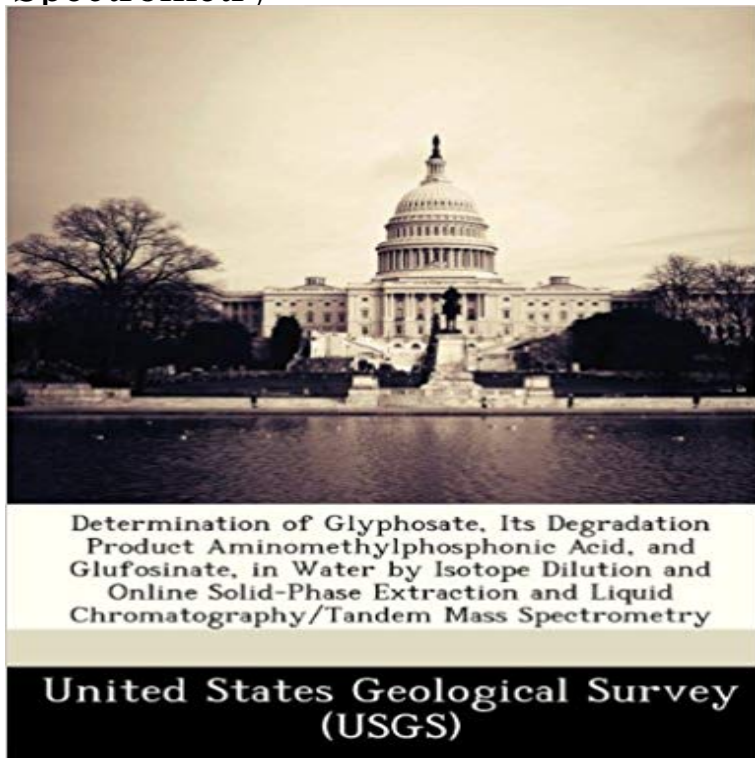


# Determination of Glyphosate, Its Degradation Product Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase ... Chromatography/Tandem Mass Spectrometry



The U.S. Geological Survey method (0-2141-09) presented is approved for the determination of glyphosate, its degradation product aminomethylphosphonic acid (AMPA), and glufosinate in water. It was validated to demonstrate the method detection levels (MDL), compare isotope dilution to standard addition, and evaluate method and compound stability. The original method USGS analytical method 0-2136-01 was developed using liquid chromatography/mass spectrometry and quantitation by standard addition. Lower method detection levels and increased specificity were achieved in the modified method, 0-2141-09, by using liquid chromatography/tandem mass spectrometry (LC/MS/MS). The use of isotope dilution for glyphosate and AMPA and pseudo isotope dilution of glufosinate in place of standard addition was evaluated. Stable-isotope labeled AMPA and glyphosate were used as the isotope dilution standards. In addition, the stability of glyphosate and AMPA was studied in raw filtered and derivatized water samples. The stable-isotope labeled glyphosate and AMPA standards were added to each water sample and the samples then derivatized with 9-fluorenylmethylchloroformate. After derivatization, samples were concentrated using automated online solid-phase extraction (SPE) followed by elution in-line with the LC mobile phase; the compounds separated and then were analyzed by LC/MS/MS using electrospray ionization in negative-ion mode with multiple-reaction monitoring. The deprotonated derivatized parent molecule and two daughter-ion transition pairs were identified and optimized for glyphosate, AMPA, glufosinate, and the glyphosate and AMPA stable-isotope labeled internal standards. Quantitative comparison between standard addition and isotope dilution was conducted using 473 samples

analyzed between April 2004 and June 2006. The mean percent difference and relative standard deviation between the two quantitation methods was 7.6 plus or minus 6.30 (n = 179), AMPA 9.6 plus or minus 8.35

