

WHAT DOES THE ANALYSIS OF MY WATER MEAN?

The Australian Drinking Water Guidelines (ADWG) were developed by the National Health and Medical Research Council (NHMRC) and provide a framework for good management of drinking water supplies. The ADWG when implemented assure the safety of drinking water and also provide health and aesthetic guideline values for chemical, physical and radiological water quality characteristics.

A **health guideline value** is the concentration or measure of a water quality characteristic that, based on present knowledge, does not result in any significant risk to the health of consumers over a lifetime of consumption.

An **aesthetic guideline value** is the concentration or measure of a water quality characteristic that is associated with acceptability of water to the consumer, such as appearance, taste and odour.

The following table provides information on the most commonly tested chemical and physical characteristics in drinking water with reference to the ADWG.

| Parameter | Health Guideline (mg/L) | Aesthetic Guideline (mg/L) | Comments |
|-----------------|-------------------------|----------------------------|---|
| Cl | 5 | 0.6 | Chlorine is added to water to kill harmful bacteria. The aesthetic guideline is based on an odour threshold. |
| F | 1.5 | Not applicable | Fluoride is added to many town water supplies and levels up to 1 mg/L protect against dental caries. Levels above 1.5 mg/L can cause dental fluorosis (mottling of teeth). |
| Fe | None set | 0.3 | Above this value the water may taste strange. High iron can give water a rusty-brown appearance and can stain laundry and fittings. |
| K | None set | None set | Potassium is an essential element for humans. |
| Na | None set | 180 | Above this value the water is likely to taste salty. |
| NaCl | None set | None set | The presence of high levels of sodium chloride in bore water may indicate the disruption of the water table in the immediate area, leading to salination of the bore. This is of particular concern in coastal areas. |
| NO ₃ | 50 | Not applicable | The nitrate level has been set to protect bottle-fed infants less than 3 months old. Up to 100mg/L can be safely consumed by adults and children above 3 months of age. |

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|---------------------------------|---------------|---------|--|
| pH | None set | 6.5-8.5 | <p>A pH of 7 is neutral, above 7 the pH is alkaline and below 7 the pH is acidic.</p> <p>A pH below 6.5 may be corrosive to pipe work.</p> <p>A pH above 8.5 may cause scale and taste problems and decreases the disinfection efficiency of chlorine.</p> |
| SO ₄ | 500 | 250 | The aesthetic value is based on a taste threshold. Negative health effects do not occur below 500 mg/L of Sulfate, and can include dehydration and diarrhoea. |
| TDS (Total Dissolved Solids) | None set | 500 | Water with a TDS level of 1000 and above, can cause excessive scaling and corrosion of pipes and fittings. |
| Total Hardness | None set | 200 | <p>Hard water causes scaling problems in pipes and fittings and soft water can cause corrosion of pipes and fittings.</p> <p>Below 60 mg/L the water may be corrosive. Above 200 mg/L the water may cause scaling problems.</p> |
| True Colour | Not necessary | 15 HU | <p>Colour is generally related to organic content. 15 HU is just noticeable in a glass of water.</p> <p>Up to 25 HU is acceptable if turbidity is low.</p> <p>Chlorination of water high in colour may produce disinfection by-products.</p> |
| Turbidity | | 5 NTU | <p>5 NTU is just noticeable in a glass of water.</p> <p>For effective disinfection turbidity below 1 NTU is desirable.</p> <p>Turbidity above 1 NTU may shield microorganisms from disinfection.</p> |

If your water analysis results are outside the guideline values given in the above table or you would like to discuss the quality of your drinking water further, contact your local Environmental Health Office for further information.

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