

RapidCal powder is available in 3 Litre and 10 Litre formulation powders. RapidCal powders must be formulated with the correct amount of **Deionised water** (below  $10\mu\text{S}/\text{cm}$ ), this is because RapidCal acts as a conductivity standard, and any ions present in the water will affect the conductivity reading of the solution once formulated.

RapidCal powder is hygroscopic and must be stored in original container with the lid firmly closed in a cool dry place. If stored correctly RapidCal powder does not have an expiry date.

#### Equipment required for formulation

- 3 or 10 Litre vessel with lid
- Volumetric flask for accurate measurement of deionised water
- Pipette
- Magnetic stirrer and stirring bar

#### Formulation of RapidCal™

Accurately measure out 3 or 10 Litres (dependent on the size of formulation powder selected) of **deionised water** using a volumetric flask. It is very important this is done accurately or the conductivity of the solution will not read within acceptable limits and the formulation will have to be discarded.

Place vessel containing 3L or 10L deionised water onto a magnetic stirrer and add the stirrer bar. Turn on magnetic stirrer. *Tip: if a 10L mixing vessel is not available, the 10L powder can be mixed in 3L of deionised water, which, once dissolved, can be added to a further 7L of deionised water in the storage/dispensing vessel. Ensure this is mixed thoroughly before testing.*

Slowly dispense the RapidCal powder into the mixing vessel containing the deionised water. Use a small volume (approximately 5mls) of the deionised water from the vessel to rinse out the pot containing RapidCal powder into the large mixing vessel (make sure no residues of RapidCal remain in pot). Put lid on mixing vessel.

Allow formulation to mix for 10 minutes or more, then observe mix to make sure all powder has dissolved. Inspect neck of mixing vessel to ensure no powder remains in the neck. If powder remains in the neck, invert mixing vessel (with lid firmly screwed on) until the powder has dissipated. Observe mix again to make sure all powder has dissolved. *Tip: if the water is very cold the powder will take longer to dissolve. The water can be warmed up to  $25^{\circ}\text{C}$  to help the powder dissolve.*

It is recommended to test a small portion of the formulation with a calibrated Aquaprobe (or calibrated conductivity meter and calibrated pH meter) to make sure it has been formulated correctly. Electrical conductivity should read  $2570\mu\text{S}/\text{cm}$  (+/- 10%;  $2313\text{-}2827\mu\text{S}/\text{cm}$ ), pH should read 7.00 (+/-2%; 6.86-7.14) at  $20^{\circ}\text{C}$ .

Formulation can be stored at room temperature or refrigerated (refrigeration is recommended for storage in warmer climates). Please remove magnetic stirrer bar from formulation before storage. Once formulated the liquid product will have a shelf life of 6 months. MSDS is available at our website ([www.aquaread.co.uk](http://www.aquaread.co.uk)).