

	Parameter	Method	Range	# of Tests	Code	Page
Acidity	Acidity (as % Oleic acid)	titration	0.00 - 1.00 % acidity	6	HI3897	9.8
	Acidity (as CaCO ₃) Methyl/Orange and Total	titration	0-100 mg/L (ppm); 0-500 mg/L (ppm)	110 avg.	HI3820	9.10
Alkalinity	Alkalinity (as CaCO ₃) Phenolphthalein and Total	titration	0-100 mg/L (ppm); 0-300 mg/L (ppm)	110 avg.	HI3811	9.10
Ammonia	Ammonia (as NH ₃ -N) (Fresh Water)	colorimetric	0.0-2.5 mg/L (ppm)	25 avg.	HI3824	9.11
	Ammonia (as NH ₃ -N) (Saltwater)	colorimetric	0.0-2.5 mg/L (ppm)	25 avg.	HI3826	9.11
Boron	Boron	titration	0.0-5.0 mg/L (ppm)	100	HI38074	9.12
Bromine	Bromine	colorimetric	0.0-3.0 mg/L (ppm)	60 avg.	HI3830	9.12
Carbon Dioxide	Carbon Dioxide	titration	0.0-10.0 mg/L (ppm); 0.0-50.0 mg/L (ppm); 0-100 mg/L (ppm)	110 avg.	HI3818	9.13
Chloride	Chloride (as Cl ⁻)	titration	0-100 mg/L (ppm); 0-1000 mg/L (ppm)	110 avg.	HI3815	9.13
Chlorine	Chlorine Free	colorimetric	0.0-2.0 mg/L (ppm)	50 avg.	HI3829F	9.14
	Chlorine Free	colorimetric	0.0-2.5 mg/L (ppm)	50 avg.	HI3831F	9.14
	Chlorine Free	checker disc	0.0-3.5 mg/L (ppm)	100	HI3875	9.15
	Chlorine Free	checker disc	0.00-0.70 mg/L (ppm); 0.0-3.5 mg/L (ppm)	200	HI38018	9.15
	Chlorine Free & Total	checker disc	0.00-0.70 mg/L (ppm); 0.0-3.5 mg/L (ppm)	200	HI38017	9.16
	Chlorine Free & Total	checker disc	0.00-0.70 mg/L (ppm); 0.0-3.5 mg/L (ppm); 0.0-10.0 mg/L (ppm)	200	HI38020	9.16
	Chlorine Total	colorimetric	0.0-2.5 mg/L (ppm)	50 avg.	HI3831T	9.17
	Chlorine Total	titration	10-200 mg/L (ppm)	100	HI38023	9.17
Chromium	Chromium (as CrVI)	colorimetric	0.0-1.0 mg/L (ppm)	100 avg.	HI3846	9.18
Copper	Copper	colorimetric	0.0-2.5 mg/L (ppm)	100	HI3847	9.18
Formaldehyde	Formaldehyde	titration	0-1%; 0-10%	110 avg.	HI3838	9.19
Glycol	Glycol	visual	Present/Absent	25	HI3859	9.19
Hardness	Hardness (as CaCO ₃) Total	titration	0.0-30.0 mg/L (ppm); 0-300 mg/L (ppm)	100 avg.	HI3812	9.20
	Hardness (as CaCO ₃) Total	titration	0-30 gpg	100	HI38033	9.20
	Hardness (as CaCO ₃) Total	titration	0-150 mg/L (ppm)	50 avg.	HI3840	9.21
	Hardness (as CaCO ₃) Total	titration	40-500 mg/L (ppm)	50 avg.	HI3841	9.21
	Hardness (as CaCO ₃) Total	titration	400-3000 mg/L (ppm)	50 avg.	HI3842	9.21
Hydrogen Peroxide	Hydrogen Peroxide	titration	0.00-2.00 mg/L; 0.0-10.0 mg/L	100 avg.	HI3844	9.22
Hypochlorite	Hypochlorite (as Cl ₂)	titration	50-150 g/L (ppt)	100 avg.	HI3843	9.22
Iron	Iron	colorimetric	0-5 mg/L (ppm)	50 avg.	HI3834	9.23
	Iron	checker disc	0.00-1.00 mg/L (ppm)	100	HI38039	9.23
	Iron	checker disc	0.0-5.0 mg/L (ppm)	100	HI38040	9.23
	Iron	checker disc	0.0-10.0 mg/L (ppm)	100	HI38041	9.23
Nitrate	Nitrate (as NO ₃ ⁻ -N)	colorimetric	0-50 mg/L (ppm)	100	HI3874	9.25
	Nitrate (as NO ₃ ⁻ -N) (Irrigation Water and Soil)	checker disc	water: 0-50 mg/L (ppm); soil: 0-60 mg/L (ppm)	100 100	HI38050	9.25
Nitrite	Nitrite (as NO ₂ ⁻ -N)	colorimetric	0.0-1.0 mg/L (ppm)	100	HI3873	9.26

