



DEHA T (L)

M165

0.02 - 0.5 mg/L 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 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
DEHA Reagent Solution	15 mL	461185
DEHA Reagent Solution	100 mL	461181
DEHA	Tablet / 100	513220BT
DEHA	Tablet / 250	513221BT

## Application List

- Boiler Water
- Cooling Water

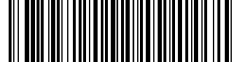
## Preparation

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  $20\text{ °C} \pm 2\text{ °C}$ .
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 Tablet and Liquid Reagent

Select the method on the device.

For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



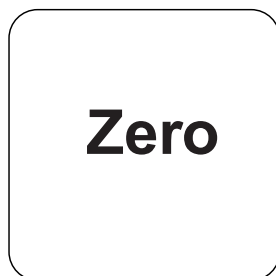
Fill 24 mm vial with **10 mL sample**.



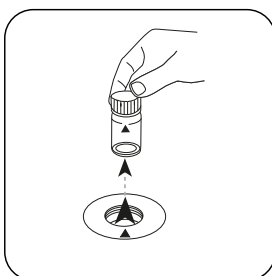
Close vial(s).



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

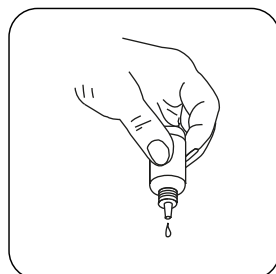


Press the **ZERO** button.

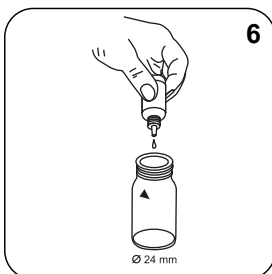


Remove the vial from the sample chamber.

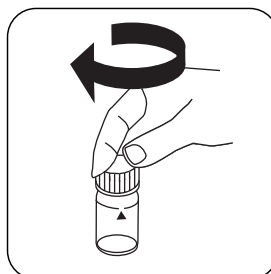
For devices that require **no ZERO measurement**, start here.



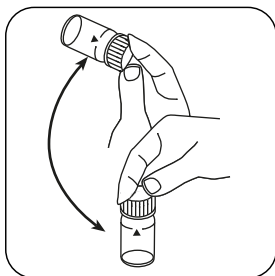
Hold cuvettes vertically and add equal drops by pressing slowly.



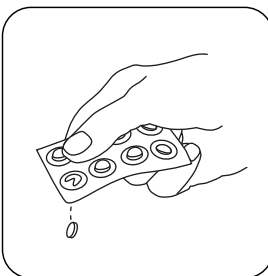
Add **6 drops DEHA Reagent Solution**.



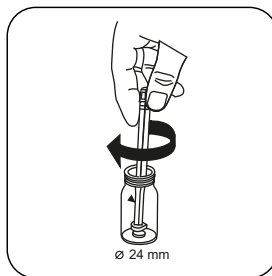
Close vial(s).



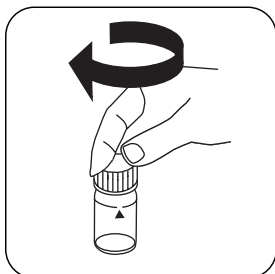
Invert several times to mix the contents.



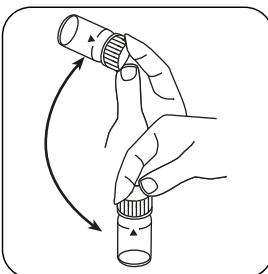
Add **DEHA tablet**.



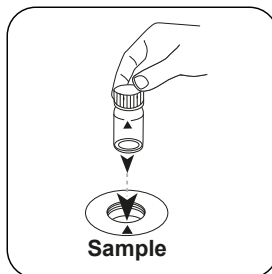
Crush tablet(s) by rotating slightly.



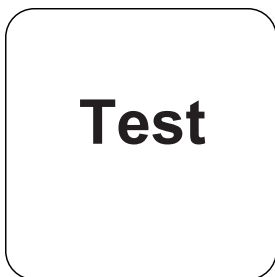
Close vial(s).



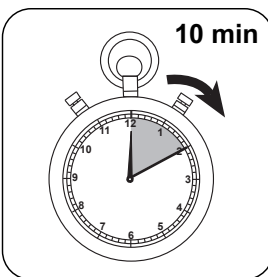
Dissolve tablet(s) by inverting.



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



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



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

Once the reaction period is finished, the measurement takes place automatically.

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	$-2.04216 \cdot 10^{-1}$	$-2.04216 \cdot 10^{-1}$
b	$3.46512 \cdot 10^{-2}$	$7.45001 \cdot 10^{-2}$
c	$2.52971 \cdot 10^{-1}$	$1.16936 \cdot 10^{-2}$
d		
e		
f		

## Interferences

### Removeable Interferences

1. 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.
2. 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