

No.	Test	λ^a / nm	Method	Range	Display	Reagent	Form of reagent/Quantity	Order-No.
20	Acid demand pH 4.3	610	Acid / Indicator ^{1,2}	0.1-4 mmol/L	---	ALKA-M-PHOTOMETER	Tablet / 100	4513210BT
30	Alkalinity-m (total)	610	Acid / Indicator ^{1,2}	5-200 mg/L	CaCO ₃	ALKA-M-PHOTOMETER	Tablet / 100	4513210BT
31	Alkalinity-m (total) HR	610	Acid / Indicator ^{1,2}	5-500 mg/L	CaCO ₃	ALKA-M-HR PHOTOMETER	Tablet / 100	4513240BT
35	Alkalinity-p	560	Acid / Indicator ^{1,2}	5-300 mg/L	CaCO ₃	ALKA-P-PHOTOMETER	Tablet / 100	4513230BT
40	Aluminium	530	Eriochrome cyanine R ²	0.01-0.3 mg/L	Al	ALUMINIUM No. 1 ALUMINIUM No. 2 combipack [#] ALUMINIUM No. 1/ No. 2	Tablet / 100 Tablet / 100 per 100	4515460BT 4515470BT 4517601BT
50	Aluminium	530	Eriochrome cyanine R ²	0.01-0.25 mg/L	Al	VARIO Aluminium ECR/F20 VARIO Aluminium Hexamine/F20 VARIO Aluminium Masking Reagt.	Set Powder Pack / 100 Powder Pack / 100 Liquid reagent / 25 ml	4535000 --- --- ---
60	Ammonium	610	Indophenole ^{2,3}	0.02-1 mg/L	N	AMMONIA No. 1 AMMONIA No. 2 combipack [#] AMMONIA No. 1/ No. 2 Ammonia conditioning reagent	Tablet / 100 Tablet / 100 per 100 15 g for 100 tests	4512580BT 4512590BT 4517611BT 460170
62	Ammonium	660	Salicylate ²	0.01-0.8 mg/L	N	VARIO Ammonia Salicylate F10 VARIO Ammonia Cyanurate F10	Set Powder Pack / 100 Powder Pack / 100	4535500 --- ---
65	Ammonium LR ^{d)}	660	Salicylate ²	0.02-2.5 mg/L	N	Tube test contains: VARIO Ammonia Salicylate F5 VARIO Ammonia Cyanurate F5 VARIO Am Diluent Reagent LR VARIO deionised water	Set Powder Pack / 50 Powder Pack / 50 Reaction tube / 50 100 ml	4535600 --- --- --- ---
66	Ammonium HR ^{d)}	660	Salicylate ²	1-50 mg/L	N	Tube test contains: VARIO Ammonia Salicylate F5 VARIO Ammonia Cyanurate F5 VARIO Am Diluent Reagent HR VARIO deionised water	Set Powder Pack / 50 Powder Pack / 50 Reaction tube / 50 100 ml	4535650 --- --- --- ---
85	Boron	430	Azomethine ³	0.1-2 mg/L	B	BORON No. 1 BORON No. 2 combipack [#] BORON No. 1/ No. 2	Tablet / 100 Tablet / 100 per 100	4515790 4515800 4517681
80	Bromine	530	DPD ⁵	0.05-13 mg/L	Br	DPD No. 1 DPD No. 1 HIGH CALCIUM ^{h)}	Tablet / 100 Tablet / 100	4511050BT 4515740BT
63	Chloramine, mono with Ammonia, free	660	Indophenole	0,04 - 4,50 mg/L 0,01 - 0,50 mg/L	Cl ₂ NH ₄ -N	Vario Monochlor FRGT Vario Free Ammonia Rgt. solution	Set Powder Pack / 100 Liquid reagent / 4 ml	4535800 --- ---
90	Chloride	530	Silver nitrate / turbidity	0.5-25 mg/L	Cl	CHLORIDE T1 CHLORIDE T2 combipack [#] CHLORIDE T1/ T2	Tablet / 100 Tablet / 100 per 100	4515910BT 4515920BT 4517741BT
100	Chlorine ^{b)}	530	DPD ^{1,2}	0.01-6 mg/L	Cl ₂	DPD No. 1 DPD No. 3 combipack [#] DPD No. 1/ No. 3 DPD No. 1 HIGH CALCIUM ^{h)} DPD No. 3 HIGH CALCIUM	Tablet / 100 Tablet / 100 per 100 Tablet / 100 Tablet / 100	4511050BT 4511080BT 4517711BT 4515740BT 4515730BT

