

December 18, 2001

To: Water Resources Discipline

From: Peter F. Rogerson, Senior Chemist
Office of Water Quality

For: LeRoy Schroder, Chief
Branch of Quality Systems

Subject: Approval of a Water Quality Analytical Method for the Determination of Glyphosate, Aminomethylphosphonic Acid, and Glufosinate in Water by LC/MS

The Office of Water Quality (OWQ) has approved a new water-quality analytical method by the U.S. Geological Survey (USGS) Organic Geochemistry Research Group, Lawrence, Kansas for the determination of the herbicides glyphosate, its degradation product aminomethylphosphonic acid, and glufosinate in filtered water. The method uses online solid-phase extraction and high-performance liquid chromatography/mass spectrometry (LC/MS), USGS method number O-2136-01. This water-quality analytical method approval follows the technical procedure specified in OWQ Tech Memo 98.05. The Open File Report (OFR) is entitled:

Methods of Analysis by the U.S. Geological Survey Organic Geochemistry Research Group - Determination of Glyphosate, Aminomethylphosphonic acid, and Glufosinate in Water Using Online Solid-Phase Extraction and High-Performance Liquid Chromatography/Mass Spectrometry, by E. A. Lee, A. P. Strahan, and E. M. Thurman. U.S. Geological Survey OFR 01-454.

The 2 herbicides and the degradation product are determined in concentration ranges from 0.1 to 2 ug/L. Samples above 2 ug/L are diluted and re-analyzed. The Organic Geochemistry Research Group, Lawrence, KS, refers to this method as Analysis Code LCGY.

The following list of National Water Information System (NWIS) Parameter Codes (pending), Method Codes, and analytes have been established for filtered water concentration data from this approved method:

Glyphosate by LC/MS Method (USGS Method Number O-2136-01)

Parameter Code	Method Code	Analyte Name
62722	T	Glyphosate, Water, Filtered, Recoverable, ug/L
62649	T	Aminomethylphosphonic acid, Water, Filtered, Recoverable, ug/L
62721	T	Glufosinate, Water, Filtered, Recoverable, ug/L

The fixed value for the analyzing agency (parameter code 00028) is: 82013 (District Research Water-Quality lab, Lawrence, KS.)

If you would like a copy of the report when published, please contact Betty Scribner (scribner@usgs.gov) (785) 832-3564. If you have questions about the method approval process, please contact Pete Rogerson (rogerson@usgs.gov) (303) 236-1836.