

DEHA PP

M167

0.02 - 0.5 mg/L DEHA

DEHA

PPST

## Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

Instrument Type	Cuvette	$\lambda$	Measuring Range
MD 100, MD 110, MD 600, MD 610, MD 640, MultiDirect	ø 24 mm	560 nm	0.02 - 0.5 mg/L DEHA
SpectroDirect, XD 7000, XD 7500	ø 24 mm	562 nm	0.02 - 0.5 mg/L DEHA

## Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
VARIO DEHA Reagent Set	1 pc.	536000

The following accessories are required.

Accessories	Packaging Unit	Part Number
Pipette, 200 $\mu$ l	1 pc.	365042
Pipette Tips	1 pc.	365032

## Application List

- Boiler Water
- Cooling Water

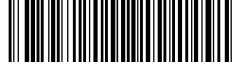
## Preparation

1. To avoid errors caused by iron deposits, rinse the glassware with Hydrochloric acid (approx. 20%) before the analysis and then rinse with deionised water.



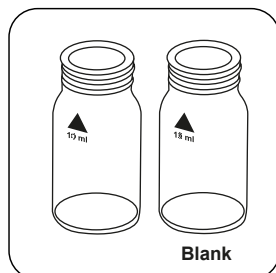
## Notes

1. Because the reaction depends on temperature, the temperature must be maintained at  $20\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ .
2. Keep the sample vial in the dark or in the sample chamber during colour development time. If the Reagent solution is exposed to UV-light (sunlight) it causes high measurement results.

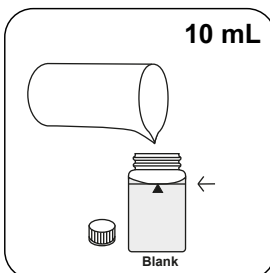


## Determination of DEHA (N,N-Diethylhydroxylamine) with Vario Powder Pack and Fluid Reagent

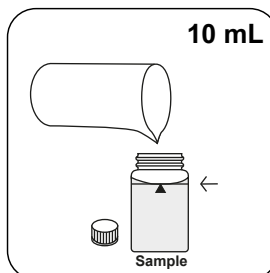
Select the method on the device.



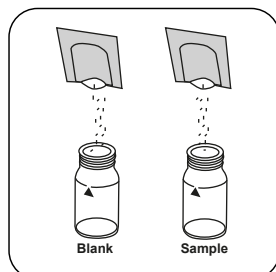
Prepare two clean 24 mm vials. Mark one as a blank.



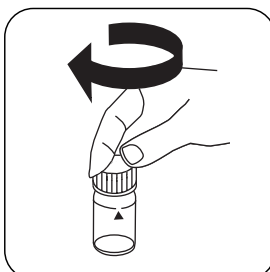
Put **10 mL deionised water** in the blank.



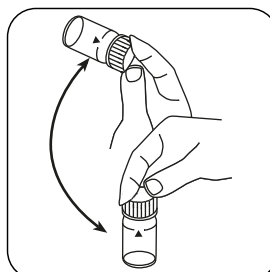
Put **10 mL sample** in the sample vial.



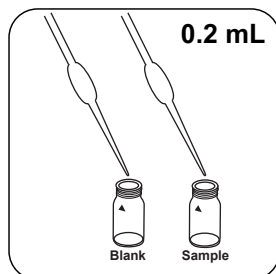
Add a **Vario OXYSCAV 1 Rgt powder pack** in each vial.



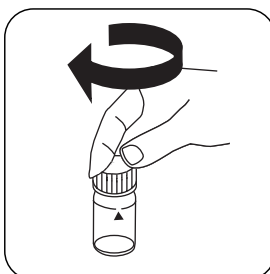
Close vial(s).



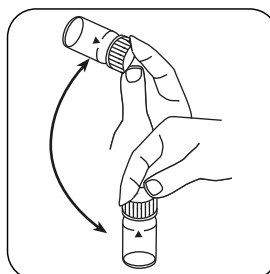
Invert several times to mix the contents.



