

## Method Z430F / Z430M – Copper Cu

### Specification

Description:	Test for determining the content of copper in fresh and marine water
Range:	0,02-5 mg/l – fresh water 0,08-3 mg/l – marine water
Resolution:	0,02 mg/l
Wavelength:	610 nm

### Reagent set

Product Code	Description	List of components
8430	Set of reagents for method Z430F, Copper Cu in fresh water method Z430M, Copper Cu in marine water (reagents for approx. 70 tests)	✓ Reagent Cu-1 ✓ Reagent Cu-2

### Performing the measurement

- To measure the content of copper in fresh water select the **Z430F Copper Fresh** method, in marine water the **Z430M Copper Marine** (Methods→Select method→Z430F / Z430M Copper Cu).  
How to select the method, see [8.1 Choosing method](#).

**NOTE:**

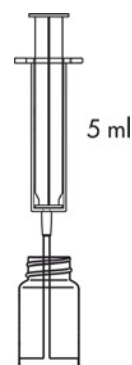
It is recommended to use the **GUIDE** system by pressing the context button **GUIDE** on the photometer. It will provide you with step-by-step basic instruction how to perform measurement and a timer with beeper to count down reaction time. To enable this function press the button **GUIDE**.

- Rinse the vial and the syringe three times with the tested water.

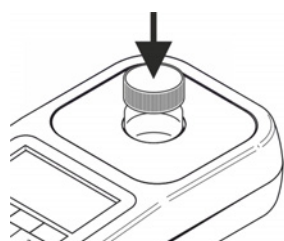
Take exactly 5 ml of the tested water with the syringe and pour into the vial.

**NOTE:**

Make sure no air bubbles are present in the syringe. Trapped air bubbles can affect accuracy of the measurement.



- Insert the vial into the round vial holder and press the **ZERO** key. The display will show **"-0.0-**", which means the device is ready for measurement.

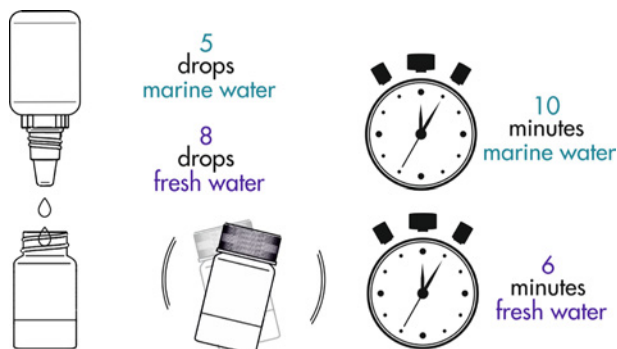


26 08 20		12:35
Cu	Z430F Copper Cu Fr	
	tag 1	
<b>Measuring ...</b>		
ZERO	MEAS	GUIDE

26 08 20		12:35
Cu	Z430F Copper Cu Fr	
	tag 1	
<b>-0.0- mg/l</b>		
ZERO	MEAS	GUIDE

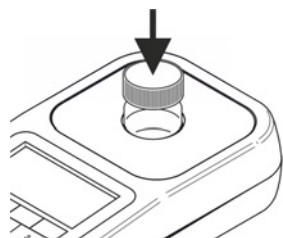
4. Add 5 drops of **Reagent Cu-1** and shake to mix.

5. **For fresh water:**  
 - add 8 drops of **Reagent Cu-2**  
**for marine water:**  
 - add 5 drops of **Reagent Cu-2**  
 and shake to mix.



6. Before taking a measurement wait:  
 - **6 minutes** for sample with **fresh water**,  
 - **10 minutes** for sample with **marine water**.

7. Insert the vial into the round vial holder and press the **MEAS** key to take a measurement.  
 The result – **the concentration of copper cations** – is displayed in **mg/l (ppm)**.



26 08 20		12:38	
Cu	Z430F	Copper Cu Fr	
	tag 1		
<b>Measuring ...</b>			
ZERO	MEAS	GUIDE	

26 08 20		12:38	
Cu	Z430F	Copper Cu Fr	
	tag 1		
<b>0.12 mg/l</b>			
ZERO	MEAS	GUIDE	REC

## Potential interferences

The presence of:

chromium (Cr III), chromium (Cr VI),  
 iron (Fe), manganese (Mn), zinc (Zn)

- above 10 ppm

cobalt (Co), carbonate and phosphate

- above 50 ppm

high content of copper (Cu)

- above 10 ppm      may cause falsely low readings

### NOTE:

*A high content of copper inhibits the reaction and results in an erroneously low absorbance value. Although rare in the case of aquarium or natural water, if the copper content is suspected to exceed 10 ppm, eliminate its interference by diluting the sample several times before the measurement.*