State Water Resources Control Board

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DIVISION OF DRINKING WATER
State Water Resources Control Board

DATE: May 27, 2025

SUBJECT: REQUEST TO ESTABLISH PUBLIC HEALTH GOAL (PHG) FOR PERFLUOROHEXANE SULFONIC ACID (PFHxS)

Notification Level Recommendations

In 2020, the State Water Resources Control Board's (State Water Board) Division of Drinking Water requested that the Office of Environmental Health Hazard Assessment (OEHHA) develop notification level recommendations for perfluorobutane sulfonic acid (PFBS), perfluorohexane sulfonic acid (PFHxS), perfluorohexanoic acid (PFHxA), perfluoroheptanoic acid (PFHpA), perfluorononanoic acid (PFNA), perfluorodecanoic acid (PFDA), and 4,8-dioxia-3H-perfluorononanoic acid (ADONA). OEHHA provided recommended notification levels for PFBS, PFHxS, and PFHxA in 2021, 2022, and 2024, respectively, and anticipates providing a recommendation for PFHpA in the near future. The State Water Board appreciates the recommendations provided and looks forward to receiving the PFHpA recommendation. At this time, however, notification level recommendations for PFNA, PFDA, and ADONA are no longer required.

PFHxS Public Health Goal Request

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. PFHxS 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. PFHxS adversely affects growth and development in fetuses, infants, and young children and may result in increased health risks for immune and liver effects.

In 2022, OEHHA provided a recommendation of 2 nanograms per liter (ng/l) or at the lowest level that can be detected with available technologies, based on thyroid toxicity. The Deputy Director for the State Water Board's Division of Drinking Water established a PFHxS notification level of 3 ng/l and a response level of 20 ng/l.

Based on reported drinking water system monitoring data collected since 6 May 2019, there are 1,609 sample points with detections of PFHxS at or above 2 ng/l. Based on these results, 130 public water systems that serve a population of approximately 9.7 million people are impacted with PFHxS (highest detection per sample and per system).

An enforceable California primary drinking water standard has not been established for PFHxS. Based on associated health risks, the population impacted, and California's policy to reduce to the lowest level feasible all concentrations of toxic chemicals that, when present in drinking water, may cause cancer, birth defects, and other chronic diseases, and ensure that water delivered by public water systems is at all times pure, wholesome, and potable, the State Water Board intends to promulgate a maximum contaminant level (MCL) for PFHxS.

Health and Safety Code section 116365, subdivision (a), requires an MCL to be established at a level as close to its public health goal (PHG) as is technologically and economically feasible, placing primary emphasis on the protection of public health. The State Water Board hereby requests that OEHHA establish a PHG for PFHxS so that MCL rulemaking work may proceed.

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