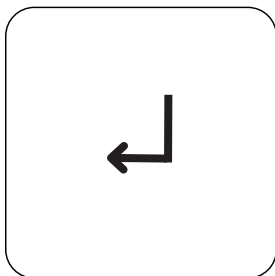
Add **0.2 mL Vario DEHA 2 Rgt solution** to each vial.



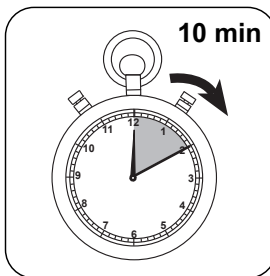
Close vial(s).



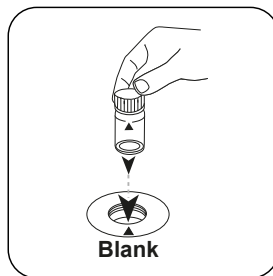
Invert several times to mix the contents.



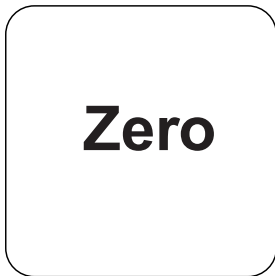
Press the **ENTER** button.



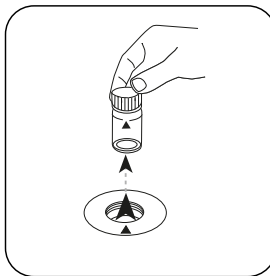
Wait for **10 minute(s) reaction time**.



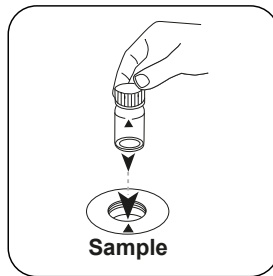
Place **blank** in the sample chamber. Pay attention to the positioning.



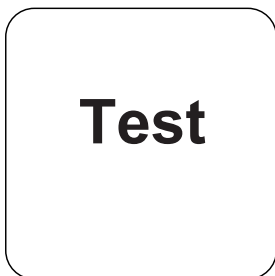
Press the **ZERO** button.



Remove the vial from the sample chamber.



Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **TEST (XD: START)** button.

The result in DEHA appears on the display.



## Analyses

The following table identifies the output values can be converted into other citation forms.

Unit	Cite form	Scale Factor
mg/l	DEHA	1
µg/l	DEHA	1000
mg/l	Hydrochinon	2.63
mg/l	MEKO	4.5
mg/l	Carbohydrazid	1.31
mg/l	ISA	3.9

## Chemical Method

PPST

## Appendix

### Calibration function for 3rd-party photometers


Conc. =  $a + b \cdot \text{Abs} + c \cdot \text{Abs}^2 + d \cdot \text{Abs}^3 + e \cdot \text{Abs}^4 + f \cdot \text{Abs}^5$

	ø 24 mm	□ 10 mm
a	$-5.56499 \cdot 10^0$	$-5.56499 \cdot 10^0$
b	$3.87692 \cdot 10^2$	$8.33539 \cdot 10^2$
c		
d		
e		
f		

## Interferences

### Removeable Interferences

- Interference:  
Iron (II) interferes at all concentrations: For the determination of iron (II) concentration, the test is repeated without the addition of DEHA solution. Should the concentration be over 20 µg/L, the displayed value will be deducted from the result of the DEHA test result.
- Substances that reduce Iron (III), interfere. Substances that complex iron strongly, may also interfere.



<b>Interference</b>	<b>from / [mg/L]</b>
Zn	50
Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	500
Co	0,025
Cu	8
CaCO <sub>3</sub>	1000
Lignosulfonate	0,05
Mn	0,8
Mo	80
Ni	0,8
PO <sub>4</sub> <sup>3-</sup>	10
R-PO(OH) <sub>2</sub>	10
SO <sub>4</sub> <sup>2-</sup>	1000

### **Bibliography**

Photometrische Analyseverfahren, Schwedt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1989