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	Parameter	Method	Range	# of Tests	Code	Page
Oxygen, Dissolved	Oxygen, Dissolved	titration	0.0-10.0 mg/L (ppm)	110 avg.	HI3810	9.26
Ozone	Ozone	checker disc	0.0-2.3 mg/L (ppm)	100	HI38054	9.27
Phosphate	Phosphate (PO ₄ ³⁻)	colorimetric	0-5 mg/L (ppm)	50	HI3833	9.27
	Phosphate (PO ₄ ³⁻)	checker disc	0.00-1.00 mg/L (ppm); 0.0-5.0 mg/L (ppm); 0-50 mg/L (ppm)	100	HI38061	9.28
Salinity	Salinity	titration	0.0-40.0 g/kg (ppt)	110 avg.	HI3835	9.28
Silica, HR	Silica as (SiO ₂)	checker disc	0-40 mg/L (ppm); 0-800 mg/L (ppm)	100	HI38067	9.29
	Sulfate (as SO ₄ ²⁻)	turbidimetric	20-100 mg/L (ppm)	100	HI38000	9.29
Sulfate	Sulfate (as SO ₄ ²⁻)	titration	100-1000 mg/L (ppm); 1000-10000 mg/L (ppm)	200	HI38001	9.30
	Sulfite	Sulfite (as Na ₂ SO ₃)	titration	0.0-20.0 mg/L (ppm); 0-200 mg/L (ppm)	110 avg.	HI3822

HI3829F

Free Chlorine Test Kit

With Color Cube

The HI3829F is a colorimetric chemical test kit that determines the free chlorine concentration within a 0.0 to 2.0 mg/L (ppm) range. The HI3829F is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents for perform approximately 50 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the sample beaker, color comparison cube, and reagent packets and dropper bottles.
- **High resolution**
 - Readings from 0.0 to 2.0 mg/L are determined to 0.5 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI3829F-050 can be ordered to replace the reagents supplied with the kit.

Significance of Use

Disinfection is a process of killing disease-causing organisms (or pathogens). Chlorine (Cl_2) is a very desirable disinfectant because, when mixed with pure water, it reacts to form hypochlorous acid (HOCl) and hydrochloric acid (HCl). HOCl (free active chlorine) is the most effective form of chlorine for disinfection of pools, spas, and drinking water.

Drinking water municipalities add elemental chlorine to the water supply as chlorine gas, liquid sodium hypochlorite, or dry calcium hypochlorite. In water these form free chlorine ions, which destroy disease-causing pathogens, reduce odor, eliminate bacteria and help to remove unwanted elements. The USEPA requires that residual disinfectant is present in finished drinking water to ensure there is disinfectant available throughout the distribution system, with chlorine acting as one of the disinfectants that provides said residual.

HI3831F

Free Chlorine Test Kit

With Color Cube

The HI3831F is a colorimetric chemical test kit that determines the free chlorine concentration within a 0.0 to 2.5 mg/L (ppm) range. The HI3831F is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents for perform approximately 50 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the sample beaker, color comparison cube, and reagent packets and dropper bottles.
- **High resolution**
 - Readings from 0.0 to 2.5 mg/L are determined to 0.5 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI3831F-050 can be ordered to replace the reagents supplied with the kit.

Significance of Use

Disinfection is a process of killing disease-causing organisms (or pathogens). Chlorine (Cl_2) is a very desirable disinfectant because, when mixed with pure water, it reacts to form hypochlorous acid (HOCl) and hydrochloric acid (HCl). HOCl (free active chlorine) is the most effective form of chlorine for disinfection of pools, spas, and drinking water.

