



Canine Emergency & Gross Decontamination Procedures



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PREFACE

These guidelines are based on the publication *Protection, Decontamination, and Medical Aid for K-9 Teams*. This handbook was developed and edited by Gary Eifried of the EAI Corporation, with much of the research conducted by Ronald L. Warren.

INTRODUCTION

Emergency decontamination is also known as “gross decon”, which distinguishes it from a technical or thorough decontamination involving an established corridor, specific stations, and detailed guidelines designed to deal with WMD contamination situations.

For the working canine, emergency decontamination is used as an expedient means of removing most of the contaminants on a body in a situation where immediate medical attention is required. The potential therefore exists that hazards may still remain on the dog after the gross decon is completed. For less immediate medical needs, the gross decon may be repeated until the hazardous substance is determined to have been completely removed.

Decontamination of a working dog is not very different than decontamination of human personnel. Basic principles are the same although there are special situations and aspects to consider. Some of these include the canine skin and coat, footpads, lack of personal protective gear, and level of exposure.

DECONTAMINATION

Avoidance

In an ideal world, the best decontamination is avoiding contamination in the first place. But in the real world contamination exists all around us, ranging from minor to major hazard levels. The following are some steps to decrease the likelihood of contamination:

- Be aware of your surroundings and ask questions regarding known chemicals or hazardous materials used in the search area before entering it.
 - ☒ Machinery and vehicles may leak anti-freeze, oil, and gas.
 - ☒ Old buildings may have asbestos and lead paint.

- Take stock of the weather conditions, both recent and current.
 - ☒ Dry conditions may aerosolize particles, dust, and chemicals.
 - ☒ Wind and drafts will carry contaminants and may shift often.
 - ☒ Rainwater may pool and concentrate contaminants from which a canine may drink, or walk in and later lick at their paws.

- Avoid entering a confined space or sending a canine into a confined space until cleared by HAZMAT personnel.

- Watch for anything that may indicate the presence of a HAZMAT, including inanimate objects as well as animate beings
 - ☒ Placards, labels, and empty containers
 - ☒ Sickened or dead animals, insects, birds, and plants (especially if surrounding plants are healthy)
 - ☒ Dogs and humans displaying signs of illness

- If operating in known contaminated areas, consider protecting the paws:
 - ☒ Protective boots if footing is safe bare paws not needed for stability
 - ☒ Transport in a vehicle over known contaminated area
 - ☒ Avoid letting the canine sit or lie down while in the area
 - ☒ Discourage licking at their fur and paws

- If caught in dust, smoke, or a particle 'storm' get out of the area. If that is not possible, cover the canine (and yourself) with any available protective nonporous materials. These may include raingear, plastic sheeting, or cargo covers.



Requesting HAZMAT Support

Even if a HAZMAT team has surveyed, inspected, and tested the search area, unforeseen complications and new situations may arise. Incorporate the steps listed above to try and avoid contamination. If any of the following occur, request additional HAZMAT support:



- Any change in health status or inappropriate behavior
 - Uncontrolled sneezing, shivering, eye tearing, runny nose, salivation
 - Unexplained aggression, confusion, or malaise
 - Sudden onset shivering, shaking, collapse, seizure
- Any suspicious package, container, odor, or odd taste in your mouth



Initiating Canine Decontamination Operations

- Common sense situations
 - Canine has obvious signs of exposure: chemical burns, illness
 - Physical evidence of an unknown substance on the canine
 - Whenever a HAZMAT is discovered during or after a search operation
- Less recognized situations
 - Areas with a lot of dust, smoke, or debris in the air
 - Surfaces potentially contaminated with antifreeze, fuel, gasoline, oil, or other HAZMATs
- Operations in any of the following:
 - Body shop, vehicle repair facility, refueling area, fuel point
 - Factory, chemical, or fertilizer plant
 - Transportation accident, crash scene, suicide bomb, any area that bodily fluids may be present
 - Trash landfill
 - Fire or HAZMAT scene

Canine Decontamination Basics

- If possible, consult Material Safety Data Sheet (MSDS) or the latest Emergency Response Guidebook (ERG) put out by the U.S. Department of Transportation for the suspected HAZMAT
- High volume, low pressure water augmented by soap is the recommendation for physical removal of the HAZMAT:
 - Rinse-wash-rinse cycle 3 times for maximum benefit
 - Lukewarm water and standard household dish soap (Dawn®, Palmolive®)
 - CAUTION: some HAZMATs become reactive when exposed to water. Check pages 344-348 of the ERG for a partial listing
 - The soap's high pH begins to neutralize many chemical agents and dissolve petroleum agents
 - Thick caked on contamination may be broken down with mechanics' hand wash products, mineral oil, or scraped off with a putty knife. Use scissors with caution so as not to lacerate the canine. Clippers will not work for long.

