PROTECTING YOUR HEALTH:
DEPLOYMENT OCCUPATIONAL AND ENVIRONMENTAL HEALTH SURVEILLANCE PROGRAMS

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The health of our Servicemen and women and other Department of Defense (DoD) personnel is the top priority of the DoD. A critical component of the DoD's Force Health Protection program is the deployment occupational and environmental health (OEH) surveillance program. The Services' OEH professionals work to anticipate, detect, and prevent any hazardous exposures before they occur and they routinely monitor air, soil, water and other aspects of the environment for any possible hazards to Service members. To date, over 11,000 environmental samples from Iraq and Afghanistan have been collected and analyzed. The Services' OEH professionals have determined that the air, soil and water in theater overall have low risks for causing any long-term health effects. These risks are constantly reassessed.

This ongoing deployment OEH surveillance effort has successfully contributed toward the prevention of disease outbreaks and other illnesses affecting the men and women of our Armed Forces; weekly disease and injury rates are at their lowest levels in the history of military medicine at 4 percent.

Service OEH professionals respond to reports of suspected occupational or environmental hazards that become evident. An example of their successful work is the investigation of possible exposures at Qarmat Ali Industrial Water Treatment Plant.

Sodium dichromate was used by the Iraqis at Qarmat Ali to prevent the corrosion of pipes used to inject water into oil wells to increase oil production. After looters entered the facility in 2003, they spread the sodium dichromate throughout the site. Some members of the Indiana, South Carolina, West Virginia, and Oregon National Guard were on site to provide protection to Kellogg Brown & Root (KBR) employees, who were responsible for the oil site and returning it to operational status. When KBR learned that sodium dichromate was present at the facility and that it presented a possible hazard, they notified U.S. Central Command (USCENTCOM) in Kuwait.

A request was immediately made for a U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) team to evaluate the site for contamination and to assess the health of the Service members who may have been exposed. Some members of the Indiana National Guard were believed to have had the greatest potential exposures based on the time they spent at the site, and over 130 of them were administered comprehensive physical examinations.

The USACHPPM team thoroughly reviewed all of the environmental monitoring data and the results of the physical examinations, and concluded that there was no indication of any elevated risks for long-term health effects, including cancer, based on the low levels of exposure that may have occurred. The Defense Health Board, an esteemed group of medical experts and scientists from academia and other civilian institutions, supported this conclusion.

The Services' OEH professionals are in theater to protect your health and safety, and they work with commanders to eliminate hazardous exposures whenever possible. If, however, you believe you may have been harmed by any occupational or environmental health hazard, you should report the incident to you leadership, and seek prompt treatment at a Military Treatment Facility.

What is sodium dichromate?

Sodium dichromate is a chemical compound that looks like a red-orange salt. It is commonly used in leather tanning, in manufacturing of dyes and inks, as an oxidizing agent or as a corrosive inhibitor in industry, including oil well operations in some parts of the world.

How can you be exposed?

Sodium dichromate can enter the body by inhalation, ingestion, or absorption through the skin. The most common methods would be through the lungs and skin.

Have any Service members been exposed to it?

Yes, there have been some exposures at low levels. In Iraq, sodium dichromate was used at the Qarmat Ali Industrial Water Treatment Plant to prevent the corrosion of pipes at the facility. This water was used for the production of oil, not for drinking water. After looters entered the facility in 2003, sodium dichromate was spread throughout the site. Some members of the Indiana, Oregon, West Virginia and South Carolina National Guard came into contact with sodium dichromate while providing security to contractors working at the site.

An individual's reaction to sodium dichromate will differ based on how you may have been exposed, and of course, how much of the chemical you may have been exposed to.

After extensive testing of the environment and comprehensive medical assessments by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) of members of the Indiana Army National Guard (the unit that spent the most time at the site), it was determined that there were no risks identified for any long term health conditions, including cancer. The Defense Health Board also supported this conclusion.

What are the adverse health effects?

Sodium dichromate is classified as a human carcinogen. Depending on how much of the substance one is exposed to, it can destroy the tissues of the mucous membranes in the nose and upper respiratory tract. The primary health concerns from long-term workplace exposure are lung cancer, asthma, and damage to the nasal epithelia and skin. Individuals with asthma or other pulmonary diseases are highly sensitive to sodium dichromate.

An individual's reaction to sodium dichromate will differ based on how you may have been exposed, and of course, how much of the chemical you may have been exposed to. If it is swallowed, sodium dichromate can cause severe burns of the mouth, throat, and/or stomach, potentially leading to death. Skin contact with sodium dichromate may lead to redness, pain, and a severe burn. If sodium dichromate gets in your eyes, it can cause blurred vision, redness, pain and/or severe tissue burns. Inhaling the chemical may result in a sore throat, coughing, shortness of breath, and labored breathing.

What medics do to treat it?

Treatment is centered on the symptoms that exposed personnel may have. After any initial treatment for exposure has been given, medical professionals will do a full medical examination of your blood, urine and lungs to determine if any long term effects would be expected.

How does the U.S. military prevent sodium exposure?

The Military Services' occupational and environmental health (OEH) surveillance program monitors the air, water and soil in theater to detect any potential hazards to our Armed Forces both at our permanent installations and while deployed. If an environmental hazard is detected, all necessary measure will be taken to characterize the health risks, to prevent exposure and to ensure personnel are medically evaluated and treated.