No.	Test	λ^a / nm	Method	Range	Display	Reagent	Form of reagent/Quantity	Order-No.
103	Chlorine HR T ^{b)}	530	DPD ^{1,2}	0,1-10 mg/L	Cl ₂	DPD No. 1 HR DPD No. 3 HR	Tablet / 100 Tablet / 100	4511500BT 4511590BT
101	Chlorine ^{b)}	530	DPD ^{1,2}	0.02-4 mg/L	Cl ₂	DPD 1 Buffer solution DPD 1 Reagent solution DPD 3 Solution	Set (approx. 300 tests) Liquid reagent / 15 ml Liquid reagent / 15 ml Liquid reagent / 15 ml	471056 471010 471020 471030
110	Chlorine ^{b)}	530	DPD ^{1,2}	0.02-2 mg/L	Cl ₂	VARIO Chlorine FREE-DPD/F10 VARIO Chlorine TOTAL-DPD/F10	Powder Pack / 100 Powder Pack / 100	4530100 4530120
105	Chlorine HR (KI)	530	KI / Acid ⁵	5-200 mg/L	Cl ₂	ACIDIFYING GP CHLORINE HR (KI) combipack [#] ACIDIFYING GP/ CHLORINE HR (KI)	Tablet / 100 Tablet / 100 per 100	4515480BT 4513000BT 4517721BT
120	Chlorine dioxide	530	DPD ^{1,2}	0.05-11 mg/L	ClO ₂	DPD No. 1 DPD No. 3 combipack [#] DPD No. 1/ No. 3 GLYCINE ¹⁾ combipack [#] DPD No. 1/ GLYCINE	Tablet / 100 Tablet / 100 per 100 Tablet / 100 per 100	4511050BT 4511080BT 4517711BT 4512170BT 4517731BT
130	COD LR ^{c,d)}	430	Dichromate / H ₂ SO ₄ ^{1,2}	0-150 mg/L	O ₂	Reaction tube 0-150 mg/l	Tube test / 25	420720
131	COD MR ^{c,d)}	610	Dichromate / H ₂ SO ₄ ^{1,2}	0-1500 mg/L	O ₂	Reaction tube 0-1500 mg/l	Tube test / 25	420721
132	COD HR ^{c,d)}	610	Dichromate / H ₂ SO ₄ ^{1,2}	0-15 g/L	O ₂	Reaction tube 0-15000 mg/l	Tube test / 25	420722
204	Colour, true and apparent	430	(APHA) Platinum-Cobalt Standard Method	0 – 500 mg/L	Pt *	---	---	---
150	Copper ^{b)}	560	Biquinoline ⁴	0.05-5 mg/L	Cu	COPPER No. 1 COPPER No. 2 combipack [#] COPPER No. 1/ No. 2	Tablet / 100 Tablet / 100 per 100	4513550BT 4513560BT 4517691BT
153	Copper, free	560	Bicinchoninate	0.05-5 mg/L	Cu	VARIO Cu 1 F10	Powder Pack / 100	4530300
157	Cyanide	580	Pyridine-barbituric acid ¹	0.01-0.5 mg/L	CN	Reagent test contains: Cyanid-11/ -12 / -13	Reagent test / 200 (Powder, liquid reagent)	418875
160	Cyanuric acid	530	Melamine	0-160 mg/L	CyA	CyA-TEST	Tablet / 100	4511370BT
165	DEHA	560	PPST ³	20-500 µg/L	DEHA	DEHA Solution (approx. 60 tests) DEHA Solution (approx. 400 tests) DEHA	Liquid reagent/ 15 ml Liquid reagent/ 100 ml Tablet / 100	461185 461181 4513220BT
167	DEHA	560	PPST ³	20-500 µg/L	DEHA	VARIO OXYSCAV 1 Rgt VARIO DEHA 2 Rgt Solution	Set (100 tests) Powder Pack / 200 Liquid reagent/ 100 ml	4536000 --- ---
170	Fluoride	580	SPADNS ²	0.05-2 mg/L	F	SPADNS reagent Fluoride standard ^{e)}	Liquid reagent / 250 ml Solution / 30 ml	4467481 205630
190	Hardness, Calcium	560	Murexide ⁴	50-900 mg/L	CaCO ₃	CALCHECK	Tablet / 100	4515650
191	Hardness, Calcium	560	Murexide ⁴	0-500 mg/L	CaCO ₃	combipack [#] contains: CALCIO-H No. 1 CALCIO-H No. 2	per 100 --- ---	4517761BT --- ---
200	Hardness, total	560	Metallphthalein ³	2-50 mg/L	CaCO ₃	HARDCHECK P	Tablet / 100	4515660BT
201	Hardness, total HR	560	Metallphthalein ³	20-500 mg/L	CaCO ₃	HARDCHECK P	Tablet / 100	4515660BT
205	Hydrazine	430	Dimethylaminobenzaldehyde ³	0.05-0.5 mg/L	N ₂ H ₄	Hydrazine Test Powder Spoon	Powder / 30 g	462910 384930

