

Confined Spaces

Toxic gases, a lack of oxygen, or explosive conditions may exist in a confined area. Because many toxic gases and vapors cannot be seen or smelled, **never** enter a confined space unless you have been properly trained; even to rescue a fellow worker! Contact the fire department for help.

If you are certified to enter confined spaces:

- ▶ Molding or fermenting agricultural materials in confined spaces may generate large amounts of toxic gases which could cause lung damage or death if inhaled.
- ▶ Turn on fans or blowers in silos and other storage areas at least 30 minutes before entering and leave them on while working.

Supply Information

Item	NSN
Sunscreen Lotion	6505-01-121-2336
Non-alcohol Lotion Base Sunscreen	6505-01-267-1486
DEET Insect Repellent	6840-01-284-3982
Permethrin (IDA Kit) ("Shake & Bake")	6840-01-345-0237
Hearing Protection - Sound Guard Earplugs	6515-00-137-6345

Figure 1: Fluid Replacement and Work/Rest Guide

Heat Cat	WBGT Index, °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	Water Intake (Qt/H)	Work/Rest (min)	Water Intake (Qt/H)	Work/Rest (min)	Water Intake (Qt/H)
1	78° - 81.9°	NL	½	NL	¾	40/20	¾
2	82° - 84.9°	NL	½	50/10	¾	30/30	1
3	85° - 87.9°	NL	¾	40/20	¾	30/30	1
4	88° - 89.9°	NL	¾	30/30	¾	20/40	1
5	> 90°	50/10 min	1	20/40	1	10/50	1

Easy Work = Walking hard surface 2.5 mph <30# load, Weapon maintenance, Marksmanship training

Moderate Work = Patrolling, Walking in sand 2.5 mph no load, Calisthenics

Hard Work = Walking in sand 2.5 mph with load, Field assaults

Insects

To reduce exposure to harmful insects, particularly ticks and mosquitoes, use the DOD Insect Repellent System:



Displaced Animals

Stress can change the temperament of normally friendly pets. Wild and domesticated animals may seek shelter in unusual places. Do not handle displaced animals. Do not keep pets/mascots. Contact animal control specialists for help.

Hazardous Plants

Some plants can irritate the skin if touched. When burned they can irritate the skin and lungs. Avoid skin contact with plants when possible and wash contaminated skin and clothing after contact. Leaves of three – leave them be.

Personal Protective Equipment (PPE)

The level of personal protective equipment (PPE) required will depend upon your role in the effort. Anticipate and bring items such as a hard hat, goggles, heavy work gloves, steel-toed boots and hearing protection. Some PPE items may not be standard issue for most U.S. military personnel.

Military Vaccine Requirements

Refer to MILVAX at <http://www.vaccines.army.mil/> for up-to-date vaccine requirements.

DISTRIBUTION UNLIMITED



U.S. Army Center for Health Promotion & Preventive Medicine

<http://chppm-www.apgea.army.mil>

SIPRNet: <http://usachppm1.army.smil.mil>

(800) 222-9698/ DSN 584-4375/ (410) 436-4375

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Deployment Health Guide: Wildfire Response

USACHPPM

This deployment health guide provides information that can help reduce your risk of injury and disease when deployed in response to a disaster. Army G-1 Personnel Policy Guidance (<http://www.armyg1.army.mil/MilitaryPersonnel/ppg.asp>) requires that you also receive a preventive medicine briefing prior to your deployment.

Overview

Wildfires are a growing natural hazard in most regions of the United States particularly where forests, prairies or wooded areas meet developed areas. Smoke from wildfires is a mixture of gases and fine particles from burning trees and other plant materials. Smoke can hurt your eyes and irritate your respiratory system, and worsen chronic heart and lung diseases. When smoke levels are high enough, even healthy people may experience breathing difficulty, coughing, chest discomfort, and wheezing. The main hazards associated with wildfire response are smoke inhalation, carbon monoxide, electrical hazards, physical injury, heat stress, unstable structures, fire, hazardous materials, and confined spaces.

Communication

Other Federal, state, and local officials may have higher authority than your agency and they may be coordinating the on-scene efforts. Communicate with them and understand how your mission fits into the response efforts.

Site Safety

Before you begin any response efforts, an on-scene safety officer should brief you about site safety and health issues. As conditions and missions change, the safety officer should provide updated information to allow for adjustments in safety measures.