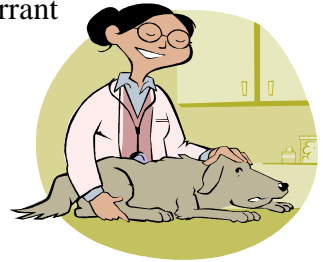


- Eye and ear protection from further contamination first, then from the decon solutions (high pH soap, diluted bleach, military decon kits)
 - Petroleum-based eye ointment may absorb some agents and worsen corneal damage; they should not be used until decontamination of the eyes with copious amounts of ophthalmic saline solution has been performed
 - Using neutral pH shampoo is an option, however these are not as effective as the higher pH soaps in neutralizing many chemical agents
- Moist towelettes may be used to wipe the facial area (eyes, nose, mouth, and in the ears) where washing is difficult and problematic with many canines
 - Non-alcohol based (baby wipes) suggested around mucous membrane sites
- Alternate decontamination agents for chemicals that worsen if exposed to water
 - Baking soda or flour applied, then brushed or combed out
 - Physical removal alone by brushing or combing off
- Special care and attention should be directed to making sure the paws have been adequately decontaminated. The deep-crevassed pad edges can trap particles.
- Ideally, the animals are on a grate with spaces that will not catch a nail or toe, which will keep them above and away from a pool of contaminated water
- Once finished, confine the canine to a collection area, away from any contaminated run-off, and use a dryer if cold and/or wind chill factor weather would pose a hypothermia hazard

Canine Decontamination Steps

#1: Assessment

- 🐾 Medical assessment to check the canine for health issues that warrant true emergency decontamination
- 🐾 If stable, 'emergency decon' can be repeated until the contaminant is judged to be removed
- 🐾 Handler should accompany the canine through decon if possible
 - If not, another experienced handler may do so
 - If a canine cannot be safely decontaminated without the handler, confine to contain contamination.
 - If medical attention is needed, sedation may be needed. Assessment by qualified personnel for appropriate drug and dosing is best. Diazepam or midazolam at 5 mg (1 ml) increments is one of the safest methods.



#2: Preparation

- 🐾 Remove all equipment and gear from the canine and place in HAZMAT container until cleansed, deemed safe, or disposed
- 🐾 A clean all metal collar and lead is placed on the canine. Alternately, inexpensive nylon may be used, then disposed of when done
 - 🐾 Muzzle use considered to prevent licking, drinking wash water, or bite prevention
 - 🐾 Maintain control so as not to spread contaminants to clean areas
 - 🐾 Personnel assisting should have proper PPE to prevent being contaminated themselves (eye protection, gloves, Tyvek® or similar bodysuit)



#3: Rinse-Wash

- 🐾 Thoroughly rinse the canine from behind the ears, down the back of the neck, from top of the back downward to the paws
- 🐾 Cleanse the head and face with moist towelettes, gauze pads, clean warm water
- 🐾 Ophthalmic saline rinse for the eyes
- 🐾 Follow with a soap wash and soft scrub in the same manner as the rinse, paying special attention to the paw pads with a soft scrub brush
- 🐾 Rinse thoroughly and repeat wash-rinse 2 more times
- 🐾 Enclosures are nice to limit the inevitable shaking off of water, otherwise surrounding personnel should be protected



#4: Monitor and return to Service

- 🐾 Once eyes have been thoroughly flushed, ophthalmic solution may be applied to the dog's eyes. A solution is preferred as ointment may interfere with a fluorescein dye check by medical personnel for corneal damage.
- 🐾 Monitor for contamination (radioactive checks need to be done when dry)
- 🐾 Repeat decon if necessary, otherwise dry off the canine, especially if hypothermia is a risk. Replace all leashes and collars.
- 🐾 Veterinary examination is recommended and treatments as needed



HAZMAT SPECIFICS

Chemical Exposure

Remove

- ☒ Relocate to a well-ventilated upwind area
- ☒ Remove, replace all gear with metal or nylon disposable items
- ☒ Remove liquid contaminant by pinching or blotting (do not rub, as this spreads the contaminant)
- ☒ Brush coat if contaminant is dry/powder to remove most of it

Wash

- ☒ High-volume, low-pressure lukewarm water, soap if available
- ☒ Do not delay if warm water or soap is not available
- ☒ Special attention to paws and pads that can trap material in crevices

Monitor

- ☒ Immediate medical evaluation, veterinary if available
- ☒ Continued monitoring for changes in health status
- ☒ Recheck and monitor for contamination



Biological Exposure



One of the concerns with biological exposure is that it will likely go unnoticed until victims develop symptoms and seek medical attention. The good news for dogs is that they are resistant to many of the agents most likely to be used by terrorists. The bad news for dogs is that they are a potential vector for spreading an agent to others.

