



## User's Manual

# Alachlor ELISA kit



DEIABL446



96T





This product is for research use only and is not intended for diagnostic use.

For illustrative purposes only. To perform the assay the instructions for use provided with the kit have to be used.

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## PRODUCT INFORMATION

### Intended Use

For the detection and quantitation of Alachlor and related acetanilides in water (groundwater, surface water, well water). For soil, crop, and food use contact the company for application bulletins and/or specific matrix validation guidelines.

### Principles of Testing

The Alachlor Microtiter Plate Kit applies the principles of enzyme linked immunosorbent assay (ELISA) to the determination of Alachlor. In the assay system, standards, controls, or samples are added, along with an enzyme conjugate, to microtiter wells coated with Goat Anti-Rabbit Antibody. An antibody specific for Alachlor is then added. At this point, a competitive reaction occurs between the Alachlor or other acetanilides, which may be in the sample and the enzyme-labeled Alachlor analog for the antibody binding sites on the microtiter well. The reaction is allowed to continue for sixty (60) minutes. After a washing step, the presence of Alachlor is detected by adding the "Color Solution," which contains the enzyme substrate (hydrogen peroxide) and the chromogen (3,3',5,5'-tetramethylbenzidine). The enzyme-labeled Alachlor bound to the Alachlor antibody catalyzes the conversion of the substrate/chromogen mixture to a colored product. The color reaction is stopped and stabilized after a twenty (20) minute incubation period by the addition of diluted acid (stopping solution). The color is then evaluated using an ELISA reader.

### Reagents And Materials Provided

1. Microtiter Plate coated with Goat-Anti Rabbit Antibody

96 test kit: 12 strips of 8 antibody coated wells and strip holder.

2. Alachlor Antibody Solution

Alachlor antibody (rabbit anti-alachlor) solution in a buffered saline solution with preservative and stabilizers.

96 test kit: One vial containing 6 mL

3. Alachlor Enzyme Conjugate

Horseradish peroxidase (HRP) labeled Alachlor analog in a buffered solution with preservative and stabilizers.

96 test kit: One vial containing 6 mL

4. Alachlor Standards

Six concentrations (0, 0.1, 0.25, 0.5, 1.0, 5.0 ppb) of Alachlor standards in distilled water with preservative and

stabilizers. 96 test kit: Each vial contains 1.0 mL

5. Control

A concentration (approximately 0.75 ppb) of Alachlor in distilled water with preservative and stabilizers.

96 test kit: One vial containing 1.0 mL

6. Diluent/Zero Standard (Sample Diluent)

Distilled water with preservative and stabilizers without any detectable Alachlor.

96 test kit: One bottle containing 30 mL

7. Color Solution

A solution of hydrogen peroxide and 3,3',5,5'-tetramethyl benzidine in an organic base.

96 test kit: One bottle containing 16 mL

8. Stopping Solution

A solution of diluted acid.

96 test kit: One bottle containing 12 mL

9. Washing Buffer (5x) Concentrate

Buffered salts with detergent and preservatives.

96 test kit: One bottle containing 100 mL

## Materials Required But Not Supplied

In addition to the reagents provided, the following items are essential for the performance of the test:

- Precision pipets capable of delivering 25, 50, 100, and 250 µL, and tips\*
- Tape or Parafilm\*
- Timer\*
- Distilled or deionized water for diluting Wash Buffer
- Storage bottle with 1000 mL capacity for storage of 1x Wash Buffer\*
- Microplate or strip reader capable of reading absorbance at 450 nm\*

## Storage

Store all reagents at 2-8°C. Do not freeze. Reagents may be used until the expiration date on the box.

Consult state, local and federal regulations for proper disposal of all reagents.

## Precision

% CV (within assay): 6.0-12.1%

## Detection Limit

The Alachlor Plate Assay has an estimated minimum detection concentration based on a 90% B/Bo of 0.08 parts per billion (ppb).