

Slow Release Chlorine Tablets

For the Chlorination of Water and the Disinfection of Water Mains and Tanks

Steadichlor tablets offer a simple and effective means of water chlorination without the need for complex dosing equipment. Steadichlor tablets dissolve in water to give a slow, steady chlorine release. The dissolving time is approximately four hours in flowing water or 12 - 24 hours in static water.

Steadichlor tablets are prepared from calcium hypochlorite. In use, the tablets do not contribute any substances not normally present in treated mains water.

	Available Chlorine Content	Nominal Tablet Weight
STEADICHLOR-NS	14g	20g

CHLORINATION OF WATER

Steadichlor tablets offer an ideal means of chlorinating water in tanks, wells or small reservoirs; and waste water in tanks or effluent streams. The tablets should be used in accordance with standard chlorination practice depending on the water to be treated and the purpose of treatment.

Where chlorination is to be carried out to disinfect the water, a free chlorination residual of at least 1 mg/l should be achieved in the treated water. Note that it will normally be necessary to add a higher chlorine dose to satisfy the chlorine demand of the water.

The dosage of Steadichlor tablets should therefore be controlled in response to free chlorine test readings taken on the treated water. Testing should be carried out using Palintest DPD No 1 tablets and a chlorine test kit. Details of the Palintest DPD test and full range of test kits available are given in literature available on request.

Procedure

- 1 Calculate the approximate number of Steadichlor tablets required by reference to Table 1. Add tablets direct to the water, or preferably place in a mesh bag or perforated container suspended in the water flow.
- 2 Test free chlorine level in the treated water regularly using DPD No 1 tablets.
- 3 Adjust the number of tablets used in subsequent doses in response to the test readings to maintain the desired chlorine residual.

Table 1

Volume of water to be treated		No. of Tablets to give 1 mg/l chlorine dose
Litres	Gallons	Steadichlor-NS
14000	3700	1
28000	7400	2
56000	14800	4

DISINFECTION OF WATER MAINS AND TANKS

The Steadichlor system is established as one of the simplest means of disinfecting new or repaired water mains and tanks. A feature of the Steadichlor system is the unique Palintest Chlorocol test, especially developed for the control of mains disinfection procedures.

The chlorine dose recommended by the Manual of British Water Engineering Practice (Fourth Edition) for the disinfection of new and repaired mains and their branches is 20 mg/l, with a contact period of at least 30 minutes. A similar dose would be appropriate for the disinfection of water tanks and waterworks apparatus.

Procedure for New Mains

- 1 Calculate the number of tablets required by reference to Table 2. Fasten the tablets to the top inside of each length of main.
- 2 Fill main slowly and check chlorine level using the Chlorocol test or the Palintest ChloroSense. Allow main to stand for 24 hours.
- 3 Flush main and take bacteriological sample. Check to ensure that flushing is adequate using the Chlorocol test or the Palintest ChloroSense.

Table 2

Pipe Diameter		Spacing between each tablet (metres) required to give minimum 30 mg/l chlorine dose
mm	in	Steadichlor-NS
80	3	-
100	4	50 m
150	6	25 m
200	8	13 m
250	10	8 m
300	12	6 m
400	15	3 m
450	18	2 m

Procedure for Repaired Mains

When the repaired section of main has to be returned rapidly to service, it may not be possible to carry out the full disinfection procedure as described above. In such cases Steadichlor tablets should be used to provide a temporary boost to the normal chlorine residual in the mains water.

Fasten Steadichlor tablets to the top inside of the section of main under repair. Table 2 should be used as a guide to the number of tablets required. Check the chlorine level in the main using Chlorocol test or the Palintest ChloroSense.

Procedure for Tanks, etc

- 1 Calculate the number of Steadichlor tablets required by reference to Table 3. Place the tablets in a mesh bag or perforated container suspended near the water inlet.
- 2 Fill tank and agitate the water if possible to ensure complete mixing. Check the chlorine level using the Chlorocol test or the Palintest ChloroSense. Allow tank to stand for 24 hours.
- 3 Flush tank and take bacteriological sample. Check to ensure that flushing is adequate using the Chlorocol test or the Palintest ChloroSense.

Table 3

Volume of Tank, etc		Number of tablets to give 30 mg/l chlorine dose
Litres	Gallons	Steadichlor-NS
450	100	1
900	200	2
2250	500	5
4500	1000	10
22500	5000	50

CHLOROSENSE

The Palintest ChloroSense is a precision instrument used with unique pre-calibrated disposable sensors. It offers a simple, rapid, reagent-free method of analysing water for chlorine, removing almost all sources of technique dependence.

The instrument is lightweight and portable for field or laboratory use. It is extremely simple to use, with a large, clear, backlit results display.

CHLOROCOL TEST

The Palintest Chlorocol test is a wide range chlorine test specially developed for use in conjunction with Steadichlor tablets. The Chlorocol test provides a simple pocket kit for control of mains and tank disinfection procedures on site. The Chlorocol test kit can also be used as a wide range chlorine test for general water testing purposes.

The Palintest Chlorocol Test Kit includes test tablets and stoppered plastic test tube. The Chlorocol procedure is as follows :-

- 1 Fill plastic test tube to about 15 mm (½") from the top.
- 2 Add one Chlorocol tablet.
- 3 Insert stopper and shake for a few seconds until tablet dissolves.
- 4 Observe colour produced.

The response of the test to various levels of chlorine is given in Table 4.

Table 4

Colour	Chlorine mg/l (ppm)
None	Absent
Faint pink to pink	0.2 to 1
Pink to red	1 to 5
Red to purple	5 to 10
Purple to blue	10 to 20
Blue to greyish green	20 to 30
Greyish green to yellow	30 to 50
Muddy brown	Over 50

The Chlorocol test produces distinctive colour changes over the test range and the use of colour standards for comparison is not necessary.

PACK SIZES AND PRODUCT CODES

Steadichlor products are available in the following pack sizes :-

Product Code	Pack Size
WT 122 STEADICHLOR-NS	2½ Kg (approx 125 tablets)
WT 123 STEADICHLOR-NS	5 Kg (approx 250 tablets)
CS 100 CHLOROSENSE	100 Sensors
PK 080 CHLOROCOL TEST KIT	100 tests

STORAGE AND HANDLING

Information on the storage and handling of Steadichlor tablets is given on the product label and the Steadichlor MSDS.

In certain applications the use of rapid dissolving tablets is preferred. These applications include small-scale water chlorination in containers, tanks and bowsers; and sterilizing or sanitizing of equipment, plant, pipelines etc. Instachlor-PR Rapid Release Chlorine tablets are recommended for use in these applications.

These tablets are described in the Instachlor-PR product leaflet.

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