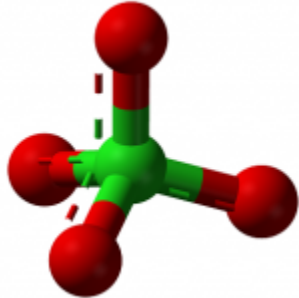


# Perchlorate in Drinking Water



## Background

Perchlorate is a naturally occurring and manufactured chemical anion that consists of one chlorine atom bonded to four oxygen atoms ( $\text{ClO}_4^-$ ). Perchlorate is commonly used as an oxidizer in rocket propellants, munitions, fireworks, airbag initiators for vehicles, matches and signal flares. It is naturally occurring in some fertilizers.

On February 11, 2011, EPA determined that perchlorate meets the Safe Drinking Water Act criteria for regulation as a contaminant. The Agency found that perchlorate may have an adverse effect on the health of persons and is known to occur in public drinking water systems with a frequency and at levels that present a public health concern. Since that time, EPA has been reviewing the best available scientific data on a range of issues related to perchlorate in drinking water including its health effects, occurrence, treatment technologies, analytical methods and the costs and benefits of potential standards.

## **Perchlorate Peer Review of Revised Model and MCLG Approach Report**

As part of EPA's commitment to ensuring the safety of America's drinking water, the agency is seeking public input on the materials that will undergo independent, expert peer review to help inform the agency's decision making on perchlorate under the Safe Drinking Water Act. This is the second peer review the agency will undertake to determine the appropriate scientific approach for understanding the adverse health impacts of perchlorate in drinking water. After the peer review is complete, EPA will take the next appropriate steps under the Safe Drinking Water Act.

## **Peer Review Public Meeting**

EPA is announcing a public peer review meeting and the final list of expert peer review panelists. EPA expects the peer review panelists will participate in a two-

day peer review meeting on January 29-30, 2018, to discuss the scientific basis of the perchlorate supporting documents. The public may attend the meeting in-person or via teleconference and may request to make a brief oral statement by pre-registering by January 17, 2018, using the process described in the Federal Register Notice. The final charge questions for the panel may be viewed in Docket ID No. EPA-HQ-OW-2016-0439. Following the peer review meeting, a peer review summary report will be prepared and will be made available to the public.

### **Peer Review of Previous [Perchlorate BBDR Model](#)**

EPA collaborated with Food and Drug Administration scientists to implement the 2013 Science Advisory Board (SAB) recommendations to develop a Physiologically Based Pharmacokinetic/Pharmacodynamic (PBPK/PD) or Biologically Based Dose Response (BBDR) model that will integrate available health related information in a robust and transparent analysis of the effects of perchlorate on thyroid hormone production.

A peer review was completed for the previous Perchlorate Biologically Based Dose Response (BBDR) model and model report.

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## **Supplemental Information**

### **Technical Fact Sheet**

A technical fact sheet has been developed for perchlorate that includes: physical and chemical properties; environmental health impacts; existing federal and state guidelines; and detection and treatment methods.

### **Perchlorate Reference Dose**

EPA has established a reference dose (RfD) for perchlorate, which is consistent with the reference dose recommended by the National Research Council's 2005 report.

### **Interim Health Advisory**

In January 2009, EPA issued an Interim Health Advisory for perchlorate to assist state and local officials in addressing local contamination of perchlorate in drinking water while the Agency conducted its evaluation of the opportunity to reduce risks through a national primary drinking water regulation.

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# **Federal Register Notices**

## **Final Regulatory Determination Notice for Perchlorate**

EPA decided to regulate perchlorate under the Safe Drinking Water Act (SDWA). The science that lead to this decision has been peer reviewed by independent scientists and public health experts including the National Academy of Sciences.

## **Supplemental Request for Comments on Preliminary Regulatory Determination**

On August 19, 2009, EPA published the Perchlorate Supplemental Request for Comments requesting comment on additional approaches to analyzing data related to EPA's perchlorate preliminary regulatory determination.

## **Preliminary Regulatory Determination Notice for Perchlorate**

On October 10, 2008, EPA published a preliminary regulatory determination for perchlorate. This notice requested public comment on its determination that perchlorate did not occur with a frequency and at levels of public health concern and that development of a regulation did not present a meaningful opportunity for health risk reduction for persons served by public water systems.