The new Congress has a new priority: perchlorate, both a naturally occurring and manufactured chemical most commonly used in fireworks, explosives and rocket propellant. Advanced detection technologies have uncovered widespread contamination in the United States, especially in California and other areas that have been involved with the defense industry, military and space programs.

Congress is now considering two bills that would amend the Safe Drinking Water Act to increase the growing attention on perchlorate. This legislative emphasis contrasts against scientific data and national reviews that have found that low levels of perchlorate do not pose a human health risk. Even so, as perchlorate receives more attention on Capitol Hill, it will probably also become an even greater subject of litigation.

THE PROPOSED LEGISLATION


These bills would amend §1412(b)(12) of the Safe Drinking Water Act (42 U.S.C. §300g-1(b)(12)) to require the EPA administrator to establish a health advisory for perchlorate within 90 days of enactment, a final regulation requiring monitoring for perchlorate in drinking water within 120 days of enactment, and a primary drinking water standard for perchlorate by Dec. 31. SB 24 would also require notice of measured levels of perchlorate and any potential health risks in consumer confidence reports issued under §1414(c)(4).

This proposed legislation would bypass the regular process for setting regulatory levels for contaminants of concern. The SDWA generally delegates to the EPA administrator the authority to decide whether a drinking water standard should be established. That decision is to be based on the projected adverse health effects from the contaminant, the extent of its occurrence in drinking water and whether “in the sole judgment of the administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.” 42 U.S.C. §300g-1(b)(1)(A).

In the past, Congress has intervened into this process and required issuance of a drinking water regulation for only two chemicals: arsenic and radon. Id. at §300g-1(b)(12)(A) and (13). If perchlorate joins that list, it will jump ahead of the other 50 contaminants on the EPA’s “Contaminant Candidate List” (CCL) that have been considered for regulation since 1998.

EPA PERCHLORATE REVIEW

One might expect this legislative urgency is a reaction to inattention from the EPA. To the contrary, the history of the agency’s review of perchlorate goes back almost 10 years.

Perchlorate was included in the EPA’s first CCL in 1998. See 63 FR 10274. At that time, the agency identified “significant data gaps” and placed perchlorate “in the categories of needing additional health effects, treatment research, and occurrence information.” Id. at 10282.

A significant amount of research and review has taken place since then. In 1998, the EPA released an Interim Assessment Guidance for Perchlorate, which was subject to peer review in 1999. The EPA responded in 2002 and issued a draft risk assessment document — Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization. This draft triggered a great amount of criticism from the scientific community that the EPA was overstating the health risks from perchlorate.

To address these concerns, the agency asked the National Research Council of the National Academies (NRC) to review its draft risk assessment document — Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization. This draft triggered a great amount of criticism from the scientific community that the EPA was overstating the health risks from perchlorate.
The NRC’s report, issued in January 2005, concluded that high doses of perchlorate can decrease thyroid function. It found that, at certain doses, perchlorate can interfere with the uptake of iodide, which is essential for the production of thyroid hormones. This was well-understood from the historic use of high doses of perchlorate as a therapeutic agent for patients with excessive thyroid hormone production (hyperthyroidism). In fact, because of these therapeutic qualities, potassium perchlorate remains an FDA-approved drug to modulate the uptake of iodide in certain patients.

The NRC further concluded that ingestion of low levels of perchlorate does not adversely affect the health of even the most sensitive populations, including pregnant women and children (the focus of concern in the new legislative proposals). It found that low levels of perchlorate do not interfere with iodide uptake in the thyroid or the production of thyroid hormone levels. The NRC also determined there was not convincing evidence that perchlorate exposure causes thyroid cancer in humans, which was one of the EPA’s concerns.

Overall, the NRC found that perchlorate levels more than 20 times higher than what the EPA proposed would provide a “conservative, health-protective approach to perchlorate risk assessment.” Despite criticism from some circles, the NRC recognized in its report that perchlorate exposure may come from sources other than drinking water, including food and breast milk.

In February 2005, the EPA adopted an oral reference dose for perchlorate that was consistent with the NRC’s recommendation (0.0007 milligrams per kilogram of body weight). This is the EPA’s estimate of a daily exposure level for a lifetime that is not expected to cause any adverse health effects in humans, including sensitive subgroups like pregnant women and children. This translates to a “Drinking Water Equivalent Level” (DWEL) of 24.5 parts per billion, which is probably higher than the majority of measured perchlorate contamination in drinking water supplies in the United States. A DWEL is a concentration in drinking water that will have no adverse effect, including a margin of safety (a factor of 10 in this instance). For this reason, even exposures above the DWEL are not necessarily considered unsafe.

