

**MANUFACTURER'S GUARANTEE:**

We will replace any broken or defective kits. If you are not satisfied with our product, return any defective kits to Demeter Enviro LLC for a refund. We reserve the right not to provide refunds if the kits have been tampered with in any way, or if not used in accordance WITH the product MSDS and Instruction Manual.

Demeter Enviro LLC provides the information contained in this publication in good faith but makes no representation as to its comprehensiveness or accuracy. The information provided is intended only as a guide to the appropriate handling and use of the Detect-Oil-In-Soil kits by a properly trained person who is qualified to use the materials being tested. Individuals reviewing this information must exercise their independent judgment in determining its appropriateness for a particular purpose or application.

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**Manufacturers of Field Screening Tests**

# Sudan IV

## Detect-il-In-Soil

### Field Screening Test

## Standard Operating Procedure



**DEMETER ENVIRO LLC**

**Supporting the environment one test at a time**

## INTRODUCTION:

The **Detect-Oil-In-Soil (SUDAN IV)** screening kit is composed of a styrene bottle; a label indicating recommended soil and water levels; a small polystyrene bead, and a water-soluble cube (containing finely dispersed dyes) glued to the inside of the jar lid.

In the Sudan IV version of the screening test kit, the water-soluble cube is impregnated with two dyes:

- A de minimus amount of SUDAN IV, (a red Disazo dye soluble in most petroleum hydrocarbons) which stains oils and a
- Fluorescent green/yellow water-soluble dye to stain the water, providing a stronger visual contrast to the red oil staining dye.

The dual dye method is employed to improve detection by the user. This is the only Detect-Oil-In-Soil test kit that contains dual dyes.

## USING THE KIT:

**Detect-Oil-In-Soil (SUDAN IV)** kits are designed with ease of use in mind. Simply follow the instructions on the label:

**Step 1** Fill the jar with soil to approximately half-way

Note: It is not necessary to compact the soil.

**Step 2** Add water to approximately three quarters of the jar (enough to allow the petroleum to float above the soil line)

Note: ensure water is warm enough to dissolve the cube.

**Step 3** Replace cap on bottle and shake jar until cube is **completely** dissolved.

Detect-Oil-In-Soil tests are presence/absence indicators only. However, we offer the following information as a very general reference: At higher levels, (usually around the 2500ppm TPH level) LNAPLs (TPH) will be indicated by a red meniscus on top of the water – typically within 30-60 seconds. (DNAPLs will be present as small red beads of color in, or on top of, the soil). If red coloration is not immediately apparent in the jar – check

the polystyrene bead. The presence of ANY red color on the bead (even a faint pink halo or hue) indicates the presence of more than 500ppm TPH in that sample. Conversely, a “clean” bead either indicates the absence of petroleum, or at the very least, petroleum under the 500ppm TPH level.

It is helpful to hold a clean unused bead up against the used bead in the test kit for comparison purposes at levels below the 1,000ppm TPH levels

Note: When chlorinated solvents are present in the soil sample – a very obvious red spotting may appear on the sides of the jar and coloration will be toward the bottom of the jar (in or on the soil)

Note: Whenever possible, use potable water for the screening tests. However, salt water can be used if necessary.

Cold water can inhibit the rapid release of viscous hydrocarbons from soil thus causing False Negative results. Therefore, at temperatures below 68° F (20° C), we recommend users carry a thermos of hot water for field testing purposes.

## RECOMMENDED PROTECTIVE EQUIPMENT:

Please follow safety instructions outlined in the MSDS. Always use gloves and safety glasses when using the **Detect-Oil-In-Soil (SUDAN IV)** kits.

## DISPOSAL OF USED KITS:

As per the MSDS and local regulations.

NOTE: Detect-Oil-In-Soil tests are non-specific, “non-precision” qualitative tests designed for rapid screening in a field situation. Our tests screen for a wide variety of oils and products and are not designed to replace analytical testing. Demeter Enviro recommends users employ confirmatory testing when working with Detect-Oil-In-Soil tests.