

INSTACHLOR®PR
Professional Range
Rapid Release Chlorine Tablets

For applications in chlorination, disinfection and sterilization

Instachlor PR tablets are a range of rapid dissolving chlorine release tablets for professional applications in water treatment and disinfection. The range comprises four 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 sterilization purposes.

THE INSTACHLOR PR RANGE

	Available Chlorine Content	Nominal Tablet Wt.	Tablet Diameter
Instachlor PR 2-5	2.5mg	60mg	5mm
Instachlor PR - 50	50mg	150mg	7mm
Instachlor PR - 250	250mg	750mg	13mm
Instachlor PR -1000	1g	3g	19mm
Instachlor PR - 5000	5 g	15 g	28 mm

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

	Available Chlorine (mg/l) provided			
	in 1 litre	in 10 litres	in 100 litres	in 1000 litres
Instachlor PR 2-5	2.5	0.25	-	-
Instachlor PR - 50	50	5	0.5	-
Instachlor PR - 250	250	25	2.5	0.25
Instachlor PR -1000	1000	100	10	1.0
Instachlor PR - 5000	5000	500	50	5.0

Chlorination of Water

Instachlor PR tablets provide a convenient means of small-scale water chlorination. The tablets may be added directly 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 at least 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 30 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 test be used to check that an adequate chlorine residual has been achieved in the treated water.

Instachlor Pr - 2.5 and PR - 50 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 - 250, PR - 1000 and PR - 5000 are suited to the disinfection of water in storage tanks, bowsers, etc. for example on board ships, 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

	Volume of Water (litres)		
	for 1 mg/l	for 2.5 mg/l	for 5 mg/l
Instachlor PR 2-5	2.5	1	0.5
Instachlor PR - 50	50	20	10
Instachlor PR - 250	250	100	50
Instachlor PR -1000	1000	400	200
Instachlor PR - 5000	5000	2000	1000

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. These include tanks used for water supply and those associated with refrigeration or air conditions systems, etc. Contaminated tanks have been recognized 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 recognized 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. Table 3 indicates the volume of water which can be treated to 25 mg/l or 50 mg/l using each Instachlor PR tablet.

Table 3

	Volume of Water (litres) for 25 mg/l chlorine
Instachlor PR -250	10
Instachlor PR-1000	40
Instachlor PR - 5000	100

Sterilizing and Sanitizing

Chlorine solutions are used extensively for sterilizing or sanitizing of equipment, work surfaces, plant and pipelines etc. Application areas include food industries, pharmaceutical manufacturing plants and other situation where a germ-free environment is essential. Instachlor PR tablets provide a simple and accurate means of preparing sterilizing and sanitizing solutions. 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 sterilizing purposes, while sanitizing purposes at least 100 to 150 mg/l is normally acceptable. Official recommendations exist in certain industries covering the required strength for particular sterilizing or sanitizing operations.

Use Instachlor PR-250, PR-1000 or PR-5000 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 5000 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 Sanitizing		for Sterilizing	
	100 mg/l	125 mg/l	200 mg/l	250 mg/l
Instachlor PR-250	2.5	2	1.25	1

Instachlor PR-1000	10	8	5	4
Instachlor PR-5000	50	40	25	20

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 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 16 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 to 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 10
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		Pack Size
WT 405	Instachlor PR - 2.5	500 Tablets
WT 414	Instachlor PR - 50	250 Tablets
WT 424	Instachlor PR - 250	250 Tablets
WT 442	Instachlor PR - 1000	100 Tablets
WT 446	Instachlor PR - 1000	275 Tablets
WT 448	Instachlor PR - 5000	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.