

INSTACHLOR® PR

WCHL. 2

Professional Range

Rapid Release Chlorine Tablets

For applications in chlorination, disinfection and sterilisation.

Instachlor PR tablets are a range of rapid dissolving chlorine release tablets for professional applications in water treatment and disinfection. The range is comprised of five different sizes of tablet specially selected to suit a wide variety of uses.

Instachlor PR tablets are prepared from an effervescent formulation containing sodium dichloroisocyanurate - an organic chlorine donor. The tablets dissolve rapidly when added to water and release chlorine into solution. Instachlor PR tablets provide a simple and effective means of preparing chlorine solutions of known strength for chlorination, disinfection, or sterilisation purposes.

Instachlor PR 5 and PR 67 are intended for use in individual water containers and are ideal for personal water disinfection by travellers, military personnel or field expeditions; or for emergency water treatment in disaster situations. Instachlor PR 150, PR 1000 and PR 3000 are suited to the disinfection of water in storage tanks, bowsters, etc, for example on board ship, trains or aircraft.

Table 2 indicates the quantity of water which can be treated with each Instachlor PR tablet to provide the various chlorine doses referred to for disinfection of water :-

Table 2

Code	Description	Volume of Water (Litres)		
		for 1 mg/l	for 2.5 mg/l	for 5 mg/l
WT 406	Instachlor – PR 5	5	2	1
WT 415	Instachlor – PR 40	40	16	8
WT 424	Instachlor – PR 150	150	60	30
WT 442*	Instachlor – PR 1000	1000	400	200
WT 446*	Instachlor – PR 1000	1000	400	200
WT 448	Instachlor – PR 3000	3000	1200	600

THE INSTACHLOR PR RANGE

Code	Description	NaDCC	Chlorine Content	Nom Tablet Weight	Tablet Dia
WT 406	Instachlor – PR 5	8.5 mg	5.1 mg	0.06g	5 mm
WT 415	Instachlor – PR 40	67 mg	40.2 mg	0.35g	10 mm
WT 424	Instachlor – PR 150	250 mg	150 mg	1.08g	16 mm
WT 442*	Instachlor – PR 1000	1.7g	1g	3.25g	18 mm
WT 446*	Instachlor – PR 1000	1.7g	1g	3.25g	18 mm
WT 448	Instachlor – PR 3000	5g	3g	9.7g	25 mm

* = 100 Pack * = 300 Pack

As a guide to the general application of Instachlor tablets to different uses, Table 1 shows the available chlorine concentration provided by each Instachlor tablet when added to various volumes of water :-

Table 1

Code	Description	Available Chlorine (mg/l) Provided			
		in 1 Litre	in 10 Litres	in 100 Litres	in 1000 Litres
WT 406	Instachlor – PR 5	5	0.5	-	-
WT 415	Instachlor – PR 40	40	4	0.4	-
WT 424	Instachlor – PR 150	150	15	1.5	0.15
WT 442*	Instachlor – PR 1000	1000	100	10	1
WT 446*	Instachlor – PR 1000	1000	100	10	1
WT 448	Instachlor – PR 3000	3000	300	30	3

* = 100 Pack * = 300 Pack

CHLORINATION OF WATER

Instachlor PR tablets provide a convenient means of small-scale water chlorination: The tablets may be added direct to water containers, water tanks, wells or small reservoirs. The choice of Instachlor PR tablet will depend on the quantity of water to be treated. 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 chlorine residual of 1 mg/l should be achieved in the treated water. Note that it will normally be necessary to add a higher dose to satisfy the chlorine demand of the water.

Whenever possible the water should be drawn from a clean source. A chlorine dose of 2.5 mg/l and a standing period of at least 15 minutes is recommended. If a clean source of water is not available, or if any contamination is suspected, a higher chlorine dose, say 5 mg/l, should be applied. In both cases it is recommended that the Palintest Chlorocol, DPD or ChloroSense tests be used to check that an adequate chlorine residual has been achieved in the treated water.

Instachlor PR tablets are primarily intended for casual, periodic or emergency chlorination of water. It is recommended that water supplies so treated should not be consumed for more than ninety days in any one year period.

DISINFECTION OF WATER TANKS AND DISTRIBUTION SYSTEMS

Instachlor PR tablets can be advantageously used for the disinfection of water tanks and distribution systems. This includes tanks used for water supply and those associated with refrigeration or air conditioning systems, etc. Contaminated tanks have been recognised as a potential source of infection and the need for disinfection is paramount.

