination of victims)

Primary or Emergency Decontamination

Emergency decontamination refers to decon that is urgent and field expedient. Most often refers to the decon of civilians or emergency response personnel that have had direct exposure to a potentially hazardous substance. Emergency decontamination involves:

- Stripping clothes
- Flushing with water
 - 2 to 5 minutes for skin contact
 - At least 15 minutes for eye contact

1. Isolate victims

Communicate instructions

Move away from hazard

Upwind, upgrade & upstream

Segregate male / female if possible

Collect personal items

Strip down to briefs (bio & radioactive wet clothing first)

Keep clothing away from the face (avoid breathing agent)

- Cut clothing head to toe, front to back

2. Use hose lines and elevated master stream

Fog nozzles with low pressure to rain down on the victims (i.e. shower)

Minimize exposure to responders

Wear rubber gloves when possible

3. Communicate instructions

Arms out / legs apart

Wash top down

If a biological or radioactive agent, start washing as they remove cloths.

4. Provide cover

Get blankets, sheets

5. Consider yourself contaminated.

Take appropriate precautions and decontaminate yourself.

In a mass casualty mass / decontamination situation immediate, emergency treatment may be needed to save a life; therefore, emergency decontamination shall be started without a formal and complete *contamination reduction corridor*.

Emergency decontamination considerations include the following:

- Safety of all emergency response personnel is the primary concern
- Use proper personal protective equipment (PPE)
- Self contained breathing apparatus (SCBA)
- Operate uphill, upwind & upstream
- Protect against secondary contamination
 - Structural firefighting clothing is not designed for working in hazardous chemical environments

Respiratory Decontamination

- Remove victim from the hazardous environment
- Relocate victims to a clean and safe location
- Administer oxygen as needed
- Remove bulky clothing which may have trapped gases

Secondary Decontamination

Secondary decontamination is provided to civilians or emergency response personnel that may have been exposed, but are not displaying any related symptoms.

Secondary decontamination involves the following:

- Water run-off issues
- Provisions for modesty
- Use of equipment such as tents, trailers, tarps, containment basins and showers
- Also referred to as Medical Decontamination

Water run-off

The Environmental Protection Agency has indicated that water run-off is a “secondary” concern in terms of containment. Life safety is the “primary” concern. If personnel, equipment and time are available, water run-off measures may be implemented.

When establishing the decontamination operation, every effort shall be made to ensure water run-off does not flow toward or pool in the Support Zone.

