

Supelco®

1.16992.0001

Reflectoquant® Potassium Test **K**

1. Method

Potassium ions react with dipicrylamine to form an orange-colored complex that is determined reflectometrically.

2. Measuring range and number of determinations

Measuring range	Number of determinations
0.25 - 1.20 g/l K	50

3. Applications

Sample material:

Drinking water and mineral water
Industrial water
Wastewater
Beverages (**application see the website**)
Soils after appropriate sample pretreatment

4. Influence of foreign substances

This was checked individually in solutions with 0.7 and 0 g/l K. The determination is not yet interfered with up to the concentrations of foreign substances given in the table. Cumulative effects were not checked; such effects can, however, not be excluded.

Concentrations of foreign substances in mg/l			
Acetate 1000	Fe ²⁺ 500	EDTA 1000	
Ag ⁺ 1000	Fe ³⁺ 500	Anionic surfactants ¹⁾ 1000	
Al ³⁺ 1000	Mg ²⁺ 500	Cationic surfactants ²⁾ 100	
Ascorbate 1000	Na ⁺ 1000	Nonionic surfactants ³⁾ 1000	
Br ⁻ 1000	NH ₄ ⁺ 200	H ₂ O ₂ 1000	
Ca ²⁺ 1000	NO ₂ ⁻ 1000		
Cd ²⁺ 1000	NO ₃ ⁻ 1000		
Cl ⁻ 500	Oxalate 1000		
CN ⁻ 1000	Pb ²⁺ 1000		
CO ₃ ²⁻ 1000	PO ₄ ³⁻ 100		
Cr ³⁺ 1000	S ²⁻ 100		
CrO ₄ ²⁻ 1000	Tartrate 1000		
Cu ²⁺ 1000			

¹⁾ tested with Na-dodecyl sulfate

²⁾ tested with N-cetylpyridinium chloride

³⁾ tested with polyvinylpyrrolidone

5. Reagents and auxiliaries

The test strips and the test reagent are stable up to the date stated on the pack when stored closed at +15 to +25 °C.

Package contents:

Tube containing 50 test strips
1 bar-code strip
2 bottles of reagent K-1
2 mini-test tubes

Other reagents:

MQuant® Potassium Test, Cat. No. 117985, measuring range 250 - 1500 mg/l (0.25 - 1.50 g/l) K

MQuant® Universal indicator strips pH 0 - 14, Cat. No. 109535

Calcium hydroxide for analysis EMSURE®, Cat. No. 102047

Potassium nitrate for analysis EMSURE®, Cat. No. 105063

6. Preparation

- Extract solid sample materials by an appropriate method (applications see the website).
- Check the potassium content with the MQuant® Potassium Test. Samples containing more than 1.20 g/l (1200 mg/l)K must be diluted with distilled water.
- The pH must be within the range 5 - 14.** Adjust, if necessary, with calcium hydroxide.

7. Procedure

Observe the manual for the reflectometer. The following applies to the Potassium Test:
Measurement procedure B
Stored waiting time: 60 sec
Stored reaction time: 5 sec

Stand a mini-test tube in the well provided in the deep-drawn insert.

Reagent K-1	25 drops ¹⁾	Place into the mini-test tube: reagent solution
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Immerse **both reaction zones** of the test strip in the **pretreated sample (15 - 30 °C) for 2 sec.**

Carefully allow excess liquid to run off via the long edge of the strip onto an absorbent paper towel.

Press the START button of the reflectometer and - **this is imperative - at the same time** immerse **both reaction zones** of the test strip in the **reagent solution.**

After the end of the waiting time (the reaction time is shown on the display), **immediately** remove the strip and **carefully** allow excess liquid to run off via the long edge of the strip onto an absorbent paper towel.

Immediately insert the strip all the way into the strip adapter with the reaction zones facing the display and press the START button anew.

After the end of the reaction time, read off the result from the display in g/l K. The result is automatically stored.

¹⁾ **Hold the bottle vertically while adding the reagent!**

Notes on the measurement:

- The reagent in the mini-test tube can be used up to a maximum of five times.
- If the measurement value exceeds the measuring range (HI is shown on the display), repeat the measurement using **fresh**, diluted samples until a value of less than 1.20 g/l K is obtained.

Concerning the result of the analysis, the dilution (see also section 6) must be taken into account:

Result of analysis = measurement value x dilution factor

- If the test strip is inserted into the adapter after the reaction time has expired, renewed depression of the START button may produce a false result.

8. Method control

To check test strips, test reagent, measurement device, and handling (recommended before each measurement series):

Dissolve 1.29 g of potassium nitrate in distilled water, make up to 1000 ml with distilled water, and mix. K content: 0.50 g/l.

Analyze this standard solution as described in section 7.

Additional notes see under **www.qa-test-kits.com**.

9. Notes

- Reclose** the reagent bottle and **the tube containing the test strips immediately after use.**
- Rinse the mini-test tube **with distilled water only.**
- At the end of each workday, cleanse the strip adapter thoroughly with distilled water or ethanol.

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