

**Hardness Calcium****56I700270****5 - 600 mg/L CaCO<sub>3</sub>****Material**

<b>Reagents</b>	<b>Packaging Unit</b>	<b>Part Number</b>
Hardness Calcium Buffer CH2	65 mL	56L014465
Hardness Calcium Indicator CH1P	Powder / 20 g	56P021620
Hardness LR Titrant TH3	65 mL	56L016265
Hardness HR Titrant TH4	65 mL	56L014565
Hardness Total Indicator TH1P	Powder / 40 g	56P028340
Hardness Total Buffer TH2	65 mL	56L016065

The following accessories are required.

<b>Accessories</b>	<b>Packaging Unit</b>	<b>Part Number</b>
Syringe, plastic, 20 mL	1 pc.	56A006501
Titration jar with cap, plastic, 60 mL	1 pc.	56A006701

**Application List**

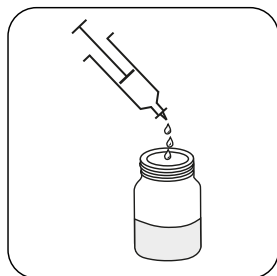
- Cooling Water

## Sampling

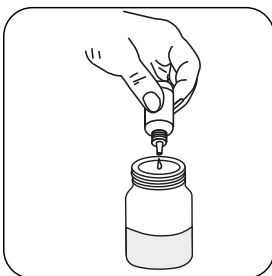
Select the sample volume from the table according to the expected measuring range and read off the factor to calculate the result.

<b>Expected Range</b>	<b>Titrant used</b>	<b>Sample Size</b>	<b>Factor</b>
5-15 mg/L	Hardness LR Titrant TH3	40 mL	0.5
10-30 mg/L	Hardness LR Titrant TH3	20 mL	1
20-60 mg/L	Hardness LR Titrant TH3	10 mL	2
50-150 mg/L	Hardness HR Titrant TH4	40 mL	5
100-300 mg/L	Hardness HR Titrant TH4	20 mL	10
200-600 mg/L	Hardness HR Titrant TH4	10 mL	20

## Determination of Hardness Calcium



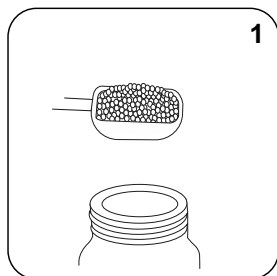
**Attention!** Select the appropriate sample volume according to the instructions in the chapter Sampling.



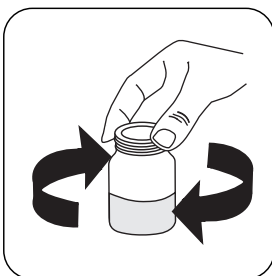
Add **4 drops of Hardness Calcium Buffer CH2** per **10 mL** of sample.



Swirl to mix.



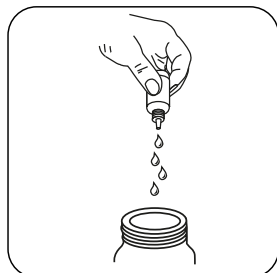
Add **1 measuring scoop(s) Hardness Calcium Indicator CH1P**.



Swirl to mix.

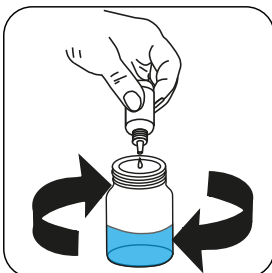


The sample will turn **wine red**.



**Attention!** Record the number of drops that will be added.

**Note:** Make sure to swirl the jar after adding each drop!



Add **Hardness LR Titrant TH3 or Hardness HR Titrant TH4** drop by drop to the sample until colouration turns from **wine red** to **blue**.

**Calculate test result: Total Hardness (as CaCO<sub>3</sub>) mg/L = Number of drops x factor (see table)**