



Soil Oxidant Demand Test Kit – SOD-Starter

The SOD Starter Test Kit provides everything necessary to conduct 10 soil oxidant demand (SOD) tests of soil and groundwater. These tests provide a simple to use evaluation of the feasibility of using in-situ chemical oxidation (ISCO) to remediate soil and groundwater. The starter kit includes an electronic balance and all glassware and reagents required for ten tests. A CD is provided with instructions for conducting the SOD test, a spreadsheet to calculate the results, and a sample analytical report that summarizes the test procedure and results.



Starter Test Kit includes everything necessary for 10 SOD tests

The test procedure is based on a modified version of the USEPA method for determining soil oxidant demand with potassium permanganate. Simply add site soil and water to the reaction tubes, and the results are available by comparing the viewing tube to a color comparator chart. Each reaction tube includes a pre-weighed amount of potassium permanganate, so there is no need to handle oxidants and other reagents.

In-situ chemical oxidation using permanganate is an established remediation technology for the treatment of chlorinated solvents such as tetrachloroethene (PCE) and trichloroethene (TCE). The soil oxidant demand, also known as natural oxidant demand, has been determined by USEPA to be the most important criteria in the overall success of an ISCO remedy. Oxidation Systems designed this simple to use and very effective SOD test to provide a screening level measurement of this important parameter.

Description

The Oxidation Systems SOD Starter Test Kit (SOD-Starter) includes everything that is necessary to conduct ten SOD tests for permanganate. The SOD-Starter includes the following:

- 50 reaction tubes (0 – 20 g/kg KMnO_4)
- 50 clear 9 ml “viewing tubes”
- Test tube rack
- Electronic scale, weighing dish, funnel
- CD with sample report and spreadsheet
- 20-ml syringe
- 10-ml syringe w/ 5 filter cartridges (0.45 μ)
- Oxidant/reagents
- Color comparator chart
- Laboratory spoon/spatula
- Manual, calculation worksheet, MSDS

SOD testing results are reported in units of g/kg (g of permanganate consumed per kg of soil). This simple and inexpensive SOD test is a good screening level tool that can provide a “go / no-go” decision to aid remediation designers and stake-holders who are considering ISCO for a particular site.