

GB Photometer Sulphite LR

● Operation



Switch the unit on using the ON/OFF switch.

SO₃

The display shows the following:

Fill a clean vial up to the 10 ml mark with the water sample, replace the cap tightly and place the vial in the sample chamber making sure that the Δ-mark on the vial aligned with the ∇-mark on the instrument.



Press the ZERO/TEST key.



The method symbol flashes for approx. 3 seconds.

0.0.0

The display shows the following:

After zero calibration is completed, remove the vial from the sample chamber.

The characteristic coloration starts to appear after the addition of the reagent tablet(s).

Replace the cap tightly and place the vial in the sample chamber with the ∇ and Δ marks aligned.



Press the ZERO/TEST key.



The method symbol flashes for approx. 3 seconds.

RESULT

The result appears in the display.

Repeating the analysis:

Press the ZERO/TEST key again.

New zero calibration:

Press the MODE key until the desired method symbol appears in the display again.

● User messages

EOI

Light absorption too great. Reasons: zero calibration not carried out or, possibly, dirty optics.

-Err

Measuring range exceeded or excessive turbidity.

- Err

Result below the lowest limit of the measuring range.

LO BAT

Replace 9 V battery, no further analysis possible.

● Technical data

Light source:	LED: λ = 430 nm (filter)
Battery:	9 V-block battery (Life 600 tests).
Auto-OFF:	Automatic switch off 12 minutes after last keypress
Ambient conditions:	5-40°C rel. humidity (non-condensing).
CE:	DIN EN 55 022, 61 000-4-2, 61 000-4-8, 50 082-2, 50 081-1, DIN V ENV 50 140, 50 204

● Sulphite LR 0.1 - 10 mg/l SO₃

0.0.0

Perform zero calibration (see "Operation").
Add one SULFITE LR-tablet straight from the foil to the 10 ml water sample, and crush using a clean stirring rod. Allow to dissolve completely, replace the cap tightly, and place the vial in the sample chamber with the Δ and ∇ marks aligned.



Press the ZERO/TEST key.

SO₃

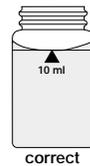
The method symbol flashes for approx. 3 seconds.

RESULT

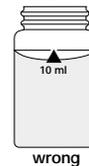
The result is shown in the display in mg/l SO₃.

Tolerance: ± 0.3 mg/l SO₃

● Correct filling of the vial



correct



wrong

● Method notes

Observe application options, analysis regulations and matrix effects of methods. Reagent tablets are designed for use in chemical analysis only and should be kept well out of the reach of children.

If necessary, request safety data sheets.

Ensure proper disposal of reagent solutions.

● Troubleshooting: Guidelines for photometric measurements

1. Thoroughly clean vials, caps and stirring rod **after each analysis** in order to prevent carry-over errors. Even minute reagent residues lead to incorrect measurements. Use the supplied brush for cleaning.
2. The outside of the vial must be clean and dry before starting the analysis. Clean the outside of the vials with a towel. Fingerprints or other marks will be removed.
3. "Zero calibration" and "Test" must be performed using the same vial, as different vials can possess slightly different tolerances.
4. The vials must be positioned in the sample chamber for zero calibration and test with the Δ-mark on the vial aligned with the ∇-mark on the instrument.
5. Always perform "Zero calibration" and "Test" with closed vial lid.
6. Bubbles on the inside walls of the vial lead to incorrect measurements.
To prevent this, close the vial using the vial lid and remove the bubbles by swirling the vial before performing the test.
7. You must prevent water from penetrating into the sample chamber. The entry of water into the housing of the photometer can destroy electronic components and lead to corrosion damage.
8. Soiling of the lens (LED and photosensor) in the sample chamber leads to incorrect measurements.
Check - and if necessary clean - the light entry surfaces of the sample chamber at regular intervals. Clean using a moist cloth and cotton buds.
9. Always add the reagent tablets to the water sample straight from the foil without touching them with your fingers.
10. Major temperature differentials between the photometer and the environment can lead to incorrect measurements - e.g. due to the formation of condensation water in the area of the lens or on the vial.
11. To avoid errors caused by stray-light do not use the instrument in bright sunlight.

● Calibration Mode



Press MODE key and **keep it depressed**.



Switch unit on using ON/OFF key.
Release MODE key after approx. 1 second.

CAL

The following messages appear in the display in alternating mode:

SO3



Perform zero calibration (see "Operation").
Press the ZERO/TEST key.



The method symbol flashes for approx. 3 seconds.

0.0.0

The display shows the following in alternating mode:

CAL



Place the calibration standard to be used in the sample chamber with the Δ and ∇ marks aligned.
Press the ZERO/TEST key.



The method symbol flashes for approx. 3 seconds.

RESULT

CAL

The result is shown in the display, alternating with CAL.

If the result displayed corresponds with the value of the calibration standard (within the tolerance quoted), exit calibration mode by pressing the ON/OFF key.



Otherwise, pressing the MODE key once increases the displayed value by 1 digit.



Pressing the ZERO/TEST key once decreases the displayed value by 1 digit.

CAL

Pressing the relevant key until the displayed value equals the value of the calibration standard.

RESULT + x



By pressing the ON/OFF key, the new correction factor is calculated and stored in the user calibration software.

:

Confirmation of calibration (3 seconds).

● Note

CAL

Factory calibration active.

cAL

Calibration has been set by the user.

● Recommended calibration value

Sulphite: between 6 and 8 mg/l SO₃

● User calibration : cAL

Manufacturing calibration : CAL

To reset the calibration to the factory setting:



Press both the MODE and ZERO/TEST and **keep them depressed**.



Switch the unit on using the ON/OFF key. Release the MODE and ZERO/TEST keys after approx. 1 second.

The following messages will appear in turn on the display:

SEL

The calibration is reset to the factory setting.

CAL

(SEL stands for Select)

or:

SEL

Calibration has been set by the user. (If the user calibration is to be retained, switch the unit off using the ON/OFF key.)

cAL



Calibration is reset to the factory setting by pressing the MODE key. The following messages will appear in turn on the display:

SEL

CAL



Switch the unit off using the ON/OFF key.

● User notes

E 10

Calibration factor "out of range"

E 70

Manufacturing calibration incorrect / erase

E 71

User calibration incorrect / erase