

## EPA's Plan to Address Perchlorate Contamination

The Environmental Protection Agency is pursuing multiple integrated actions to address perchlorate in the Nation's waters. Cleaning up existing contamination and protecting drinking water sources from future contamination are central to the agency's approach to addressing perchlorate in drinking water. As we do this important work, EPA will continue to gather data to inform the agency's future decisions and share information so that communities know about perchlorate in the environment.

### Available Resources and On-going Activities

EPA will continue using multiple authorities to reduce perchlorate in the environment and assist communities that are facing perchlorate contamination. EPA actions include:

1. **Continue ongoing cleanup activities at perchlorate contaminated sites.**<sup>1</sup> EPA is working with states to address perchlorate environmental contamination through its authorities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), known also as the Superfund program. These cleanups have already reduced perchlorate levels at some sites. Federal and state agencies have developed best management practices and state-specific regulations, which have contributed to the identification of and reductions to perchlorate levels in the environment.
2. **Propose revisions to Resource Conservation and Recovery Act (RCRA) standards for the open burning and open detonation of waste explosives and bulk propellants to reduce impacts of perchlorate to human health and the environment.** Perchlorate contamination has been associated with the open burning and open detonation (OB/OD) of waste explosives, propellants, and fireworks. EPA is considering proposing a requirement for those who conduct OB/OD to evaluate available enclosed alternative treatment technologies and a requirement to implement identified viable alternatives that would reduce environmental perchlorate contamination and resulting potential human exposures.
3. **Strengthening labeling requirements for hypochlorite solutions that include storage and handling information to minimize perchlorate formation.** In March 2018, EPA published a Federal Register notice announcing the interim decisions regarding labeling requirements for several products including those containing sodium and calcium hypochlorite as a chemical component. Sodium and calcium hypochlorite are used for disinfection of drinking water. EPA has determined there is the potential for perchlorate to form in stored hypochlorite solutions if best management practices for the storage and handling of the material are not followed. The interim decision requires that best management practice advisories be added to hypochlorite product labels for drinking water disinfection to minimize the potential for perchlorate formation during storage.

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<sup>1</sup> Perchlorate is a contaminant of concern in groundwater at approximately 20 Federal Facility and private Superfund sites. About half of these sites are in California, which has a state promulgated MCL of 6 µg/L. Several other states also have promulgated values, including Arizona, New Jersey, New York, and Texas. In addition, Massachusetts also has promulgated a value, which is the lowest state value at 2 µg/L. For sites in states lacking MCLs, Superfund applies its typical approach to develop risk-based screening levels and clean up levels. OLEM/OSWER developed a 2009 policy memo with a recommended preliminary remediation goal of 15 µg/L for perchlorate ([https://www.epa.gov/sites/default/files/documents/perchlorate\\_memo\\_01-08-09.pdf](https://www.epa.gov/sites/default/files/documents/perchlorate_memo_01-08-09.pdf)). Also in 2009, the Department of Defense issued an implementation memo that states its policy to use EPA's recommended perchlorate PRG or a more stringent state MCL at its CERCLA response action sites ([https://www.navfac.navy.mil/content/dam/navfac/Specialty%20Centers/Engineering%20and%20Expeditionary%20Warfare%20Center/Environmental/Restoration/er\\_pdfs/gpr/dod-ev-pol-perchlorate-20100303.pdf](https://www.navfac.navy.mil/content/dam/navfac/Specialty%20Centers/Engineering%20and%20Expeditionary%20Warfare%20Center/Environmental/Restoration/er_pdfs/gpr/dod-ev-pol-perchlorate-20100303.pdf)). Currently, there is a perchlorate Regional Screening Level (RSL) for tap water of 14 µg/L based on an IRIS toxicity value.

- 4. Providing resources and recommendations for water systems to address perchlorate contamination.** EPA has provided resources that could be used to reduce perchlorate exposure via drinking water. For example, the Bipartisan Infrastructure Law includes \$9 billion for emerging contaminants in drinking water that could be used for addressing perchlorate (\$4 billion through the drinking water state revolving fund and \$5 billion through the Small, Underserved, and Disadvantaged Communities WIIN Grant Program).

To assist small drinking water systems that often have limited technical, financial, and managerial capabilities, EPA presented new perchlorate water treatment models in 2021.<sup>2</sup> These models can help small systems in estimating the costs of installation, operation, and maintenance of perchlorate treatment.

## Planned Activities

- 1. Conduct Studies to Characterize Perchlorate Occurrence in Ambient Waters.** EPA conducted national occurrence monitoring for perchlorate in public drinking water systems between 2001 and 2005. Since then, industry indicators show that sales and usage of fireworks have increased substantially. Available studies with limited scope suggest that perchlorate levels in surface waters tend to increase following fireworks display events and then eventually decrease over the course of weeks back to background concentrations. To further examine levels of perchlorate, EPA will support research to evaluate the levels of perchlorate in ambient waters after firework display events through an EPA research grant program. The purpose of the research grant will be to conduct a study focused on characterizing perchlorate occurrence by understanding the behavior and dynamics of perchlorate in ambient waters following fireworks display events. EPA anticipates that the research grant will be awarded and that scientists will be working on a sampling collection plan by spring of 2023.
- 2. Develop a Web-Based Toolkit about Perchlorate.** EPA plans to establish a web-based toolkit to provide relevant information, tools and updated technical information to assist drinking water systems and communities who may have concerns regarding perchlorate contamination of their source water. EPA anticipates that this website would be available online in 2022.

EPA has also completed its review of a July 2020 determination to not regulate perchlorate in drinking water. The agency concluded that the 2020 decision is supported by the best available peer reviewed science. EPA's determination under the Safe Drinking Water Act does not impact any state standards.

For more information related to perchlorate in drinking water, please visit:

<https://www.epa.gov/sdwa/perchlorate-drinking-water>.

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<sup>2</sup> "Estimating costs for nitrate and perchlorate treatment for small drinking water systems" available at [https://cfpub.epa.gov/si/si\\_public\\_record\\_Report.cfm?dirEntryId=351564&Lab=NRML](https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=351564&Lab=NRML)