Since these events, the EPA has stated it is continuing to evaluate whether a drinking water standard for perchlorate would represent a meaningful opportunity for reducing risks to human health, consistent with the requirements of the SDWA. The reference dose and DWEL are only guidelines used by the EPA in evaluating drinking water quality. They are not enforceable legal standards, meaning they do not trigger any cleanup or treatment obligation. They would be used by the EPA in determining a drinking water standard, which would not be expected to be lower than these levels.

**PUBLIC ATTENTION**

After years of scientific review and the NRC and the EPA’s conclusion that low levels of perchlorate in drinking water do not cause any adverse health effects, one might have expected declining interest in this subject. In fact, the opposite has occurred. A variety of nonscientific efforts appear to be the impetus for the current legislative proposals.

At the same time the NRC was conducting its review in 2004, the Natural Resources Defense Council sued the Department of Defense, the White House Office of Management and Budget and the EPA on the basis that the Bush administration was illegally withholding information about health effects from perchlorate. In its statement announcing the lawsuit, NRDC said its sources inside the EPA say “the Bush White House has weighed in heavily on the side of the Pentagon and industry to shut down” the agency’s efforts to regulate perchlorate. In 2006, the three agencies were ordered to produce additional documents in response to the NRDC’s Freedom of Information Act requests.

Throughout 2005, the NRDC and other public interest groups also criticized the NRC report and the EPA’s reference dose. They claimed the process was biased by interference from the White House, the Department of Defense and industry lobbying, and that the EPA was not adequately protecting pregnant women, developing fetuses and children. These groups particularly pointed to research findings of perchlorate in a variety of food, including milk and lettuce.

California’s Senators Barbara Boxer and Dianne Feinstein also criticized the EPA and the Bush administration. In a series of statements and letters, they called for more protective levels and quick action to set a drinking water standard. The culmination of those efforts appears to be the pending bills introduced by Boxer.

Ligation over perchlorate has also skyrocketed at the same time, perhaps not coincidentally. In California alone, hundreds of individuals have sued defense contractors for alleged personal injuries from exposure to perchlorate in drinking water. Municipalities and private companies have also sued over cleanup responsibilities under CERCLA and similar laws. For just one Superfund site, it has been estimated that it costs more than $17 million to install perchlorate remediation systems and roughly $5 million per year to operate them.

**THE IMPACT OF SB 24 AND 150**

Legislative debate over the need for these proposals will probably reinvigorate concern over whether the Bush administration has improperly interfered in the EPA’s review of perchlorate. The next presidential election will only further fuel these issues.

If passed, these bills will have several effects. Broadening monitoring will probably reveal an even larger amount of perchlorate contamination than is currently known. The requirement of a health advisory level within 90 days of passage will force the EPA to immediately revisit whether its reference dose protects all groups, including pregnant mothers, fetuses and children. This is a subject specifically called into question by the “Findings and Purposes” section of these bills.

The requirement that a drinking water standard be issued by the end of the year would be the most controversial and consequential. The specific deadlines in the bills may become an issue if the EPA does not act promptly, as has been alleged in the past. Once promulgated, the standard may also be a subject of controversy. There are few reported decisions involving (unsuc-

A drinking water standard will also affect current litigation and likely result in additional lawsuits. As noted above, municipalities, water purveyors, potentially responsible private parties and the United States government are currently litigating who is responsible for cleaning up perchlorate contamination. City of Rialto v. United States Department of Defense, EDCV 04-00079-VAP (SSx), is such a case pending before the Ninth Circuit on the issue (among others) of whether certain parties may bring contribution claims under CERCLA for perchlorate contamination. A drinking water standard that requires low levels of perchlorate would increase the remediation costs and potential liability in such cases.

A drinking water standard will also be used as support for pending claims that exposure to perchlorate at any level, and especially higher levels, caused decreased thyroid function or a risk of future injury that requires medical monitoring. Public reports that communities have been served drinking water contaminated with perchlorate are likely to increase the number of these lawsuits. The impact may not be trivial. Reports indicate that millions of Americans experience decreased thyroid function, mainly women over the age of 50.

Perchlorate is poised to become the next chemical of great attention of lawmakers and the plaintiffs’ bar. Which group is the driving force may become a subject of debate, especially in light of the science that low doses are not cause for concern. A critical question is whether our resources are better spent on other priorities. In any case, passage of SB 24 or 150 would be likely to spur litigation over the substance for years to come.

Reprinted with permission from the The Recorder’s special report issue of The Environmental Law. © 2007 NLP IP Company. All rights reserved. Further duplication is prohibited. For more information, contact Paula Rylewski at (415) 749-5410.