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206	Hydrazine	430	Dimethylaminobenzaldehyde ³	0.01-0.6 mg/L	N ₂ H ₄	VARIO Hydra 2 Rgt Solution	Liquid / 100 ml	4531200
207	Hydrazine ^{g)}	430	PDMAB	0.01-0.7 mg/L	N ₂ H ₄	Vacu-vials® / CHEMetrics K-5003	Test-Kit / 30	380470
210	Hydrogen peroxide	530	DPD / Catalyst ⁵	0.03-3 mg/L	H ₂ O ₂	HYDROGENPEROXIDE LR	Tablet / 100	4512380BT
215	Iodine	530	DPD ⁵	0.05-3.6 mg/L	I	DPD No. 1	Tablet / 100	4511050BT
220	Iron (II, III) soluble	560	PPST ³	0.02-1 mg/L	Fe	IRON LR IRON (II) LR	Tablet / 100 Tablet / 100	4515370BT 4515420BT
222	Iron (II, III) soluble	530	1,10-Phenanthroline ²	0.02-3 mg/L	Fe	Vario Ferro F10	Powder Pack / 100	4530560
223	Iron, total ^{j)}	580	TPTZ	0.02-1.8 mg/L	Fe	VARIO Iron TPTZ	Powder Pack / 100	4530550
240	Manganese	530	Formaloxime	0.2-4.0 mg/L	Mn	MANGANESE LR 1 MANGANESE LR 2 combipack [#] MANGANESE LR 1/ LR 2	Tablet / 100 Tablet / 100 per 100	4516080BT 4516090BT 4517621BT
242	Manganese LR	560	PAN	0.01-0.7 mg/L	Mn	VARIO Ascorbic Acid VARIO Alkaline-Cyanide VARIO PAN Indicator VARIO Rochelle Salt Solution ^{k)}	Set Powder Pack / 100 Liquid reagent / 60 ml Liquid reagent / 60 ml Liquid reagent / 30 ml	4535090 --- --- --- 4530640
243	Manganese HR	530	Periodate oxidation ²	0.1-18 mg/L	Mn	VARIO Manganese Citrate Buffer F10 VARIO Sodium periodate F10	Set Powder Pack / 100 Powder Pack / 100	4535100 --- ---
250	Molybdate	430	Thioglycolat ⁴	1-50 mg/L	MoO ₄	MOLYBDATE No.1 HR MOLYBDATE No.2 HR combipack [#] MOLYBDATE No.1 HR/ No.2 HR	Tablet / 100 Tablet / 100 per 100	4513060BT 4513070BT 4517631BT
251	Molybdate LR PP	610	Mercaptoacetic acid	0,05-5 mg/L	MoO ₄	Vario Molybdenum 1 LR F20 Vario Molybdenum 2 LR	Set Powder Pack / 100 Liquid reagent / 50 ml	4535450 4530810 4530820
252	Molybdate	430	Mercaptoacetic acid	0.5-66 mg/L	MoO ₄	VARIO Molybdenum HR1 F10 VARIO Molybdenum HR2 F10 VARIO Molybdenum HR3 F10	Set Powder Pack / 100 Powder Pack / 100 Powder Pack / 100	4535300 --- --- ---
265	Nitrate ^{d)}	430	Chromotropic acid	1-30 mg/L	N	Tube test contains: VARIO Nitrate Chromotropic VARIO Nitra X Reagent tube VARIO deionised water	Set Powder Pack / 50 Reaction tube / 50 100 ml	4535580 --- --- ---
270	Nitrite	560	N(1-Naphthyl)ethylenediamine ^{2,3}	0.01-0.5 mg/L	N	NITRITE LR	Tablet / 100	4512310BT
272	Nitrite LR	530	Diazotization	0.01-0.3 mg/L	N	Vario Nitri 3 F10	Powder Pack / 100	4530980
280	Nitrogen, total LR ^{c, d)}	430	Persulfate digestion method	0.5-25 mg/L	N	Tube test contains: VARIO TN HYDROX. LR Tube VARIO PERSULFATE Reagent VARIO TN Reagent A VARIO TN Reagent B VARIO TN ACID LR/HR Tube VARIO deionised water	Set Digestion tube / 50 Powder Pack / 50 Powder Pack / 50 Powder Pack / 50 Reaction tube / 50 100 ml	4535550 --- --- --- --- --- ---