Drinking water municipalities add elemental chlorine to the water supply as chlorine gas, liquid sodium hypochlorite, or dry calcium hypochlorite. In water these form free chlorine ions, which destroy disease-causing pathogens, reduce odor, eliminate bacteria and help to remove unwanted elements. The USEPA requires that residual disinfectant is present in finished drinking water to ensure there is disinfectant available throughout the distribution system, with chlorine acting as one of the disinfectants that provides said residual. However, the EPA has also set a maximum contaminant level of 4.0 mg/L for free chlorine due to potential health effects above this level.



Specifications	HI3829F Free Chlorine (as Cl_2)
Type	colorimetric
Range	0.0 to 2.0 mg/L (ppm)
Smallest Increment	0.5 mg/L (ppm)
Method	DPD
Number of Tests	50 avg.
Ordering Information	HI3829F test kit comes with color comparison cube, 20 mL reagent 1 and 15 mL reagent 2
Reagent	HI3829F-050 free chlorine, 50 tests avg.

Specifications	HI3831F Free Chlorine (as Cl_2)
Type	colorimetric
Range	0.0 to 2.5 mg/L (ppm)
Smallest Increment	0.5 mg/L (ppm)
Method	DPD
Number of Tests	50 avg.
Ordering Information	HI3831F test kit comes with color comparison cube, 20 mL reagent 1 and 15 mL reagent 2.
Reagent	HI3831F-050 free chlorine, 50 tests avg.

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HI3875

Free Chlorine Test Kit

Medium Range with Checker® Disc

The HI3875 is a chemical test kit that determines the free chlorine concentration within a 0.0 to 3.5 mg/L (ppm) range. The HI3875 is supplied with all of the necessary reagents and equipment to perform the analysis, including the Checker® disc for accurate determination. The test kit contains enough reagents for perform approximately 100 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the glass vials, plastic pipette, reagent packets, and Checker® disc.
- **High resolution**
 - Readings from 0.0 to 3.5 mg/L are determined to 0.1 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI3875-100 can be ordered to replace the reagents supplied with the kit.

Significance of Use

Disinfection is a process of killing disease-causing organisms (or pathogens). Chlorine (Cl₂) is a very desirable disinfectant because, when mixed with pure water, it reacts to form hypochlorous acid (HOCl) and hydrochloric acid (HCl). HOCl (free active chlorine) is the most effective form of chlorine for disinfection of pools, spas, and drinking water.

Drinking water municipalities add elemental chlorine to the water supply as chlorine gas, liquid sodium hypochlorite, or dry calcium hypochlorite. In water these form free chlorine ions, which destroy disease-causing pathogens, reduce odor, eliminate bacteria and help to remove unwanted elements. The USEPA requires that residual disinfectant is present in finished drinking water to ensure there is disinfectant available throughout the distribution system, with chlorine acting as one of the disinfectants that provides said residual. However, the EPA has also set a maximum contaminant level of 4.0 mg/L for free chlorine due to potential health effects above this level.



Specifications	HI3875 Free Chlorine (as Cl ₂)
Type	checker disc
Range	0.0-3.5 mg/L (ppm)
Smallest Increment	0.1 mg/L (ppm)
Method	DPD
Number of Tests	100 avg.
Ordering Information	HI3875 test kit comes with HI93701-0 free Cl reagent (100 packets), 500 mL deionized water, checker disc, glass vials with caps (2) and 3 mL plastic pipette.
Reagent	HI3875-100 free chlorine, 100 tests avg.

HI38018

Free Chlorine Test Kit

Low and Medium Range with Checker® Disc

The HI38018 is a chemical test kit that determines the free chlorine concentration in two ranges: 0.00 to 0.70 mg/L and 0.0 to 3.5 mg/L. The HI38018 is supplied with all of the necessary reagents and equipment to perform the analysis, including the Checker® disc for accurate determination. The test kit contains enough reagents for perform approximately 200 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the glass vials, plastic pipette, reagent packets, and Checker® disc.
- **High resolution**
 - Readings from 0.00 to 0.70 mg/L are determined to 0.02 mg/L resolution.
 - Readings from 0.0 to 3.5 mg/L are determined to 0.1 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI38018-200 can be ordered to replace the reagents supplied with the kit.

Significance of Use

Disinfection is a process of killing disease-causing organisms (or pathogens). Chlorine (Cl₂) is a very desirable disinfectant because, when mixed with pure water, it reacts to form hypochlorous acid (HOCl) and hydrochloric acid (HCl). HOCl (free active chlorine) is the most effective form of chlorine for disinfection of pools, spas, and drinking water.

