DEPARTMENT OF HEALTH

ENVIRONMENTAL HEALTH FACT SHEET

No. 400

DISINFECTION OF WATER TANKS

This information bulletin has been developed to provide information on the disinfection of water tanks with chlorine. Chlorination is the most common form of disinfection and successfully controls many micro-organisms.

+

CALCULATING THE SIZE OF YOUR TANK FOR CHLORINATION



Tanks come in a variety sizes ranging from 750 L (165 gallons) to over 50 000 L (11 000 gallons). To convert a tank volume in gallons to a volume in litres, simply multiply the number of gallons by 4.5.

O

TO CALCULATE TANK WATER VOLUME

Full Rectangular Tanks (box tanks, some in ground tanks)

Volume (in litres) = (depth [m] x width [m] x length [m]) multiplied by 1000 (to convert cubic metres to litres.)

• Full Cylindrical Tanks

Volume (in litres)

= (3.14 x radius [m] x radius [m] x tank depth [m]) multiplied by 1000 (to convert cubic metres to litres.)

(C)

Example:

Tank radius = 2 metres Tank depth = 3 metres

[The radius is the half the diameter or width of the tank].

Tank Volume = (3.14 x 2 m X 2 m x 3m) x 1000

 $= (3.14 \times 4 \text{ m}^2 \text{x 3 m}) \times 1000$

 $= (3.14 \times 12 \text{ m}^3) \times 1000$

 $= 37.68 \text{ m}^3 \text{ x } 1000$

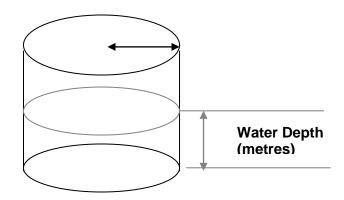
= 37 680 Litres

• Part-full Cylindrical Tanks

Volume (in litres) = (3.14 x radius x radius [m] x water depth [m]) multiplied by 1000.

(See diagram over page)

DEPARTMENT OF HEALTH



(

Diagram adapted from Guidance on the Use of Rainwater Tanks, 2004, enHealth.

TO CALCULATE MILLILITRES OF 4% LIQUID BLEACH REQUIRED TO DISINFECT THE WATER IN A TANK

	Concentration of Chlorine Required (mg/L)				
	1	2	5		
Amount of Water in Tank (Litres)					
1000	25 mL	50 mL	125 mL		
2000	50 mL	100 mL	250 mL		
3000	75 mL	150 mL	375 mL		
4000	100 mL	200 mL	500 mL		
5000	125 mL	250 mL	625 mL		
6000	150 mL	300 mL	750 mL		
7000	175 mL	350 mL	875 mL		
8000	200 mL	400 mL	1000 mL		
9000	225 mL	450 mL	1125 mL		
10000	250 mL	500 mL	1250 mL		

Please note the above calculations are only estimates. The amount of liquid bleach required to be added to your water supply would depend on the quality of the water.

May 2014

CHECK THE LABEL OF THE PRODUCT TO ENSURE THAT NO ADDITIVES SUCH AS FRAGRANCES ARE ADDED TO THE BLEACH.

TO CALCULATE MILLILITRES OF 12.5% SODIUM HYPOCHLORITE (LIQUID) REQUIRED TO DISINFECT THE WATER IN A TANK

ctsheet

	Concentration of Chlorine Required (mg/L)				
	1	2	5		
Amount of Water in Tank (Litres)					
1000	8 mL	16 mL	40 mL		
2000	16 mL	32 mL	80 mL		
5000	40 mL	80 mL	200 mL		
6000	48 mL	96 mL	240 mL		
7500	60 mL	120 mL	300 mL		
10000	80 mL	160 mL	400 mL		
16000	128 mL	256 mL	640 mL		
20000	160 mL	320 mL	800 mL		
30000	240 mL	480 mL	1200 mL		

4

Please note the above calculations are only estimates. The amount of chlorine required to be added to your water supply would depend on the quality of the water.

DO NOT USE STABILISED CHLORINE.

THE CHLORINE USED MUST NOT CONTAIN ISOCYANURIC ACID.

May 2014 Page 3 of 4

HOW TO USE THE TABLES:

- 1. Calculate the volume of the tank in litres.
- 2. Select the concentration of chlorine required:
 - 1mg/L: Routine disinfection for clean water
 - 2 mg/L: Routine disinfection for reasonable clean water
 - 5 mg/L: Disinfection for tanks and pipes.
- 3. Choose the chlorine disinfectant used and read the amount of chlorine disinfectant to be added where the chlorine concentration required corresponds to the volume of the tank.

act shee

FOR FURTHER INFORMATION CONTACT ENVIRONMENTAL HEALTH ON 1800 095 646 OR YOUR LOCAL OFFICE

	GREATER DARWIN REGION &		KATHERINE		EAST ARNHEM	
	TOP END REMOTE		Ground Floor, O'Keefe House		Community Health Building	
	2nd Floor, Casuarina Plaza		Katherine Hospital		Endeavour Square, Nhulunbuy	
	Casuarina		PMB 73		PO Box 421	
	PO Box 40596		KATHERINE NT 0851		NHULUNBUY NT 0881	
	CASUARINA NT 0811		Phone:	(08) 8973 9061	Phone:	(08) 8987 0440
	Phone:	(08) 8922 7377		(08) 8973 9062		(08) 8987 0441
Į	Fax:	(08) 8922 7036	Fax:	(08) 8973 9063	Fax:	(08) 8987 0444
ĺ	BARKLY		CENTRAL AUSTRALIA			
	Health Development Building		Peter Sitzler Building			
	Cnr Schmidt & Windley Sts, Tennant Creek		67 North Stuart Highway, Alice Springs			
	PO Box 346		PO Box 721			
	TENNANT CREEK NT 0861		ALICE SPRINGS NT 0871			
	Phone:	(08) 8962 4302	Phone:	(08) 8955 6122		
	Fax:	(08) 8962 4420	Fax:	(08) 8952 5927		

May 2014 Page 4 of 4