#### 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.

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#### Specifications HI3829F Free Chlorine (as Cl<sub>2</sub>)

Туре	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 avo.

#### Specifications HI3831F Free Chlorine (as Cl<sub>2</sub>)

Туре	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.

ติดต่อบริษัท นีโอนิคส์ จำกัด

Tel: 098-479-5684 หรือ 061-8268939

E-mail: sale@neonics.co.th หรือ sale@tools.in.th

# 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 sup & reg; </sup > 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 ( $\text{Cl}_2$ ) 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 HI3875 Free Chlorine (as Cl<sub>2</sub>)

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Туре	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 CI 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.

ติดต่อบริษัท นีโอนิคส์ จำกัด

Tel: 098-479-5684 หรือ 061-8268939

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# 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 ( $\text{Cl}_2$ ) 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 HI38018 Free Chlorine (as Cl<sub>2</sub>)

Туре	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	<b>HI38018-200</b> free chlorine, 200 tests avg.
Reagent	<b>HI38018-200</b> free chlorine, 200 tests avg.



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 qlass 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.

#### 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	HI38017 Free & Total Chlorine (as Cl <sub>2</sub> )
Туре	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.

Specifications	HI38020 Free & Total Chlorine (as Cl <sub>2</sub> )
Туре	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.

ติดต่อบริษัท นีโอนิคส์ จำกัด

Tel: 098-479-5684 หรือ 061-8268939

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# 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<sub>2</sub>)

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Туре	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.

### ติดต่อบริษัท นีโอนิคส์ จำกัด

Tel: 098-479-5684 หรือ 061-8268939

E-mail: sale@neonics.co.th หรือ sale@tools.in.th

# 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<sub>2</sub>)

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Туре	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	<b>HI38023-100</b> total chlorine extended range, 50 tests avg.