It is recommended that all water storage tanks and similar systems be disinfected regularly. This disinfection may be combined with manual cleaning operations as appropriate. New water storage systems should always be disinfected prior to use.

A chlorine dose of 25 - 50 mg/l with a contact time of at least 30 minutes is recommended for the disinfection of water tanks. Systems may however be soaked for a longer period, up to 24 hours, to ensure disinfection. It is normal practice to flush out the system with clean water at the end of this period depending on the type of system.

It should be recognised that if the tank is very dirty, the chlorine dose may be wasted satisfying the chlorine demand without achieving proper disinfection. Moreover, layers of dirt loosened from the tank sides may well contaminate the water further. It is recommended that in such cases the tanks be thoroughly cleaned out and flushed prior to applying Instachlor PR tablets.

Instachlor PR tablets may be added directly to the water tank. Some agitation should be provided to ensure that the chlorine is dispersed throughout the system. The Palintest Chlorocol test may be used to check the chlorine level after treatment, and to check that adequate flushing has been carried out. The choice of Instachlor PR tablets will depend on the size of system to be treated.

STERILISING AND SANITISING

Chlorine solutions are used extensively for sterilising or sanitising of equipment, work surfaces, plant and pipelines, etc. Application areas include food industries, pharmaceutical manufacturing plants and other situations where a germ-free environment is essential. Instachlor PR tablets provide a simple and accurate means of preparing sterilising and sanitising solutions for these applications. The solutions may be used either for simple manual washing and cleaning applications, or for mechanical cleaning of plant and equipment.

These applications require a higher chlorine level than those associated with water chlorination or tank disinfection procedures. In general a concentration of at least 200 to 250 mg/l should be achieved for sterilisation purposes, whilst for sanitising purposes at least 100 to 150 mg/l is normally acceptable. Official recommendations exist in certain industries covering the required strength for particular sterilising or sanitising operations.

Use Instachlor PR-150, PR-1000 or PR-3000 for preparing small volumes of solution for manual cleaning and sterilizing applications. One Instachlor PR-1000 will produce 200 mg/l chlorine in a 4.5 litre (one gallon) bucket of water. Use Instachlor PR-1000 or PR-3000 tablets for preparing larger volumes for mechanical operations.

Table 4 indicates the volume of water to be used to produce the recommended chlorine concentrations :-

Table 4

	Volume of Water (Litres)			
	for Sanitising		for Sterilising	
	100 mg/l	125 mg/l	200 mg/l	250 mg/l
INSTACHLOR PR 150	1.5	1.2	0.75	0.6
INSTACHLOR PR 1000	10	8	5	4
INSTACHLOR PR 3000	30	24	15	12

CHLOROCOL TEST

The Palintest Chlorocol test is a wide range chlorine test specially developed for use in conjunction with chlorine release tablets. The Chlorocol test provides a simple pocket kit for checking the chlorine residual during water chlorination and tank disinfection procedures, etc. 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 tubes. The Chlorocol procedure is as follows :-

- 1 Fill plastic test tube to about 15 mm (½ in) 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 5.

Table 5

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.

INSTACHLOR PR PACK SIZES

Instachlor PR tablets are available in the following packs and pack sizes :-

Product Code	Description	Pack Size
WT 406	INSTACHLOR PR 5	500 tablets
WT 415	INSTACHLOR PR 40	250 tablets
WT 424	INSTACHLOR PR 150	250 tablets
WT 442	INSTACHLOR PR 1000	100 tablets
WT 446	INSTACHLOR PR 1000	300 tablets
WT 448	INSTACHLOR PR 3000	200 tablets

STORAGE AND HANDLING

Information on the storage and handling of Instachlor PR tablets is given on the product label and the Instachlor health and safety data sheet.

APPROVALS FOR USE

Instachlor PR tablets are approved by the UK Drinking Water Inspectorate for emergency use in the treatment of public water supply, and for use as disinfectants for waterworks apparatus, distribution pipes and service reservoirs. Full details of these approvals are available on request.

SLOW RELEASE CHLORINE TABLETS

In certain applications the use of slow dissolving tablets is preferred. These applications include the continuous treatment of flowing water systems, and the disinfection of new and repaired water mains. Steadichlor Slow Release Chlorine tablets are recommended for use in these applications.

These tablets are described in the Steadichlor product leaflet.

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