No.	Test	λ^a / nm	Method	Range	Display	Reagent	Form of reagent/Quantity	Order-No.
281	Nitrogen, total HR ^{c, d)}	430	Persulfate digestion method	5-150 mg/L	N	Tube test contains: VARIO TN HYDROX. HR Tube VARIO PERSULFATE Reagent VARIO TN Reagent A VARIO TN Reagent B VARIO TN ACID LR/HR Tube VARIO deionised water	Set Digestion tube / 50 Powder Pack / 50 Powder Pack / 50 Powder Pack / 50 Reaction tube / 50 100 ml	4535560 --- --- --- --- ---
290	Oxygen, active	530	DPD	0.1-10 mg/L	O ₂	DPD No. 4	Tablet / 100	4511220BT
292	Oxygen, dissolved ^{g)}	530	Rhodazine D TM	10-800 µg/L	O ₂	Vacu-vials [®] / CHEMetrics K-7553	Test-Kit / 30	380450
300	Ozone	530	DPD/ Glycine ⁵	0.02-2 mg/L	O ₃	DPD No. 1 DPD No. 3 GLYCINE ⁱ⁾ combipack [#] DPD No. 1/ No. 3	Tablet / 100 Tablet / 100 Tablet / 100 per 100	4511050BT 4511080BT 4512170BT 4517711BT
70	PHMB (Biguanide)	560	Buffer/Indicator	2-60 mg/L	PHMB	PHMB PHOTOMETER	Tablet / 100	4516100BT
320	Phosphate, ortho LR	660	Phosphomolybdenum blue Ascorbic acid ²	0.05-4 mg/L	PO ₄	PHOSPHATE LR No. 1 PHOSPHATE LR No.2 combipack [#] PHOSPHATE LR No. 1/ LR No.2	Tablet / 100 Tablet / 100 per 100	4513040 4513050BT 4517651BT
321	Phosphate, ortho HR	430	Vanado molybdate ²	5-80 mg/L	PO ₄	PHOSPHATE HR No. 1 PHOSPHATE HR No.2 combipack [#] PHOSPHATE HR No. 1/ HR No.2	Tablet / 100 Tablet / 100 per 100	4515810 4515820 4517661
327	Phosphate 1, ortho ^{g)}	430	Vanado molybdate ²	5-40 mg/L	PO ₄	Vacu-vials [®] / CHEMetrics K-8503	Test-Kit / 30	380460
328	Phosphate 2, ortho ^{g)}	660	Stannous chloride ²	0.05-5 mg/L	PO ₄	Vacu-vials [®] / CHEMetrics K-8513	Test-Kit / 30	380480
323	Phosphate, ortho	660	Phosphomolybdenum blue Ascorbic acid ²	0.06-2.5 mg/L	PO ₄	VARIO PHOSPHATE RGT F10 PP	Powder Pack / 100	4531550
324	Phosphate, ortho ^{d)}	660	Phosphomolybdenum blue Ascorbic acid ²	0.06-5 mg/L	PO ₄	Tube test contains: VARIO Dilution Vial VARIO PHOSPHATE RGT F10 PP VARIO deionised water	Set Reaction tube / 50 Powder Pack / 50 100 ml	4535200 --- --- ---
325	Phosphate, acid-hydrolyzable ^{c, d)}	660	Phosphomolybdenum blue Ascorbic acid ²	0.02-1.6 mg/L	P	Content as in set Phosphate, total (see below) and additional: VARIO Sodium Hydroxide 1,00 N	Set Solution / 100 ml	4535250 ---
326	Phosphate, total ^{c, d)}	660	Phosphomolybdenum blue Ascorbic acid ²	0.02-1.1 mg/L	P	Tube test contains: VARIO Acid Reagent Vial VARIO PHOSPHATE RGT F10 PP VARIO Potassium F10 Persulfate VARIO Sodium Hydroxide 1,54 N VARIO deionised water	Set Reaction tube / 50 Powder Pack / 50 Powder Pack / 50 Solution / 100 ml 100 ml	4535210 --- --- --- --- ---
316	Phosphonate	660	Persulfate UV-Oxidation	0 - 125 mg/L	PO ₄	VARIO Potassium F10 Persulfate VARIO PHOSPHATE RGT F10 PP	Set Powder Pack / 50 Powder Pack / 100	4535220 --- ---
329	pH-Value	560	Bromocresolpurple ⁵	5.2-6.8	pH	BROMOCRESOLPURPLE / PHOTOM	Tablet / 100	4515700BT
330	pH-Value	560	Phenolred ⁵	6.5-8.4	pH	PHENOLRED / PHOTOMETER	Tablet / 100	4511770BT

