

## Extraction Procedure

# Mehlich Extraction Kit

**HANNA**  
instruments

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Dear Customer,

Thank you for choosing a Hanna Product.

Please read the instruction sheet carefully before using the test kit. It will provide you with the necessary information for correct use of the kit. If you need additional information, do not hesitate to e-mail us at [tech@hannainst.com](mailto:tech@hannainst.com).

Remove the kit from the packing material and examine it carefully to make sure that no damage has occurred during shipping. If there is any noticeable damage, notify your Dealer or the nearest Hanna office immediately.

Each kit is supplied with:

- Mehlich-2 Extraction Solution, 1 bottle (100 mL);
- Demineralizer Bottle with filter cap for about 12 liters of deionized water (depending on the hardness level of water to be treated);
- 1 2-mm soil sieve;
- 1 plastic test tube (14 mL) with screw cap;
- 1 small funnel;
- filter paper discs  $\varnothing$  80 mm (100 pcs);
- 1 tube-stand;
- 1 calibrated vessel (20 mL) with cap;
- 1 sample cup (1 g);
- 1 plastic pipette (1 mL);
- 1 brush;
- 1 spoon.

Note: Any damaged or defective item must be returned in its original packing materials.

|                       |                               |
|-----------------------|-------------------------------|
| Number of Extractions | 100                           |
| Case Dimensions       | 235x175x115 mm (9.2x6.9x4.5") |
| Shipping Weight       | 513 g (18.1 oz)               |

## SIGNIFICANCE AND USE

Soil analysis is useful in the gathering of information for fertilization. Managing the soil properly is necessary in order to preserve its fertility, obtain better yield and protect the environment. Testing is of utmost importance for complete soil management.

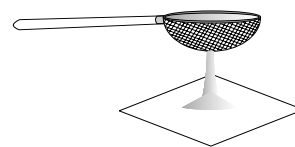
## SAMPLING PROCEDURE

### WHEN TO TEST YOUR SOIL

Soil should be tested not only when the plant appears to be unhealthy (yellow leaves or stunted growth), but prior to seeding, planting and fertilizing as well as when other material such as manure or compost has been added.

### SAMPLING

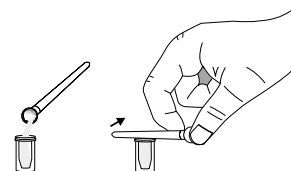
- 1) Soil Sample Extraction
  - Within a large homogeneous area, take 1 or 2 samples per 1000 m<sup>2</sup> (0.25 acre).
  - Even for smaller areas, 2 samples are recommended (the more samples, the better the end-results, because the end sample is more representative).
  - For a small garden or plot, 1 sample is sufficient.
- 2) Avoid extracting samples from soil presenting obvious anomalies and from border areas (near ditches and roads).
- 3) Sample quantity:  
Take the same quantity of soil for each sample. For example, use bags with similar dimensions (1 bag per sample).
- 4) Depth of extraction:  
General: dig and discard 5 cm (2") of topsoil  
For lawns: take the sample at a depth of 5 to 15 cm (from 2" to 6").  
For other plants (flowers, vegetables, shrubs): from 20 to 40 cm of depth (8" to 16").  
For trees: Samples from 20 to 60 cm of depth (8" to 24").
- 5) Mix all the samples together to obtain a homogeneous mixture of soil, discarding stones and vegetable residues.
- 6) From this mixture, take the quantity of soil that you need for the analysis.
- 7) Crumble the large chunks and distribute the soil sample on paper or plastic to air dry it.
- 8) Use a small bar to crush the air dried sample and pass it through the 2-mm soil sieve.



## EXTRACTION PROCEDURE

READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

- Use the spoon to fill the sample cup with the sieved soil sample and level the sample in the cup by discarding the excess soil with the spoon handle.



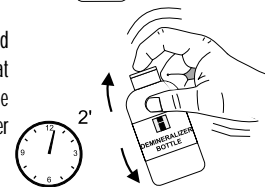
- Using the plastic pipette, add to the plastic test tube 1 mL of Extraction Solution.



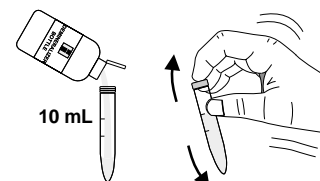
- Remove the cap and fill the Demineralizer Bottle with tap water.



- Replace the cap and shake gently for at least 2 minutes. The demineralized water is now ready.



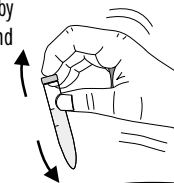
- Flip open the top of the Demineralizer Bottle cap. By gently squeezing the bottle, add demineralized water to the test tube up to the 10 mL mark. Replace the screw cap and shake the test tube to mix.



- Remove the cap and add the soil sample from the sample cup to the tube.



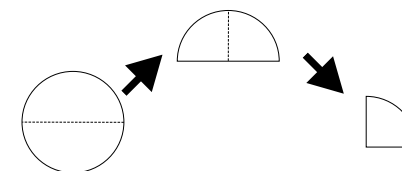
- Replace the cap and mix by shaking the tube up and down for 5 minutes.



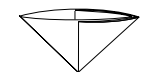
- Place the cap on the calibrated vessel and insert the funnel in the cap hole.



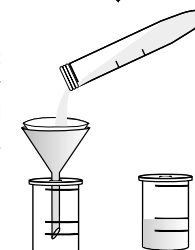
- Fold a filter paper disc twice as shown in the figure.



- Separate one side from the other three to form a cone.



- Place the folded filter disc in the funnel and filter the sample. The extracted sample in the beaker is now ready for analysis.



## REFERENCES

A. Mehlich, *New Extractant for soil test evaluation of phosphorus, potassium, magnesium, calcium, sodium, manganese and zinc*, in Soil Science and Plant Analysis.

## HEALTH AND SAFETY

The chemicals contained in this kit may be hazardous if improperly handled. Read the relevant Health and Safety Data Sheet before performing this test.