



Application



Analytical Quality Assurance, Standard for Free Chlorine (DIN)

Preparation of a standard solution for free Chlorine
according to DIN EN ISO 7393

Reagents:

Cat.No. 102404 Potassium iodate volumetric standard

Cat.No. 105043 Potassium iodide for analysis

Cat.No. 109072 Sulfuric acid 0.5 mol/l

Cat.No. 109136 Sodium hydroxide solution 2 mol/l

Cat.No. 116754 Water for analysis

Preparation of a KIO_3 stock solution:

Dissolve 1.006 g of KIO_3 in 250 ml of water for analysis in a calibrated or conformity-checked 1000-ml volumetric flask. Subsequently make up to the mark with water for analysis.

Preparation of a KIO_3/KI standard solution:

Transfer 15.0 ml of the KIO_3 stock solution to a calibrated or conformity-checked 1000-ml volumetric flask, add approx. 1 g of KI and make up to the mark with water for analysis. 1 ml of this solution is equivalent to 0.015 mg of free chlorine.

Preparation of the chlorine standard solution:

Pipette 20.0 ml KIO_3/KI standard solution into a calibrated or conformity-checked 100-ml volumetric flask, add 2 ml of H_2SO_4 0.5 mol/l, leave to stand for 1 min, and then add NaOH 2 mol/l dropwise (approx. 1 ml) until the solution just loses its color. Subsequently make up the solution to the mark with water for analysis. The concentration of the solution is 3.00 mg/l free chlorine.

Stability:

The KIO_3 stock solution remains stable for 4 weeks when stored in a cool place. The KIO_3/KI standard solution can be used for 5 hours when stored in a cool place. The dilute iodine standard solution is not stable and must be used immediately.

For use with test kits:		Measuring range in mg/l Cl_2
117925	MQuant™ Chlorine Test (free chlorine)	4 - 120
117924	MQuant™ Chlorine Test (free chlorine)	25 - 500
114434	MColortest™ Chlorine Test (free chlorine)	0.01 - 0.3
111174	MColortest™ Chlorine and pH Test (free + total chlorine)	0.1 - 1.5



111157	MColortest™ Chlorine and pH Test (free + total chlorine) refill pack for 111174	
111113 111114	MColortest™ Chlorine Test Reagent Cl ₂ -1 MColortest™ Chlorine Test Reagent Cl ₂ -2	
111160	MColortest™ Chlorine and pH Test (free chlorine)	0.1 - 1.5
114670	MColortest™ Chlorine Test (free chlorine)	0.1 - 2
114978	MColortest™ Chlorine Test (free chlorine, liquid)	0.1 - 2
114979	MColortest™ Chlorine Test (free chlorine, liquid) refill pack for 114978	
1.14801	MColortest™ Chlorine Test (free + total chlorine, liquid)	0.1 - 2
114803	MColortest™ Chlorine Test (free + total chlorine, liquid) refill pack for 114801	
114976	MColortest™ Chlorine Test (free chlorine)	0.25 - 15
114977	MColortest™ Chlorine Test (free chlorine) refill pack for 114976	
114826	MColortest™ Chlorine Test (free + total chlorine)	0.25 - 15
118326	MColortest™ Chlorine Test (free + total chlorine) refill pack for 114826	
116896	Reflectoquant® Chlorine Test (free + total chlorine)	0.5 - 10.0
100595	Spectroquant® Chlorine Cell Test (free chlorine)	0.03 - 6.00
100598	Spectroquant® Chlorine Test (free chlorine)	0.010 - 6.00
100086 100087	Spectroquant® Chlorine Reagents Cl ₂ -1 Spectroquant® Chlorine Reagents Cl ₂ -2	0.010 - 6.00
119254	Spectroquant® Chlorine Powder Packs for non-Merck photometers for 10-ml-samples (free chlorine)	0 - 2.00
119256	Spectroquant® Chlorine Powder Packs for non-Merck photometers for 25-ml-samples (free chlorine)	0 - 10.00
100597	Spectroquant® Chlorine Cell Test (free + total chlorine)	0.03 - 6.00
100599	Spectroquant® Chlorine Test (free + total chlorine)	0.010 - 6.00