No.	Test	$\lambda^a)$ / nm	Method	Range	Display	Reagent	Form of reagent/Quantity	Order-No.
331	pH-Value	560	Phenolred ⁵	6.5-8.4	pH	PHENOLRED Solution	Liquid reagent / 15 ml	471040
332	pH-Value	560	Thymolblue ⁵	8.0-9.6	pH	THYMOLBLUE / PHOTOMETER	Tablet / 100	4515710
340	Potassium	430	Tetraphenylborate-Turbidity ⁴	0.7-12 mg/L	K	Potassium T	Tablet / 100	4515670
350	Silica (Silicon dioxide)	660	Silicomolybdate ^{1,2}	0.05-4 mg/L	SiO ₂	SILICA No. 1 SILICA No.2 SILICA PR combipack [#] SILICA No. 1/ No. 2	Tablet / 100 Tablet / 100 Tablet / 100 per 100	4513130 4513140 4513150 4517671
351	Silica LR (Silicon dioxide)	660	Heteropolyblau ²	0.1-1.6 mg/L	SiO ₂	VARIO LR Amino Acid F F10 VARIO Citric Acid F10 VARIO Molybdate 3 Rgt-Solution	Set Powder Pack / 100 Powder Pack / 2 x 100 Liquid reagent / 2 x 50 ml	4535690 --- --- ---
352	Silica HR (Silicon dioxide)	430	Silicomolybdat	1-90 mg/L	SiO ₂	VARIO Silica HR Acid Rgt F10 VARIO Silica HR Citric Acid F10 VARIO Silica HR Molybdate F10	Set Powder Pack / 100 Powder Pack / 100 Powder Pack / 100	4535700 --- --- ---
212	Sodium hypochlorite	530	Potassium iodide ⁵	0.2-16 %	NaOCl	Chlorine HR (KI) Acidifying GP combipack [#] Chlorine HR (KI)/ Acidifying GP	Tablet / 100 Tablet / 100 per 100	4513000BT 4515480BT 4517721BT
355	Sulfate	610	Bariumsulfate-Turbidity ²	5-100 mg/L	SO ₄	SULFATE T	Tablet / 100	4515450BT
360	Sulfate	530	Bariumsulfate-Turbidity ²	5-100 mg/L	SO ₄	VARIO Sulpha 4 / F10	Powder Pack / 100	4532160
365	Sulfide	660	DPD/Catalyst ^{3,4}	0.04-0.5 mg/L	S	SULFIDE No. 1 SULFIDE No. 2	Tablet / 100 Tablet / 100	502930 502940
370	Sulfite	430	DTNB	0.1-5 mg/L	SO ₃	SULFITE LR	Tablet / 100	4518020
384	Suspended Solids	660	Turbidity / Attenuated Radiation	0 – 750 mg/L	TSS *	---	---	---
386	Turbidity	530	Attenuated Radiation Method	0 - 1000	FAU *	---	---	---
390	Urea	610	Indophenol / Urease	0.1-2,5 mg/L	Urea	UREA-Reagent 1 UREA-Reagent 2 AMMONIA No. 1 AMMONIA No. 2 combipack [#] AMMONIA No. 1/ No. 2 UREA PRETREAT	Liquid reagent / 15 ml Liquid reagent / 10 ml Tablet / 100 Tablet / 100 per 100 Tablet / 100	459300 459400 4512580BT 4512590BT 4517611BT 4516110BT
400	Zinc	610	Zincon ³	0.02-1 mg/L	Zn	COPPER / ZINC LR EDTA DECHLOR	Tablet / 100 Tablet / 100 Tablet / 100	4512620BT 4512390BT 4512350

