

Glyphosate in Soil Sample Preparation

1. Intended Use

For the detection of Glyphosate in soil.

2. Sensitivity

18.75 ppb in matrix

3. Materials and Reagents Required

Analytical balance

40 mL glass vials with Teflon-lined caps

4 mL glass vials with Teflon-lined caps

25mL graduated cylinder or disposable pipettes

Scoopula

Micropipettes with disposable plastic tips

Vortex mixer

Shaker or vial holder with insert retainer for vortex mixer

Centrifuge

Timer

1 N Sodium hydroxide (NaOH)

ABRAXIS® Glyphosate Sample Diluent (PN 500082)

ABRAXIS® Glyphosate Plate ELISA Kit (PN 500205)

4. Notes and Precautions

This procedure is intended for use with soil samples. Other matrices should be thoroughly validated before use with this procedure.

- Sodium hydroxide must be handled with care. Wear appropriate protective clothing (gloves, glasses, etc.). Avoid contact with skin and mucous membranes. If contact occurs, wash with copious amounts of water and seek appropriate medical attention.

5. Procedure

5.1 Weigh 10 g of soil sample into an appropriately labeled 40 mL glass vial.

5.2 Add 25 mL of 1 N NaOH.

5.3 Place vial onto shaker and shake vigorously for 30 minutes.

5.4 Centrifuge at 6000 rpm for 5 minutes.

5.5 Pipette 1 mL of the supernatant into an appropriately labeled 4 mL glass vial with a Teflon-lined cap.

5.6 Add 3.96 mL of ABRAXIS® Glyphosate Diluent to a clean, appropriately labeled 4 mL glass vial. Add 40 µL of the supernatant (from step 5.5) to the ABRAXIS® Glyphosate Diluent in the vial (1:100 sample dilution). Vortex.

5.7 This will then be analyzed as sample, see *Derivatization of Standards, Control, and Samples* in the Test Preparation section of the ABRAXIS® Glyphosate Plate ELISA Kit user's guide.

6. Evaluation of Results

The Glyphosate concentration in the samples is determined by multiplying the ELISA results by a factor of 250. Sample extracts showing a concentration lower than standard 1 (0.075 ppb) should be reported as containing < 18.75 ppb of Glyphosate. Samples showing a higher concentration than standard 5 (4.0 ppb) can be reported as containing > 1000 ppb of Glyphosate or diluted further and re-analyzed to obtain an accurate quantitative result.

8. For ordering or technical assistance contact:

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