Drinking water municipalities add elemental chlorine to the water supply as chlorine gas, liquid sodium hypochlorite, or dry calcium hypochlorite. In water these form free chlorine ions, which destroy disease-causing pathogens, reduce odor, eliminate bacteria and help to remove unwanted elements. The USEPA requires that residual disinfectant is present in finished drinking water to ensure there is disinfectant available throughout the distribution system, with chlorine acting as one of the disinfectants that provides said residual. However, the EPA has also set a maximum contaminant level of 4.0 mg/L for free chlorine due to potential health effects above this level.

Specifications	HI38018 Free Chlorine (as Cl ₂)
Type	checker disc
Range	0.00-0.70 mg/L (ppm) 0.0-3.5 mg/L (ppm)
Smallest Increment	0.02 mg/L (ppm) 0.1 mg/L (ppm)
Method	DPD
Number of Tests	200 avg.
Ordering Information	HI38018 test kit comes with HI93701-0 free chlorine reagent (200 packets), demineralizer bottle with cap for 12 L, checker disc, glass vials with caps (2) and 3 mL plastic pipettes.
Reagent	HI38018-200 free chlorine, 200 tests avg.

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HI38017

Free & Total Chlorine Test Kit

Low and Medium Range with Checker® Disc

The HI38017 is a chemical test kit that determines the free and total chlorine concentration in two ranges: 0.00 to 0.70 mg/L and 0.0 to 3.5 mg/L. The HI38017 is supplied with all of the necessary reagents and equipment to perform both analyses, including the Checker® disc for accurate determination. The test kit contains enough reagents for perform approximately 200 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the glass vials, plastic pipette, reagent packets, and Checker® disc.
- **High resolution**
 - Readings from 0.00 to 0.70 mg/L are determined to 0.02 mg/L resolution.
 - Readings from 0.0 to 3.5 mg/L are determined to 0.1 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI38017-200 can be ordered to replace the reagents supplied with the kit.

Significance of Use

Chlorine is the most commonly used water disinfectant in applications such as drinking water and wastewater treatment, pool and spa sanitization, and 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; this results in diminished disinfecting capabilities compared with free chlorine. Chlorine compounds together with chloramines form combined chlorine. Combined chlorine and free chlorine together result in total chlorine. While free chlorine has a much higher disinfectant potential, combined chlorine has a much higher stability and lower volatility.

Specifications	HI38017 Free & Total Chlorine (as Cl ₂)
Type	checker disc
Range	0.00-0.70 mg/L (ppm) 0.0-3.5 mg/L (ppm)
Smallest Increment	0.02 mg/L (ppm) 0.1 mg/L (ppm)
Method	DPD
Number of Tests	200 avg.
Ordering Information	HI38017 test kit comes with HI93701-0 free chlorine reagent (100 packets), HI93711-0 total chlorine reagent (100 packets), demineralizer bottle with filter cap for 12 L, checker disc, glass vials with caps (2) and 3 mL plastic pipettes
Reagent	HI38017-200 free & total chlorine, 200 tests avg.

HI38020

Free & Total Chlorine Test Kit

Low, Medium and High Range with Checker® Disc

The HI38020 is a chemical test kit that determines the free and total chlorine concentration in three ranges: 0.00 to 0.70 mg/L, 0.0 to 3.5 mg/L, and 0.0 to 10.0 mg/L. The HI38020 is supplied with all of the necessary reagents and equipment to perform both analyses, including the Checker® disc for accurate determination. The test kit contains enough reagents for perform approximately 200 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the glass vials, plastic pipette, reagent packets, and Checker® disc.
- **High resolution**
 - Readings from 0.00 to 0.70 mg/L are determined to 0.02 mg/L resolution.
 - Readings from 0.0 to 3.5 mg/L are determined to 0.1 mg/L resolution.
 - Readings from 0.0 to 10.0 mg/L are determined to 0.5 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI38020-200 can be ordered to replace the reagents supplied with the kit.