For other reagent quantities please see our General Catalogue or our current price list.

Legend:

- 1 Deutsche Einheitsverfahren zur Wasser-, Abwasser- und Schlamm- Untersuchung
 - 2 Standard Methods for the Examination of Water and Wastewater, 18th Edition; 1992
 - 3 Photometrische Analysenverfahren, Schwedt, Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart; 1989
 - 4 Photometrische Analyse, Lange/Vejdelek, Verlag Chemie; 1980
 - 5 Colorimetric Chemical Analytical Methods, 9th Edition, Lovibond®
- # = inclusive stirring rod, 10 cm

* Abbreviation:

TSS = Total Suspended Solids

FAU = Formazine Attenuation Unit

mg/L Pt \triangleq Pt-Co-Einheiten

- a) Wavelength
- b) Determination of free, combined and total
- c) Reactor is necessary
- d) Tube test
- e) User must re-calibrate the photometer with each new batch of SPADNS-reagent. Therefore he needs the Fluoride-standard
- f) ---
- g) Adapter for Vacu-vials® necessary (Order-No. 19 20 75)
- h) alternative reagent, used instead of DPD No.1 in case of turbidity in the water sample caused by high concentration of calcium and/or high conductivity
- i) assistance reagent additional needed for determination of chlorine dioxide in the presence of chlorine
- j) Reagent recovers most insoluble iron oxides
- k) alternative reagent, additional used for Water samples that contain more than 300 mg/l CaCO₃ hardness