Decontamination is essential if exposure to particulate, liquid or aerosol biological agent has occurred within the past several hours. It may not help but certainly won't hurt if the exposure is not discovered for several days.

Remove

- ⊗ Relocate to a well-ventilated upwind and upgrade area
- ⊗ Remove, replace all gear with metal or nylon disposable items
- ⊗ If agent is in powder form, wet down the canine to prevent it from aerosolizing and being breathed in by them or anyone else
- ⊗ Remove visible dust or solid with a brush, pinch or blot liquid contamination (don't wipe as this just spreads it around)

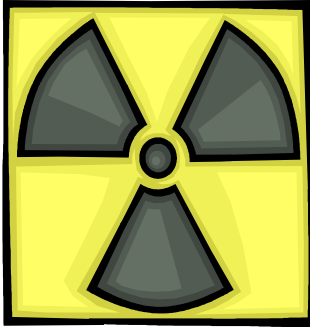
Wash

- ⊗ High-volume, low-pressure lukewarm water, soap if available
- ⊗ Do not delay if warm water or soap is not available
- ⊗ Special attention to paws and pads that can trap material in crevices

Monitor

- ⊗ Dry the canine and monitor both the dogs and yourself for health changes
- ⊗ Monitoring by HAZMAT
- ⊗ Veterinary examination and rechecks, possibly longterm

Radiological Exposure



Radioactive materials do not give immediate signs of exposure. Detectors are the most sensitive indicators of exposure. Due to the threat of terrorists using a dirty bomb, any explosion should be assumed a radiological hazard until determined otherwise.

Contamination can be picked up on the canine's coat and paws. Decontamination is critical to prevent further spread, limit absorption (beta and gamma), and remove a source for further inhalation or ingestion of the hazard. Decon is similar to other hazard removal.

Remove

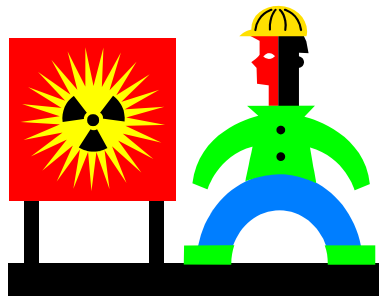
- ▲ Relocate to a well-ventilated upwind and upgrade area
- ▲ Remove, replace all gear with metal or nylon disposable items
- ▲ If in dust or powder form, wet down so as not to aerosolize agent into canine's breathing zone

Wash

- ▲ High-volume, low-pressure lukewarm water, soap if available
- ▲ Do not delay if warm water or soap is not available
- ▲ Special attention to paws and pads that can trap material in crevices

Monitor

- ▲ Alpha radiation is masked by water, so thoroughly cleanse and rinse the canine and be checked for radiation once dried off
- ▲ Medical examination
- ▲ HAZMAT and medical monitoring



DECONTAMINATION KIT

Equipment - General

- Large duffel bag or portable box container
- Two large waterproof tarps
- Sealable industrial strength plastic bags - contain contaminated items
- Hose
- Spray nozzle - adjustable

Equipment – PPE

- Eye protection
- Gloves – latex/non-latex
- Mask – situation-appropriate issue
- Tyvek Suits or situation-appropriate issue protective suit

Decontamination Supplies

- Ophthalmic Saline
- Oral rinse
- Liquid soap – Dawn®, Palmolive®
- Dog shampoo
- Mechanics' hand wash
- Sponges and soft scrub brushes
- Absorbent material – baking soda, cornstarch
- Moist towelettes
- Large towels

Canine Supplies

- Dog dryer
- Brushes and combs
- Emergency Blankets
- Heavy duty hair clippers
- Scissors
- Muzzles
- Collars and leashes – metal or disposable

First Aid

- Eyes:** Fluorescein dye, ophthalmic saline
Artificial tears, ophthalmic antibiotics +/- steroid (corneal stain dependent)
- Mouth:** Novaldent® oral rinse, normal saline
- Pads/Skin:** Glue/staples/suture for lacerations
Wounds: chlorhexidine/betadine solutions, saline, topical antibiotics
Bandage material: gauze, Telfa®, cotton/gauze roll, outer wrap
- Ingestion:** Veterinary examination and prescribed treatment based on toxin
Hydrogen peroxide/apomorphine/ipecac, Toxiban®
Fluids, antibiotics, pain meds, etc...