Ordering Information

Product	Catalog No.
Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®	102404
Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur	105043
Sulfuric acid c(H ₂ SO ₄) = 0.5 mol/l (1 N) Titripur® Reag. Ph Eur, Reag. USP	109072
Sodium hydroxide solution c(NaOH) = 2 mol/l (2 N) Titripur®	109136
Water for analysis EMSURE®	116754
Chlorine Test Method: colorimetric with test strips 0 - 0.5 - 1 - 2 - 5 - 10 - 20 mg/l Cl ₂ MQuant®	117925
Chlorine Test Method: colorimetric with test strips 0 - 25 - 50 - 100 - 200 - 500 mg/l Cl ₂ MQuant®	117924
Chlorine Test (free chlorine) Method: colorimetric, DPD, with color card and comparator block with long test tubes 0.010 - 0.025 - 0.045 - 0.06 - 0.08 - 0.10 - 0.15 - 0.20 - 0.30 mg/l Cl ₂ MQuant®	114434
Chlorine and pH Test (free chlorine, total chlorine, and pH) Method: colorimetric with color-matching vessel 0.1 - 0.3 - 0.6 - 1.0 - 1.5 mg/l Cl ₂ pH: 6.8 - 7.1 - 7.4 - 7.6 - 7.8 MQuant®	111174
Chlorine and pH Test Refill pack Reagents for chlorine (Cl ₂ -1, Cl ₂ -2, Cl ₂ -3) for 111174 MQuant®	111157
Chlorine Test Reagent Cl ₂ -1 MColortest™	111113
Chlorine Test Reagent Cl ₂ -2 MColortest™	111114
Chlorine and pH Test (free chlorine, DPD) Method: colorimetric with color card and sliding comparator 0.10 - 0.20 - 0.30 - 0.60 - 1.0 - 1.5 mg/l Cl ₂ pH: 6.5 - 6.8 - 7.0 - 7.2 - 7.4	111160
Chlorine Test in freshwater and seawater Method: colorimetric with color card 0.10 - 0.25 - 0.5 - 1.0 - 2.0 mg/l Cl ₂ MQuant®	114670
Chlorine Test (free chlorine) with liquid reagent Method: colorimetric, DPD, with color-disk comparator 0.1-0.2-0.3-0.4-0.6-0.8-1.0-1.5-2.0 mg/l Cl ₂ MQuant®	114978
Chlorine Test Refill pack for 114978 MColortest™	114979
Chlorine Test (free and total chlorine) with liquid reagent Method: colorimetric, DPD, with color-disk comparator 0.1 - 0.2 - 0.3 - 0.4 - 0.6 - 0.8 - 1.0 - 1.5 - 2.0 mg/l Cl ₂ MQuant®	114801
Chlorine Test Refill pack for 114801 MColortest™	114803
Chlorine Test (free chlorine) Method: colorimetric, DPD, with color-disk comparator 0.25 - 0.50 - 0.75 - 1 - 2 - 4 - 8 - 10 - 15 mg/l Cl ₂ MQuant®	114976
Chlorine Test Refill pack for 114976, 114434 MQuant®	114977
Chlorine Test (free and total chlorine) Method: colorimetric, DPD, with color-disk comparator 0.25 - 0.50 - 0.75 - 1 - 2 - 4 - 7 - 10 - 15 mg/l Cl ₂ MQuant®	114826
Chlorine Test Refill pack for 114826 MColortest™	118326
Chlorine Test Method: reflectometric with test strips and reagent 0.5 - 10.0 mg/l Cl ₂ Reflectoquant®	116896
Chlorine Cell Test (free chlorine) Method: photometric, DPD 0.03 - 6.00 mg/l Cl ₂ Spectroquant®	100595
Chlorine Test (free chlorine) Method: photometric, DPD 0.010 - 6.00 mg/l Cl ₂ Spectroquant®	100598



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