

DRINKING WATER GUIDELINES

The analysis of water for drinking purposes should include a range of chemical and microbiological analyses. Two main documents apply to drinking water quality in Australia:

1. National Health and Medical Research Council (NHMRC), Australian Drinking Water Guidelines (ADWG)

The list of parameters in the *Australian Drinking Water Guidelines* is extensive and a site-specific risk-based approach may be necessary to determine the most appropriate parameters for testing. Many of the parameters are listed with aesthetic guideline values and/or health guideline values. An extensive list of fact sheets and the Australian Drinking Water Guidelines can be downloaded readily from the NRHMC website.

2. FSANZ Food Standards Code for Packaged Water 2.6.2 (includes Bottled Water).
The Food Standards Code can be viewed on the Australian Food Standards website.

This guideline references *Table A3.3 Guideline values for chemicals that are of health significance in drinking-water of Annex 3 Chemical summary tables in the Guidelines for drinking-water quality, 4th edition, 2011, World Health Organization, Geneva*, which can be found on the World Health Organisation website.

ANALYSES AND ADVICE

Analytical Services Tasmania holds NATA accreditation for many of the physical, inorganic and organic chemical characteristics listed in the references above. We can also give advice as to whether the test results fall within the guidelines.

AST is also able to perform algal identification and enumeration testing in water.

A series of testing suites for drinking water are provided below. Note that these suites do not include all parameters for which guidelines exist under the ADWG. They represent the most commonly occurring general inorganic and physical tests only. It is up to individuals requesting the testing to determine the local risks to the water supply and whether selected tests represent sufficient characterisation of their water to manage any risks associated with its use.

A large range of other chemical tests can be performed at AST, such as hydrocarbon and pesticide testing. Please call the laboratory for further information and pricing.

TESTING DETAILS

The turnaround time for analysis is typically ten working days. Prices quoted by AST include the supply of appropriately prepared sample containers, postage, and any associated advice. A quote may be obtained by contacting the laboratory.

BACTERIOLOGICAL TESTING

Bacteriological testing is not conducted by AST. However, we can outsource these tests and include them on our analytical report.

Tasmanian laboratories offering NATA accredited microbiology/bacteriological testing services are listed below or can be found on the NATA website. AST does not make recommendations on which testing laboratories to use. The ones listed below are listed for convenience only, there may be other services available within the state:

- Public Health Laboratory, Department of Health, Hobart.
- NRE Prospect Laboratories, Launceston.

DEPARTMENT OF HEALTH

For authoritative advice on drinking water contact the [Tasmanian Public Health Service](#).

SUGGESTED ANALYSIS SUITES

1. Drinking Water (Raw) – Aesthetic Guidelines
Hardness, pH, Total Dissolved Solids (TDS by calculation), True Colour, Turbidity, Aluminium, Ammonia, Chloride, Copper, Sulphide, Iron, Manganese, Sodium, Sulphate, Zinc.
2. Drinking Water (Raw) – Health Guidelines
Antimony, Arsenic, Barium, Boron, Cadmium, Chromium*, Copper, Cyanide, Fluoride, Lead, Manganese, Mercury, Molybdenum, Nickel, Nitrate, Nitrite, Selenium, Silver, Sulphate. <i>e.coli</i> (outsourced to another laboratory).
3. Drinking Water (Raw) – Full Analysis
Analysis of Schedule 1 and 2 combined.
4. Drinking Water (Treated) – Aesthetic Guidelines
Hardness, pH, Total Dissolved Solids (TDS by calculation), True Colour, Turbidity, Aluminium, Ammonia, Chloride, Copper, Sulphide, Iron, Manganese, Sodium, Sulphate, Zinc, Chlorine.
5. Drinking Water (Treated) – Health Guidelines
Antimony, Arsenic, Barium, Boron, Cadmium, Chromium*, Copper, Cyanide, Fluoride, Lead, Manganese, Mercury, Molybdenum, Nickel, Nitrate, Nitrite, Selenium, Silver, Sulphate, Chlorine, Total Trihalomethanes (THMs). <i>e.coli</i> (outsourced to another laboratory).
6. Drinking Water (Treated) – Full Analysis
Analysis of Schedule 4 and 5 combined.
Packaged Water (Bottled Water)
It is recommended that you contact the Department of Health and Human Services to discuss requirements for testing of packaged water that will be sold to the public.

Please obtain a quote and appropriate sample bottles prior to sample submission.

* If the guideline value for total chromium is exceeded, it is recommended that a separate analyses for Cr(VI) be undertaken.

A full list can be obtained from the [NHMRC website](#).

Parameter	Aesthetic Guideline	Health Guideline
Hardness as CaCO ₃	200 mg CaCO ₃ /L	-
pH	6.5 to 8.5	-
Total Dissolved Solids (TDS)	600 mg/L	-
True Colour	15 CU	-
Turbidity	5 NTU	-
Chlorine (Cl ₂)	0.6 mg Cl ₂ /L	5 mg Cl ₂ /L
Aluminium (Al)	200 µg/L	-
Ammonia	0.5 mg/L	-
Antimony (Sb)	-	3 µg/L
Arsenic (As)	-	10 µg/L
Barium (Ba)	-	2000 µg/L
Boron (B)	-	4000 µg/L
Cadmium (Cd)	-	2 µg/L
Chloride (Cl)	250 mg/L	-
Chromium (Cr)*	-	50 µg/L*
Copper (Cu)	1000 µg/L	2000 µg/L
Cyanide	-	80 µg/L
Fluoride (F)	-	1.5 mg/L
Sulphide (Calc as H ₂ S)	50 µg/L	-
Iron (Fe)	300 µg/L	-
Lead (Pb)	-	10 µg/L
Manganese (Mn)	100 µg/L	500 µg/L
Mercury (Hg)	-	1 µg/L
Molybdenum (Mo)	-	50 µg/L
Nickel (Ni)	-	20 µg/L
Nitrate (as NO ₃)	-	50 mg/L
Nitrite (as NO ₂)	-	3 mg/L
Selenium (Se)	-	10 µg/L
Silver (Ag)	-	100 µg/L
Sodium (Na)	180 mg/L	-
Sulphate	250 mg/L	500 mg/L
Zinc (Zn)	3000 µg/L	-
Magnesium (Mg)	-	-
Calcium (Ca)	-	-
Total Trihalomethanes	-	250 µg/L
Iodide (I)	-	0.5 mg/L

e.coli should not be detected in a minimum 100mL sample of drinking water.

Notes:

1. All values are as "total" unless otherwise stated.
2. mg/L = milligrams per litre
3. µg/L = micrograms per litre
4. - = No guideline value
5. If total Cr exceeds the guideline value, a separate test for Cr (VI) is recommended