



Highlights of [GAO-07-1042T](#), a testimony before the Subcommittee on Readiness, Committee on Armed Services, House of Representatives

Why GAO Did This Study

DOD defines emerging contaminants as chemicals or materials with (1) perceived or real threat to health or the environment and (2) lack of published standards or a standard that is evolving or being reevaluated. Two emerging contaminants—trichloroethylene (TCE) and perchlorate—are of particular concern to DOD because they have significant potential to impact people or DOD's mission.

TCE, a degreasing agent in metal cleaning which has been used widely in DOD industrial and maintenance processes, has been documented at low exposure levels to cause headaches and difficulty concentrating. High-level exposure may cause dizziness, headaches, nausea, unconsciousness, cancer, and possibly death. Similarly, perchlorate has been used by DOD, NASA, and others in making, testing, and firing missiles and rockets. It has been widely found in groundwater, surface water, and soil across the United States. Perchlorate health studies have documented particular risks to fetuses of pregnant women.

GAO was asked for testimony to summarize its past work on perchlorate-, TCE-, and defense-activities related to (1) the state of knowledge about the emerging contaminants TCE and perchlorate, (2) DOD responsibilities for managing TCE and perchlorate contamination at its facilities, and (3) DOD activities to address TCE and perchlorate contamination.

www.gao.gov/cgi-bin/getrpt?GAO-07-1042T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact John Stephenson at (202) 512-3841 or stephensonj@gao.gov.

ENVIRONMENTAL CONTAMINATION

Department of Defense Activities Related to Trichloroethylene, Perchlorate, and Other Emerging Contaminants

What GAO Found

While TCE and perchlorate are both classified by DOD as emerging contaminants, there are important distinctions in how they are regulated and in what is known about their health and environmental effects. Since 1989, EPA has regulated TCE in drinking water. However, health concerns over TCE have been further amplified in recent years after scientific studies have suggested additional risks posed by human exposure to TCE. Unlike TCE, no drinking water standard exists for perchlorate—a fact that has caused much discussion in Congress and elsewhere. Recent Food and Drug Administration data documenting the extent of perchlorate contamination in the nation's food supply has further fueled this debate.

While DOD has clear responsibilities to address TCE because it is subject to EPA's regulatory standard, DOD's responsibilities are less definite for perchlorate due to the lack of such a standard. Nonetheless, perchlorate's designation by DOD as an emerging contaminant has led to some significant control actions. These actions have included responding to requests by EPA and state environmental authorities, which have used a patchwork of statutes, regulations, and general oversight authorities to address perchlorate contamination. Pursuant to its Clean Water Act authorities, for example, Texas required the Navy to reduce perchlorate levels in wastewater discharges at the McGregor Naval Weapons Industrial Reserve Plant to 4 parts per billion (ppb), the lowest level at which perchlorate could be detected at the time. In addition, in the absence of a federal perchlorate standard, at least nine states have established nonregulatory action levels or advisories for perchlorate ranging from 1 ppb to 51 ppb. Nevada, for example, required the Kerr-McGee Chemical site in Henderson to treat groundwater and reduce perchlorate releases to 18 ppb, which is Nevada's action level for perchlorate.

While nonenforceable guidance had existed previously, it was not until EPA adopted its 1989 TCE standard that many DOD facilities began to take concrete action to control the contaminant. According to EPA, for example, 46 sites at Camp Lejeune have since been identified for TCE cleanup. The Navy and EPA have selected remedies for 30 of those sites, and the remaining 16 are under active investigation. Regarding perchlorate, in the absence of a federal standard DOD has implemented its own policies on sampling and cleanup, most recently with its 2006 *Policy on DOD Required Actions Related to Perchlorate*. The policy applies broadly to DOD's active and closed installations and formerly used defense sites within the United States and its territories. It requires testing for perchlorate and certain cleanup actions and directs the department to comply with applicable federal or state promulgated standards, whichever is more stringent. The policy notes, that DOD has established 24 ppb as the current level of concern for managing perchlorate until the promulgation of a formal standard by the states and/or EPA.