

Name of the Material : Reference Material for Conductivity in Soil
Reference Material Code : UME RM 9918
Issue Date : 15.08.2018
Last Revision Date : 15.08.2018 (Revision history can be found on the last page)
Validity Period : 6 months from the sales date.
Assigned Value :

Parameter	Assigned Value ^[1]	Standard Deviation ^[2]	Temperature ^[3]
Conductivity	2314 µS/cm	21 µS/cm	25 °C

[1] The assigned value was determined by measuring conductivity value of the soil sample in ultrapure water suspension using ISO 11265:1994 using a conductivity meter.

[2] The standard deviation of assigned value is the standard deviation of the measurements taken over 6 months.

[3] Temperature was continuously monitored throughout the measurements with 0.2 °C uncertainty.

Sales Date


Dr. Mustafa ÇETİNTAŞ
Director

Description

The material is approximately 50 g of soil in an amber colored glass bottle. The soil sample was bottled after 4 hours of homogenization with three-dimensional mixer after grinding and sieving to reduce the size of the sample to 500 microns or less.

Intended Use

This material is intended to be used for method validation, verification and quality control of the analytical methods for determining conductivity value in soil.

Instructions for Use

Conductivity measurements should be made according to the ISO 11265:1994 standard. Calibration should be realised with 4-pole conductivity electrode, and the certified conductivity solutions compatible with the conductivity meter should be used. As a result of the calibration process, the cell constant of the electrode should be between the tolerance values specified by the manufacturer. The cell constant should not deviate by more than 5% from this value. The following procedure can be followed to measure conductivity in the soil:

7 g of soil sample is weighed in to a 50 mL falcon tube, and 35 mL of ultrapure water is added. The suspended sample is shaken at 180 rpm for 30 minutes using a shaker. Then, the sample is allowed to rest for 20 minutes, and the temperature is adjusted to 25 °C with a circulating thermostatic bath. After these steps, conductivity value of upper portion of the suspension is measured.

All precautions should be taken to prevent contamination and moisture uptake of the sample during opening and use of the bottle.

Minimum sample intake amount is 7 g.

Storage Conditions

The material should be stored at (21 ± 3) °C.

TÜBİTAK UME cannot be held responsible for changes that might happen to the material at customer's premises due to noncompliance of the instructions for use, and the storage conditions given in the reference material data sheet.

Safety Information

Usual laboratory precautions apply.

It is strongly recommended that the material must be handled and disposed according to the safety guidelines where applicable.

Participants

Information about the laboratory participated in the sample preparation and measurement is given in the following table.

Laboratory	Address
TÜBİTAK UME	TÜBİTAK Gebze Yerleşkesi, Barış Mahallesi, Dr. Zeki Acar Caddesi No.1, 41470 Gebze - Kocaeli / Turkey

Techniques Used for the Determination of the Assigned Values

The method used to determine conductivity value of the soil sample is given below.

Method/Technique	Parameter
ISO 11265:1994	Conductivity

Revision History

Date	Remarks
15.08.2018	First publication.