

DDT IN SOIL TEST KIT

Envirogard® is a rapid field enzyme immunoassay method for the analysis of soil remediation, assessment and industrial testing. It uses a coated tube technology to detect the analyte of concern.

Test result type

- Semi-quantitative or qualitative data

Samples per kit

- Up to 17 soil sample test results can be obtained per kit, depending upon the number of runs and action levels used.
- Typical applications use two or three calibrators and one negative control.

Assay range

- Semi-quantitative results (greater or less than) at calibrator (action) levels of 0.2, 1.0 and 10.0 ppm DDT.
- Minimum detection level (MDL) is 0.2 ppm DDT.
- No maximum screening level as extracts can be diluted into test range

Sampling preparation

- Soil samples require prior extraction using the MWI Sample Extraction Kit (sold separately).
- The Sample Extraction Kit provides material for 12 soil sample extractions with methanol.

Sampling time

- Soil extraction time is typically 2 minutes per sample plus assay run time of approximately 30 minutes.

Specificity

The EnviroGard DDT immunoassay test does not differentiate between DDT and other organochlorines. The table below shows compounds at the minimum detection limit (MDL) -an approximate concentration required to yield a positive result at the lowest standard. The IC₅₀ is the concentration required to inhibit one half of the color produced by the negative control. It is also used to calculate cross-reactivity values to similar compounds.

- » Rapid and simple field testing procedures
- » Semi-quantitative data results at set calibrator (action) levels
- » Test up to 17 samples at once for increased cost efficiency
- » Results available in less than 30 minutes
- » Coated tube immunoassay
- » EPA SW-846 Method #4042



DDT SOIL (PPM)

Contaminant	MDL	IC ₅₀
p,p'-DDT (kit calibrator)	0.2	1.25
p,p'-DDD	0.05	0.3
p,p'-DDE	0.6	3.6
o,p'-DDT	14.9	93
o,p'-DDD	1.76	11
o,p'-DDE	14.9	93
DDA	0.01	0.04
Chloropropylate	0.01	0.08
Chlorobenzilate	0.06	0.35
Dicofol	0.3	2
Tetradifon	1.2	14

Basic Test Procedure

- Extract the soil sample using the MWI Sample Extraction Kit
- Pipet DDT assay diluent into the antibody coated tubes, then add either DDT calibrator or sample extract to the tubes along with DDT enzyme conjugate.
- Wait 15 minutes, then decant and wash the tubes.
- Add substrate.
- Wait for 10 minutes, add stop solution
- Read the absorbance using a photometer, and interpret the results. (Refer to DDT Soil Test Kit Instruction Guide procedures.)

Other recommended materials

- » Latex gloves
- » Absorbent paper for blotting test tubes
- » Liquid and solid waste containers
- » Calculator

Test kit components

- » 20 antibody coated tubes
- » Enzyme conjugate, colour developing and colour stop solution reagents
- » Calibrators for 0.2, 1.0 and 10.0 ppm DDT.
- » Negative control calibrator
- » Test tube rack and pipet tips.
- » Test kit instructions

Storage & precautions

- » Shelf life is typically one year from date of manufacture, with specific kit expiration date information provided on product packaging
- » Components must be stored at 39° to 46°F (4° to 8°C) when not in use
- » Store at ambient temperature 64° to 81°F (18° to 27°C) is acceptable for day of use
- » Do not expose to direct sunlight
- » Portable spectrophotometer battery should be charged prior to use.

Required Test Materials

Part

- » EnviroGard® DDT Soil Kit 7310000
- » Sample Extraction Kit (soil) 7310000EB

Required Test Equipment

- » Field soil lab (Accessory kit) which includes: 6050400
 - » Repeating pipette*
 - » Adjustable pipette*
 - » Balance*
 - » Repeating pipette tips*
 - » Timer*
- » Differential spectrophotometer
 - » 110V 6000001
 - » 220V 6000002
- » Field lab system rental (includes items marked with *above) 6997020