Smoke Inhalation

The level of smoke inhalation depends on fire intensity, how close you are to the fire, your activity, weather conditions, and the terrain (smoke often fills valleys.) Particulate matter (particles suspended in the air) is the primary pollutant of concern. Smoke levels are unpredictable and concentrations change constantly. Practical respiratory protection requires on-site assessment. In peak exposure situations, trained personnel may use a respirator to protect their lungs.

Particles can cause temporary eye and respiratory tract irritation with coughing and difficulty breathing. Hot smoke and gases can also burn your airways. Contact your healthcare provider if you have any health problems.

Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas and it can kill you. Gasoline- or diesel-powered pumps, generators and pressure washers produce carbon monoxide. Never operate this type of equipment indoors without proper ventilation.

CO concentrations from wildfires generally do not pose a significant hazard, except for firefighters working very close to the fire line. These firefighters need to wear CO monitors to track their exposure. Respirators do not protect against CO exposure. Symptoms of low-level exposure include shortness of breath, mild nausea, and mild headaches. If you suspect carbon monoxide

exposure, move to fresh air immediately and seek medical attention.

Electrical Hazards

Never handle a downed power line. If you must work near a downed power line, contact the utility company to de-energize and ground or shield the power lines.

Do not stand or work in areas with thick smoke. Smoke obscures electrical lines and equipment. It also can become charged and conduct electrical currents.

If there has been water anywhere near electrical circuits and electrical equipment, turn off the power at the main breaker or fuse on the service panel. Do not turn the power back on until electrical equipment has been inspected by a qualified electrician.

Physical Injury

Heat promotes accidents due to slippery, sweaty palms; dizziness, and foggy safety glasses. Wherever there are hot surfaces or steam, burns are likely. A hot environment also lowers mental alertness and physical performance. Moving debris can cause cuts, scrapes, bruises, and sprains especially to the hands, back, knees, and shoulders. Wear leather gloves, safety goggles, and steel-toed shoes. Avoid lifting more than 50 pounds per person. Be sure you've had a tetanus vaccination within the past 10 years.

Heat Stress

Full heat acclimatization takes 7-14 days of adequate physical exertion in the heat. Physical exertion should start slowly but increase in intensity and duration.

To lower the internal body temperature, the body gets rid of excess heat by increasing blood circulation through the skin so that the heat is lost to the cooler environment. If the heat loss is not adequate, the sweat glands release fluid onto the skin.

Heat stroke is deadly. The victim's skin is hot, usually dry, red or spotted. The victim may be confused, delirious, having convulsions, or unconscious. Heat stroke victims must be hospitalized right away. Take the victim to a cool area, soak the clothing with water, and vigorously fan the body to increase cooling.

Heat exhaustion resembles the early symptoms of heat stroke. The victim still sweats but is extremely weak, may be giddy and may have nausea or

headache. In more serious cases, the victim may vomit or lose consciousness. The skin is clammy and moist. Have the victim rest in a cool place and drink plenty of liquids.

Heat cramps are painful spasms of the muscles that occur among those who sweat profusely and drink large quantities of water, but do not replace the body's salt loss. Tired muscles are usually the ones most affected by cramps. Cramps may occur during or after work hours and may be relieved by drinking liquids. Sports drinks are helpful if you sweat profusely for more than 4 hours.

- ▶ Get medical attention for heat cramps, exhaustion, or stroke.
- ▶ Drink enough water to replace sweat loss.
- ▶ If your urine becomes dark yellow and infrequent, drink more fluid.
- ▶ Use work-rest cycles and when possible, work during the cooler hours of the day. (See *Figure 1*)

Unstable Structures

Fire-damaged walkways, parking lots, roads, and buildings can be dangerous. Don't work around any fire-damaged building until it has been certified safe by an engineer or architect. Assume all structures are unsafe until they are inspected. Leave at once if shifting or noise signals a possible collapse.

Fire

Heat from smoldering wood or debris can cause new fires. Bring two or more fire extinguishers with a UL rating of at least 10A (suitable for putting out wood, paper and cloth fires) to each cleanup job.

Hazardous Materials

Fires may damage tanks, drums and pipes containing hazardous materials. Contact the local fire department or hazardous materials team before moving unidentified containers. In contaminated areas, wear protective clothing and respirators. Wash exposed skin areas frequently.