



PROPOSED

NOTIFICATION LEVEL ISSUANCE

Contaminant(s):	Perfluorohexane Sulfonic Acid (PFHxS)
Proposed Notification Level:	2 nanograms per liter (ng/L)
Proposed Response Level:	confirmed sample of 20 nanograms per liter (ng/L) (see finding 9)
Analytical Method:	EPA Methods 537.1 and 533
Toxicological Endpoint:	Decreased total thyroid hormone in male rats

FINDINGS:

1. Health and Safety Code section 116455 authorizes the State Water Resources Control Board (State Water Board) to issue notification and response levels for contaminants in drinking water delivered for human consumption before a maximum contaminant level (MCL) has been adopted. Pursuant to subdivision (k)(2) of section 116271 of the Health and Safety Code, the Deputy Director of the Division of Drinking Water (DDW) is delegated the State Water Board’s authority to issue notification and response levels.
2. Notification levels are nonregulatory, health-based advisory levels for contaminants that are established as precautionary measures.
3. Response levels are established in conjunction with notification levels and represent the concentration of a drinking water contaminant at which additional steps, beyond notification, are recommended to reduce public exposure. For contaminants with non-cancer health risks, a response level up to 10 times the toxicological endpoint is consistent with an acceptable margin of safety.
4. Currently, there are 32 chemicals with notification levels. Information on notification and response levels is available at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.html.
5. PFHxS is a six-carbon fluorocarbon with a functional group that acts as an anionic surfactant that can be used in numerous commercial products to offer water- and stain-repellent properties and in fire-fighting foams. It does not occur naturally, and its presence in the environment is due to anthropogenic activity. Due to its saturation with highly stable carbon-fluorine bonds, the PFHxS molecule is resistant to degradation. As a result, this compound persists in the environment and in biological organisms.
6. The establishment of notification and response levels does not require public water



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systems to monitor for the contaminant, except when water systems are subject to recycled water regulations at Title 22, California Code of Regulations, division 4, chapter 3. Some water systems, however, will sample for constituents in addition to those contaminants for which there are MCLs, and if those monitoring results indicate that a notification level has been exceeded, the water system must comply with Health and Safety Code section 116455.

7. Health and Safety Code section 116378 requires community and nontransient noncommunity water systems, when ordered to monitor for PFAS, to
 - A. Report detected results in the water system's annual consumer confidence report,
 - B. Notify the water system's governing body if a notification level is exceeded, and
 - C. Either remove a water source from use or provide public notification within 30 days if a response level is exceeded.
8. In addition to the sections 116378 and 116455 requirements, DDW recommends that a public water system inform its customers and consumers about the presence of the contaminant and any associated health concerns.
9. A response level exceedance will be based on a confirmed detection since the toxicant could adversely affect the growth and development in fetuses, infants, and young children. Fetal development occurs within a span of approximately nine months with critical development occurring within the first trimester.
10. When a PFHxS water quality result in excess of the response level occurs, DDW recommends that the laboratory notify the public water system within 48 hours of receiving the result. DDW further recommends that the public water system:
 - A. Collect and analyze a confirmation sample;
 - B. If the average of the two PFHxS sample results exceeds the RL, report the result to the State Board within 48 hours. If the average does not exceed the RL, inform the State Board of the results within seven days from the receipt of the original analytical result; and
 - C. If a system is unable to resample within 48 hours, it should issue a public notice to the consumers in order to avoid exposures to young children and pregnant women and should collect and analyze a confirmation sample within two weeks of notification of the results of the first sample.
11. In February 2020, DDW requested that the Office of Health Hazard and Assessment (OEHHA) prepare a recommendation for a notification level for PFHxS.



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12. On March 17, 2022, OEHHA provided a memorandum and technical document entitled *Perfluorohexane Sulfonic Acid in Drinking Water*. The recommended notification level of 2 ng/L or parts per trillion (ppt) represents the concentration of PFHxS in drinking water that would not pose any significant health risk.
13. Water quality data from January 1, 2017 to April 5, 2022 indicates that there were 22 labs that submitted water quality findings for PFHxS. Over 80% of the reported results achieved reporting limits of ≤ 2 ng/L. Currently, the Environmental Laboratory Accreditation Program offers accreditation for two methods, EPA Method 537.1 and EPA Method 533, to analyze for PFHxS in drinking water.
14. In accordance with section 116456 of the Health and Safety Code, DDW posted the proposed notification and response levels for PFHxS on its website, along with OEHHA's recommendation and links to peer-reviewed studies relied upon. DDW provided notice of the proposed notification and response levels, with supporting documentation, via email on July 7, 2022. Documents related to development of the notification and response levels are available at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.html.
15. On August 16, 2022, DDW presented a proposed notification level of 2 ng/L and a response level of 20 ng/L for PFHxS as an informational item during the regularly noticed meeting of the State Water Board.

Therefore, the Deputy Director of DDW establishes a notification level of 2 ng/L and response level of 20 ng/L for PFHxS.

Approved:

Darrin Polhemus, P.E.
Deputy Director, Division of Drinking Water
State Water Resources Control Board

Date