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	λ	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

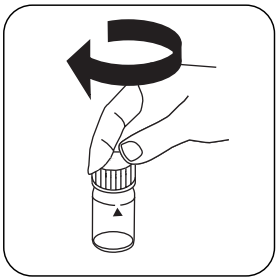
1. Because the reaction depends on temperature, the temperature must be maintained at 20 °C ± 2 °C.
2. Keep the sample vial in the dark or in the sample chamber during colour development time. If the Reagent solution is exposed to UV-light (sunlight) it causes high measurement results.

Determination of DEHA (N,N-Diethylhydroxylamine) with Tablet and Liquid Reagent

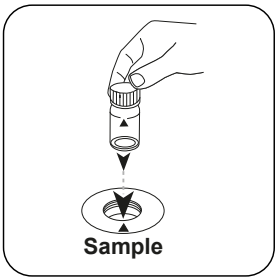
Select the method on the device.

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

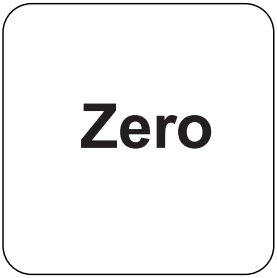
Fill 24 mm vial with **10 mL sample**.



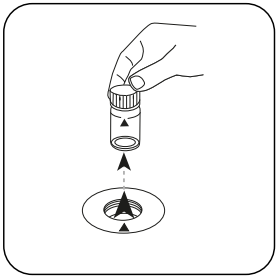
Close vial(s).



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

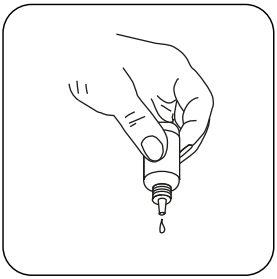


Press the **ZERO** button.

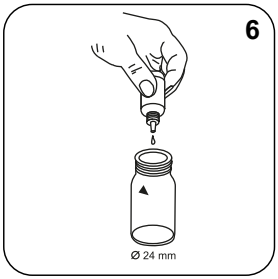


Remove the vial from the sample chamber.

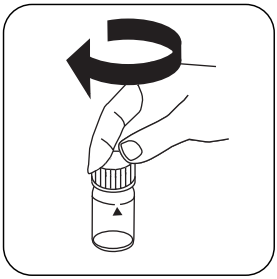
For devices that require **no ZERO measurement** , **start here**.



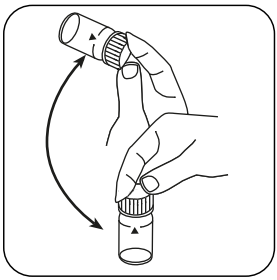
Hold cuvettes vertically and add equal drops by pressing slowly.



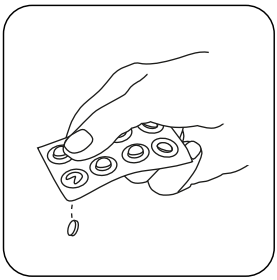
Add **6 drops DEHA Reagent Solution**.



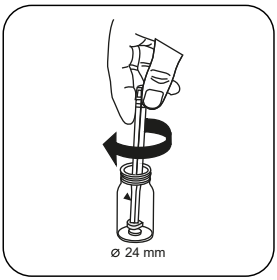
Close vial(s).



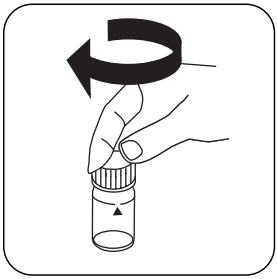
Invert several times to mix the contents.



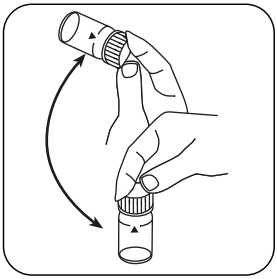
Add **DEHA tablet**.



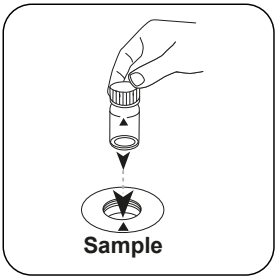
Crush tablet(s) by rotating slightly.



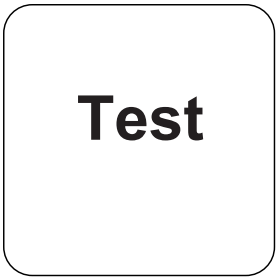
Close vial(s).



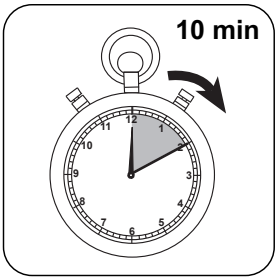
Dissolve tablet(s) by inverting.



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•Abs + c•Abs^2 + d•Abs^3 + e•Abs^4 + f•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.

Interference	from / [mg/L]
Zn	50
$Na_2B_4O_7$	500
Co	0,025
Cu	8
$CaCO_3$	1000
Lignosulfonate	0,05
Mn	0,8
Mo	80
Ni	0,8
PO_4^{3-}	10
$R\text{-}PO(OH)_2$	10
SO_4^{2-}	1000

Bibliography

Photometrische Analyseverfahren, Schwedt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1989