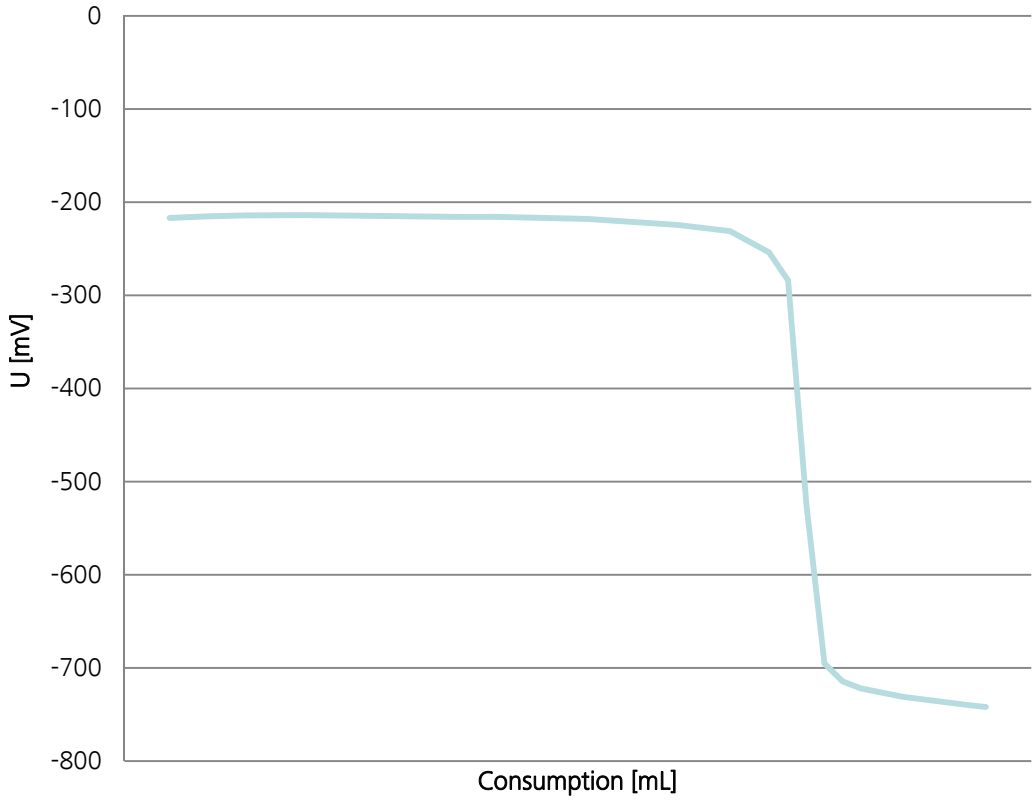
Titration Application Note T–94

Fully automated determination of the permanganate index according to EN ISO 8467



The automated system MATi 13 determines the permanganate index in all kind of water samples according to EN ISO 8467. The high degree of automation (e.g., automated sample addition, automated titer and blank value determination) minimizes errors and guarantees robust and reproducible results.

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Method description

Sample

Tap water

Sample preparation

For stabilization, 5 mL $c(H_2SO_4) = 7.5$ mol/L per liter sample is added to the sample.

Configuration

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Solutions

Sulfuric acid	$c(H_2SO_4) = 2$ mol/L
Disodium oxalate	$c(Na_2C_2O_4) = 0.005$ mol/L
Potassium permanganate	$c(KMnO_4) = 0.002$ mol/L

Analysis

The water samples are filled in beakers, covered with aluminum foil, and placed on the sample rack. An appropriate amount of sample is automatically transferred to the external titration cell. Once the transfer is finished, sulfuric acid is automatically added to the titration cell and the solution is heated for 10 minutes. After the reaction with the added disodium oxalate, titration with potassium permanganate takes place. At the end of each titration the vessel is automatically cleaned and emptied.

Parameters

Parameters of the analytical procedure comply with EN ISO 8467.

Results

Parameter	Mean (n = 3)	Rel. standard deviation in %
Permanganate index	0.40 mg/L	4.33

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