

Is my borehole water safe to drink?

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With the extreme water shortage in the Western Cape, residents and businesses are looking at other means to obtain drinking and irrigation water. Options include the collecting rainwater in water tanks or drilling a borehole on their property. However, the quality of the water still needs to be evaluated to determine the suitability of the water for the intended purpose.

Thus, the questions we are often faced with at Vinlab:

“Is my water safe to drink?”
“Can I use the water for irrigation?”

As an ISO17025 SANAS accredited laboratory, Vinlab can test the water from your borehole. There are a range of tests that can be done to determine the quality of the water, however this can become quite costly and not always necessary, depending on the intent of use (please [see price estimates](#) in under the [Library/Articles tab](#) on our website). Obviously, you want drinking water to meet a certain quality standard, while irrigation water does not need to be as “clean”.

You can retrieve a 750 mL water sample from your bore hole just after installation of the pump using a **clean** bottle. When submitting the sample, be sure to **specify the source** of the water sample as well as the **intended use**. This enables us to help you with the interpretation of the results.

STEP ①

Analyse Total Soluble Salt (Total Dissolved Solids)

- **If your total soluble salt content is ≤ 1200 mg/L, then your water is safe for human consumption and no further tests needs to be done.**
- If the total soluble salt levels are more than 1200 mg/L (the water will be quite brackish/hard), you might consider having the water sample analysed for cations (sodium, magnesium, calcium) and anions (chloride and sulphates).



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If the water ion content renders it unsuitable for human consumption (specific standards needs to be met), an ion exchange filter can be installed to purify the water. For irrigation purposes, higher ion content can still be acceptable (depending on the hardness of the water) and could potentially still be used for this purpose.

STEP ②

Test for Total Coliforms and E. coli

Bacteriological tests can be done if you suspect that sewage/waste water is contaminating your borehole (borehole water can be contaminated from the environment by French drains, leaking municipal sewage lines, agricultural waste run-off and the surrounding geology)

- **If E. coli is not detected (nd) and the total coliform count is <10 MPN/100 mL, then the water is safe for consumption.**
- If significant amounts of total coliforms and/or E. coli is present, the water will have to be chemically treated with chlorine before it can be used for irrigation purposes. For human consumption, additional tests (including free chlorine content) will have to be done to ensure successful treatment.

Contact us for more information

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