

# Chloride, Chlorine, Chromium



HI 38020 - Free & Total Chlorine



HI 3815 - Chloride



HI 3831F and 3831T - Chlorine



HI 3846 - Chromium

Parameter	Code	Method	Range*	Smallest Increment	Chemical Method	Number of Tests	Weight
Chloride (as Cl <sup>-</sup> )	HI 3815	Titration	0-100 mg/L	1 mg/L	Mercuric Nitrate	approx.110	460 g
	HI 38015	Titration	0-1000 mg/L	10 mg/L			
	HI 38015	Titration	500-10000 mg/L	100 mg/L	Silver Nitrate	100	664 g
	HI 3898	Visual	5000-100000 mg/L	1000 mg/L	Silver Nitrate	100	200 g
			1000 mg/L (ISO)	-			
			2000 mg/L (EPA)				

Chlorine (as Cl <sub>2</sub> )							
Free	HI 3831F	Colorimetric	0.0-2.5 mg/L	0.5 mg/L	DPD	approx.50	176 g
	HI 3875	Checker disc	0.0-3.5 mg/L	0.1 mg/L	DPD	100	984 g
	HI 38018	Checker disc	0.00-0.70 mg/L	0.02 mg/L	DPD	200	647 g
Free & pH	HI 3887	Colorimetric	0.0-3.5 mg/L	0.1 mg/L			
			Cl <sub>2</sub> : 0.0-2.5 mg/L	Cl <sub>2</sub> : 0.5 mg/L	DPD	approx.50	280 g
Total	HI 3831T	Colorimetric	pH: 6.0-8.5 pH	pH: 0.5 pH	pH indicator	100	
			0.0-2.5 mg/L	0.5 mg/L	DPD	50	205 g
Total & pH	HI 38016	Checker disc	0.0-3.5 mg/L	0.1 mg/L	DPD	100	977 g
			HI 38019	Checker disc	0.00-0.70 mg/L	0.02 mg/L	DPD
Free & Total	HI 38022	Titration	0.0-3.5 mg/L	0.1 mg/L			
			0.0-4.0 mg/L	0.2 mg/L	Iodometric	100	561 g
Total & pH	HI 38023	Titration	0.0-20.0 mg/L	1.0 mg/L			
			10-200 mg/L	10 mg/L	Iodometric	100	547 g
Free & Total	HI 3888	Colorimetric	Cl <sub>2</sub> : 0.0-2.5 mg/L	Cl <sub>2</sub> : 0.5 mg/L	DPD	50	310 g
			pH: 6.0-8.5 pH	pH: 0.5 pH	pH indicator	100	
Free & Total	HI 38017	Checker disc	0.00-0.70 mg/L	0.02 mg/L	DPD	200	696 g
			0.0-3.5 mg/L	0.1 mg/L			
Free & Total	HI 38020	Checker disc	0.00-0.70 mg/L	0.02 mg/L	DPD	200	688 g
			0.0-3.5 mg/L	0.1 mg/L			
Free & Total	HI 38020	Checker disc	0.0-10.0 mg/L	0.5 mg/L			

Chromium (as Cr <sup>6+</sup> )							
Chromium (as Cr <sup>6+</sup> )	HI 3845	Titration	0-100 mg/L	5 mg/L	Iodometric	approx.100	416 g
	HI 3846	Colorimetric	100-1000 mg/L	50 mg/L			
	HI 3846	Colorimetric	0.0-1.0 mg/L	0.2 mg/L	Diphenylcarbohydrazide	approx.100	160 g

\* 1 mg/L = 1 ppm

For spare reagents, see section V. For accessories, see section U.

## Chloride

Chloride is one of the most common ions present in water. In drinking water, its level must be kept low because it can badly alter the taste. In other applications, the chloride level must be monitored to prevent scaling and corrosion. In high concentrations, chloride can corrode even stainless steel and it is very dangerous for vegetation.

HANNA instruments® presents a new test kit for chloride analysis. HI 3898 allows the user to determine high concentration of chloride in wastewater, which can interfere with official COD analysis methods. This test, according to the ISO 15705:2002 method, indicates chloride interference in seconds. The concentration is considered too high if the chloride concentration is higher than 1000 ppm (for COD test according to the ISO directives) or higher than 2000 ppm (for COD test according to the USEPA, APHA, AWWA and WEF methods). If a high concentration of chloride is found, the sample must be diluted.

## Chlorine

Chlorine is the most commonly used water disinfectant in applications that vary from treatment of drinking water and wastewater, pool and spa sanitization, to food processing and sterilization. Chlorine present in water binds with bacteria, leaving only a part of the original quantity (free chlorine) to continue its disinfecting action. If the free chlorine level is improper with respect to pH, water will have an unpleasant taste and odor and the disinfecting potential of the chlorine will be diminished.

Free chlorine reacts with ammonium ions and organic compounds to form chlorine compounds with diminished disinfecting capabilities compared with free chlorine. Combined chlorine and free chlorine together result in total chlorine.

## Chromium

Chromium salts are widely used in industrial processes, in galvanic plants, in tanneries and in chemical manufacturing plants. Chromium can therefore be found in industrial discharges and must be monitored because of its toxic nature.