



Dilution rates

Prochem chemical product manager Paul Reynolds on how to get chemical dilution right first time....

Prochem's product range includes both concentrated products, which require dilution prior to use, and ready-to-use products (RTU) where no dilution is necessary.

Before using any chemical (or any other product for that matter), you should always read the label. At Prochem, we are continuously looking at how we can improve our products through research, development and innovation. Products sometimes change, therefore, it is wise that even regular users check the label instructions before use.

Where dilution of products is required, then the recommended dilution rate is given on the label in metric units.

Units:

Using the metric system, the dilution rates for products are given in litres (L), millilitres (ml), kilograms (kg) or grams (g).

1L is the same as 1,000ml

1kg is the same as 1,000g

Therefore, 500ml is the same as 0.5L (half a litre)

With liquids, the units will be given in litres and millilitres, while powders will be given in grams or kilograms. Usually the dilution instructions will tell you to add a certain amount of concentrate (in 'ml' or 'g') to an amount of water (in 'L'). This may also be expressed as a ratio.

Ratio:

A ratio is a unit-less way of expressing the amount of one quantity relative to another. So for a ratio of product to water of 1:4, for every 1 litre of concentrated product you would need to add 4 litres of water to make up a total of 5 litres of diluted liquid.

A common mistake is to assume that 1:4 means that 4 litres of diluted product contains 1 litre of concentrate, **this is not the case.**

The following table can be used as a quick reference guide when diluting, to establish how much chemical to add, to how much water.

To use the table, simply check the label for the dilution ratio of the product, look this ratio up in the left-hand column of the table, and then scan to your right to look up the amount of chemical product (highlighted in yellow) required for the amount of water (highlighted in blue) you are using. Powder chemical amounts are indicated in brackets.

For example, a cleaner has 10L of water and the chemical has a 1 to 25 dilution ratio. By checking the table you can see that you need to add 400ml of chemical to your 10L of water.

DILUTION RATIO	RATIO FOR 1L OF WATER		or	RATIO FOR 10L OF WATER		DILUTION RATIO
	Add			Add		
	Chemical	Water		Chemical	Water	
1 to 1	1L (1Kg)	1L		10L (10Kg)	10L	1 to 1
1 to 2	500ml (500g)	1L		5L (5Kg)	10L	1 to 2
1 to 4	250ml (250g)	1L		2.5L (2.5Kg)	10L	1 to 4
1 to 5	200ml (200g)	1L		2L (2Kg)	10L	1 to 5
1 to 8	125ml (125g)	1L		1.25L (1.25Kg)	10L	1 to 8
1 to 10	100ml (100g)	1L		1L (1Kg)	10L	1 to 10
1 to 16	63ml (63g)	1L		630ml (630g)	10L	1 to 16
1 to 20	50ml (50g)	1L		500ml (500g)	10L	1 to 20
1 to 25	40ml (40g)	1L		400ml (400g)	10L	1 to 25
1 to 33	30ml (30g)	1L		300ml (300g)	10L	1 to 33
1 to 40	25ml (25g)	1L		250ml (250g)	10L	1 to 40
1 to 50	20ml (20g)	1L		200ml (200g)	10L	1 to 50
1 to 66	15ml (15g)	1L		150ml (150g)	10L	1 to 66
1 to 100	10ml (10g)	1L		100ml (100g)	10L	1 to 100
1 to 200	5ml (5g)	1L		50ml (50g)	10L	1 to 200
1 to 333	3ml (3g)	1L		30ml (30g)	10L	1 to 333
1 to 500	2ml (2g)	1L		20ml (20g)	10L	1 to 500

To aid simplicity, some values in the above table may have been rounded up/down.