Significance of Use

Chlorine is the most commonly used water disinfectant in applications such as drinking water and wastewater treatment, pool and spa sanitization, and food processing and sterilization. Chlorine present in water binds with bacteria, leaving only a part of the original quantity (free chlorine) to continue its

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; this results in diminished disinfecting capabilities compared with free chlorine. Chlorine compounds together with chloramines form combined chlorine. Combined chlorine and free chlorine together result in total chlorine. While free chlorine has a much higher disinfectant potential, combined chlorine has a much higher stability and lower volatility.

Specifications	HI38020 Free & Total Chlorine (as Cl ₂)
Type	checker disc
Range	0.00-0.70 mg/L (ppm) 0.0-3.5 mg/L (ppm) 0.0-10.0 mg/L (ppm)
Smallest Increment	0.02 mg/L (ppm) 0.1 mg/L (ppm) 0.5 mg/L (ppm)
Method	DPD
Number of Tests	200 avg.
Ordering Information	HI38020 test kit comes with HI93701-0 free chlorine reagent (100 packets), HI93711-0 total chlorine reagent (100 packets), demineralizer bottle with filter cap for 12 L, checker disc, glass vials with caps (2) and 3 mL plastic pipettes
Reagent	HI38020-200 free & total chlorine, 200 tests avg.

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HI3831T

Total Chlorine Test Kit

with Color Cube

The HI3831T is a colorimetric chemical test kit that determines the total chlorine concentration within a 0.0 to 2.5 mg/L (ppm) range. The HI3831T is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents for perform approximately 50 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the sample beaker, color comparison cube, and reagent packets and dropper bottles.
- **High resolution**
 - Readings from 0.0 to 2.5 mg/L are determined to 0.5 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI3831T-050 can be ordered to replace the reagents supplied with the kit.

Significance of Use

The chlorination of water supplies and polluted waters is used mainly to destroy or deactivate disease-producing microorganisms. Chlorine also serves to improve the quality of drinking waters, as it reacts with ammonia, iron, manganese, sulfide, and some organic substances. Nevertheless, high amounts of chlorine will produce adverse effects like the formation of compounds which are potentially carcinogenic (e.g. chloroform) or harmful to aquatic life (e.g. chloramines). It remains essential to control the amount of added chlorine in order to fulfill the primary purpose of disinfecting while also minimizing any adverse effects.



Specifications	HI3831T Total Chlorine (as Cl ₂)
Type	colorimetric
Range	0.0-2.5 mg/L (ppm)
Smallest Increment	0.5 mg/L (ppm)
Method	DPD
Number of Tests	50 avg.
Ordering Information	HI3831T test kits comes with color comparison cube, 20 mL chlorine reagent 1, 15 mL chlorine reagent 2 and 15 mL chlorine reagent 3
Reagent	HI3831T-050 total chlorine, 50 tests avg.

HI38023

Total Chlorine Test Kit

Extended Range

The HI38023 is a titration-based chemical test kit that determines the total chlorine concentration within a 10 to 200 mg/L (ppm) range. The HI38023 is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents for perform approximately 100 tests.

- **Complete setup**
 - All required materials are included with the test kit, such as the sample beaker, indicator and reagent bottles and packets, spoon, and plastic syringe.
- **High resolution**
 - Readings from 10 to 200 mg/L are determined to 10 mg/L resolution.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The HI38023-100 can be ordered to replace the reagents supplied with the kit.

Significance of Use

The chlorination of water supplies and polluted waters is used mainly to destroy or deactivate disease-producing microorganisms. Chlorine also serves to improve the quality of drinking waters, as it reacts with ammonia, iron, manganese, sulfide, and some organic substances. Nevertheless, high amounts of chlorine will produce adverse effects like the formation of compounds which are potentially carcinogenic (e.g. chloroform) or harmful to aquatic life (e.g. chloramines). It remains essential to control the amount of added chlorine in order to fulfill the primary purpose of disinfecting while also minimizing any adverse effects.



Specifications	HI38023 Total Chlorine (as Cl ₂)
Type	titration
Range	10-200 mg/L (ppm)
Smallest Increment	10 mg/L (ppm)
Method	iodometric
Number of Tests	100 avg.
Ordering Information	HI38023 test kit comes with 30 mL potassium iodide solution, sulfamic reagent (100 packets), 25 mL starch indicator, 100 mL thiosulfate reagent, 50 mL calibrated vessel, 1 mL syringe with tip, 1 mL plastic pipette and spoon.
Reagent	HI38023-100 total chlorine extended range, 50 tests avg.

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