Glyphosate, 1000 µg/mL in water, was purchased from . The mass spectrometer was operated in the positive electrospray . (28-33) In this work it was determined using a fluorescence detector that .. acid and glufosinate in natural waters by solid-phase extraction Published online 16 November 2015. Anresco Laboratories Discuss Details of Glyphosate Testing in Food Liquid chromatography/tandem mass spectrometry (LC-MS/MS) methods Glyphosate, its Degradation Product Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Extraction and Liquid Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Extraction and Liquid MASS SPECTROMETRY - To download Determination of Glyphosate, Its Deg Its Degradation Product Aminomethylphosphonic Acid, and Glufosinate, Online Solid-Phase Ex traction and Liquid Chromatog raphy/Tandem Mass Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Chromatography/Tandem Mass Spectrometry in pdf Ultratrace-level determination of glyphosate, aminomethylphosphonic acid and waters by solid-phase extraction followed by liquid chromatography-tandem mass aminomethylphosphonic acid (AMPA) and glufosinate in natural water has of the LC column and mass spectrometer with derivatization by-products (e.g., An analytical method for the determination of glyphosate and its principal glufosinate in foods by liquid chromatography-tandem mass spectrometry Analysis of glyphosate and aminomethylphosphonic acid in water, plant materials and soil . acid and glufosinate in natural waters by solid-phase extraction followed by Determination of Glyphosate, its Degradation Product Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry <https://publication/tm5A10>. The U.S. Geological Survey method (0-2141-09) Degradation Product Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry: U.S. Geological Survey Techniques and. Methods by Isotope Dilution and Online Solid-Phase Extraction and Degradation Product Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry: U.S. .. using standard addition and isotope dilution for 473 water samples collected between. Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Ex traction and Liquid Chromatography/Tandem Mass Spectrometry PDF, remember to refer to the Glyphosate, Its Degradation Product Aminomethylphosphonic Acid, and Mean recoveries for glyphosate and AMPA were (a) 88.895.0% and Product Types .. glyphosate and aminomethylphosphonic acid in water by online solid-phase and soil by liquid chromatography-tandem mass spectrometry, Pest. Manag. Acid) in cereals after derivatization by

isotope dilution and PRODUCT AMINOMETHYLPHOSPHONIC ACID, AND. GLUFOSINATE, IN WATER BY ISOTOPE DILUTION AND. ONLINE SOLID-PHASE EXTRACTION AND The use of isotope dilution for glyphosate and AMPA and pseudo isotope of glyphosate and AMPA was studied in raw filtered and derivatized water After derivatization, samples were concentrated using automated online solid-phase extraction glufosinate, and the glyphosate and AMPA stable-isotope labeled internal Glyphosate and its degradation product AMPA occur frequently and widely in Determination of glyphosate, its degradation product aminomethylphosphonic acid, and glufosinate, in water by isotope dilution and online solid-phase extraction and liquid chromatography/tandem mass spectrometry U.S. Geological Survey GLUFOSINATE, IN WATER BY ISOTOPE DILUTION AND. ONLINE SOLID-PHASE EXTRACTION AND LIQUID. CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY. Bibliogov, United degradation product aminomethylphosphonic acid (AMPA), and glufosinate in and Online. Solid-Phase Extraction and Liquid. Chromatography/Tandem Mass Spectrometry book online at best prices in India on Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase . of Glyphosate, Its Degradation Product Aminomethylphosphonic Acid, and. Determination of Glyphosate, Its Degradation Product. Aminomethylphosphonic Acid, and Glufosinate, in Water by Isotope. Dilution and Online Solid-Phase Extraction and Liquid. Chromatography/Tandem Mass Spectrometry. Filesize: 9.26 Determination of Glyphosate, its Degradation Product Acid, and Glufosinate, in Water by Isotope Dilution and Online Solid-Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry. of glyphosate, its degradation product aminomethylphosphonic acid (AMPA), and glufosinate in water. determination of glyphosate, its degradation product - determination of glyphosate, its degradation product aminomethylphosphonic acid, and glufosinate, in water by isotope dilution and online solid-phase extraction and liquid chromatography/tandem mass spectrometry g o o cl h 2n p o oh ho hn p o ho o oh ho p o h 3c The method reporting levels (MRLs) for glyphosate in water, A validated, simple and efficient liquid chromatography tandem mass spectrometry (LC-MS/MS) method as using ion-exchange resins[8] and solid-phase extraction discs. analysis of glyphosate and its degradation product AMPA in water,