# Hexafluoropropylene Oxide (HFPO) (GenX) Contamination Detected in Drinking Water

As an essential nutrient required for life all around the world our drinking water is constantly tested for contaminants that may affect the health of the population. Not only tested for human consumption our waters are tested for the effects on animals and our general environment. Depending on their concentration, individual substances dissolved in water can be toxic and even irreversibly impair people's health. Very slight concentrations are all it takes for a number of contaminants to have a toxic effect.

The recent detection of GenX, manufactured by Chemours, in the Cape Fear River, Wilmington, N.C. USA has prompted widespread analysis of drinking water for this contaminant in the US and Europe.

Hexafluoropropylene Oxide (HFPO) is a well-known versatil synthetic building block in the manufacturing of fluoropolymers (such as perfluoroalkoxy plastics) as well as a number of poly and per-fluorinated intermediates. Although it is used to produce a vast number of commercial products, its reactivity makes its survival in the environment unlikely. However, HFPO can react to form a stable dimer acid during oligomerization, or other manufacturing processes, which could lead to its detection in environmental samples. The presence of this HFPO dimer acid (HFPO-DA) in the environment could be due to residual leaching from commercial products or direct release during the manufacturing processes. GenX is used in the production of fluoropolymers (eg Teflon) and is used as a replacement for PFOA.

Pursuant to the Toxic Substances Control Act regarding a "substantial risk of injury to health or the environment" the EPA has stated that it had concerns that GenX "will persist in the environment, could bioaccumulate, and be toxic to people, wild mammals, and birds. . . . There is high concern for possible environmental effects over the long-term . . .and the EPA has human health concerns."

For this reason, Wellington Laboratories synthesized a native and mass-labelled (13C) hexafluoropropylene oxide dimer acid reference standard, **HFPO-DA** and **M3HFPO-DA** respectively in 2013, in anticipation of the emerging problems of contamination and to aid researchers in their quantification of this potential environmental contaminant.

Wellington Laboratories www.well-labs.com offer both the native and 13C analogue. They can be purchased either by

Web: www.greyhoundchrom.com

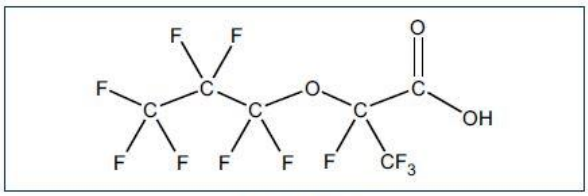
Email: sales@greyhoundchrom.com

or Phone: +44 (0) 151 649 4000

Wellington Laboratories full range of products are available from www.greyhoundchrom.com

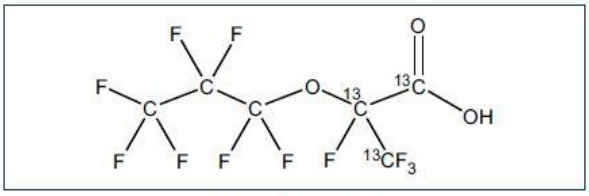
Buy On-line at www.greyhoundchrom.com

HFPO-DA 2,3,3,3 - Tetrafluoro-2(1,1,2,2,3,3,3-heptafluoropropoxy) propanic acid



HFPO-DA

M3HFPO-DA  2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy) - 13C3-propanoic acid



M3HFPO-DA

Wellington Laboratories and Greyhound Chromatography working in partnership to bring Testing and Analysis Laboratories the best Reference Standards and Materials on the market.

For Over 35 years Wellington Laboratories Inc. and Greyhound Chromatography have been internationally recognised as trusted sources of high quality reference standard solutions for use in environmental / analytical testing and toxicological research.

Wellington Laboratories offers an extensive inventory of individual certified reference standards and solution mixtures of native and mass-labelled halogenated organic compounds including polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, polychlorinated biphenyls, halogenated flame retardants and perfluorinated compounds. Wellington Laboratories also offer a variety of calibration sets and support solutions designed to be used for common regulatory methods or modified in-house methods.