Soil Oxidant Demand Test Kit – SOD-25

The SOD-25 Soil Oxidant Demand (SOD) test kit is a screening level tool that measures the permanganate oxidant demand exerted by reduced organic and inorganic soil constituents over a 48 hour period. This measurement is intended to rapidly determine the applicability of in situ chemical oxidation (ISCO) with permanganate to provide preliminary design and cost information.

Simple to interpret color changes provide results within 48 hours

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 Soil Oxidant Demand (SOD) Test Kit (SOD-25) includes everything that is necessary to conduct twenty-five SOD tests for permanganate. The SOD-25 includes the following:

- 125 reaction tubes (5 oxidant ranges per test)
- 125 clear 19 ml "viewing tubes"
- Test tube rack

- Oxidant/reagents
- Color comparator chart
- Manual, calculation worksheet, MSDS

SOD testing results are reported in units of g/kg (g of permanganate consumed per kg of soil). Although this test is qualitative in nature, the results can be used alone or in combination with site characterization data to estimate the quantity of potassium permanganate required to remediate a given contaminated aquifer. 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.

The test procedure is based on a modified version of the USEPA PSOD-1 method for determining soil oxidant demand with potassium permanganate.