

Aesthetic Values for Drinking Water Notice 2022

This notice issued pursuant to section 48(1) of the Water Services Act 2021 (**Act**) by the Chief Executive of Taumata Arowai—the Water Services Regulator (**Taumata Arowai**), acting under delegated authority, sets out aesthetic values that relate to drinking water.

1. Title

This notice is the Aesthetic Values for Drinking Water Notice 2022.

2. Interpretation

Within this notice:

determinand means a substance or characteristic that is determined or estimated in drinking water.

3. Commencement

This notice comes into force on **14 November 2022**.

4. Purpose

Aesthetic values specify or provide minimum or maximum values for substances and other characteristics that relate to the acceptability of drinking water to consumers (such as appearance, taste, or odour). A drinking water supplier must take all reasonably practicable steps to supply drinking water that complies with aesthetic values issued by Taumata Arowai under the Water Services Act 2021.

These Aesthetic Values replace the guideline values for aesthetic determinands specified in the *Drinking-water Standards for New Zealand 2005 (Revised 2018)*.

5. Aesthetic values

The determinands and corresponding values listed in the Schedule are the aesthetic values that relate to drinking water.

Dated at Wellington this 14th day of June 2022
RAYMOND MCMILLAN, Chief executive (Acting)

Schedule

Aesthetic values for drinking water

| Determinand | Value | Unit | Notes |
|---|-----------|-------------------------|---|
| Aluminium | ≤ 0.1 | mg/L | Above this value, complaints of depositions or discoloration may arise |
| Ammonia | ≤ 1.5 | mg/L | Odour threshold (alkaline conditions) |
| Calcium | | | See 'Hardness' |
| Chloride | ≤ 250 | mg/L | Taste threshold (counter ion dependent: sodium, calcium or potassium) |
| Chlorine (contingent on the supply being chlorinated) | 0.3 – 1.0 | mg/L as Cl ₂ | Free available chlorine Taste and odour threshold (pH dependant) Disinfection must not be compromised in trying to avoid taste and odour complaints |
| 2-Chlorophenol | ≤ 0.0001 | mg/L | Taste threshold |
| | ≤ 0.01 | | Odour threshold |
| Colour | ≤ 15 | TCU | Appearance |
| Copper | ≤ 1 | mg/L | Staining of laundry and sanitary ware |
| 1,2-Dichlorobenzene | ≤ 0.001 | mg/L | Taste threshold |
| | ≤ 0.002 | | Odour threshold |
| 1,4-Dichlorobenzene | ≤ 0.0003 | mg/L | Odour threshold |
| | ≤ 0.006 | | Taste threshold |
| 2,4-Dichlorophenol | ≤ 0.0003 | mg/L | Taste threshold |
| | ≤ 0.04 | | Odour threshold |
| Ethylbenzene | ≤ 0.002 | mg/L | Odour threshold |
| | ≤ 0.08 | | Taste threshold |
| Hardness (total) (Ca + Mg) as CaCO ₃ | ≤ 200 | mg/L | Scale deposition, scum formation (pH and alkalinity dependent) Low hardness (<100) may be more corrosive |
| | 100–300 | | Taste threshold (Ca; counter ion dependent) |
| Hydrogen sulphide | ≤ 0.05 | mg/L | Taste and odour threshold |
| Iron | ≤ 0.3 | mg/L | Staining of laundry and sanitary ware |
| Magnesium | | | See 'Hardness' |
| Manganese | ≤ 0.04 | mg/L | Staining of laundry |
| | ≤ 0.10 | | Taste threshold |
| Monochlorobenzene | ≤ 0.01 | mg/L | Taste and odour threshold |
| pH | 7.0–8.5 | | Ideally 7.4 – 8.0. Most water with a low pH has a high plumbosolvency. Water with a high pH has a soapy taste and feel. A pH less than 8 is preferable for effective disinfection with chlorine |

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|----------------------------------|------------------------------|------|--|
| Sodium | ≤ 200 | mg/L | Taste threshold (counter ion dependent) |
| Styrene | ≤ 0.004 | mg/L | Odour threshold |
| Sulphate | ≤ 250 | mg/L | Taste threshold |
| Taste and odour | Acceptable to most consumers | | |
| Temperature | ≤ 15°C | | |
| Toluene | ≤ 0.03 | mg/L | Odour threshold |
| | ≤ 0.04 | | Taste threshold |
| Total dissolved solids | ≤ 1000 | mg/L | Taste may become unacceptable from 600–1200 mg/L |
| Trichlorobenzenes (total) | See below | | |
| 1,2,3-Trichlorobenzene | ≤ 0.01 | mg/L | Odour threshold |
| 1,2,4-Trichlorobenzene | ≤ 0.005 | mg/L | Odour threshold |
| 1,3,5-Trichlorobenzene | ≤ 0.05 | mg/L | Odour threshold |
| 2,4,6-Trichlorophenol | ≤ 0.002 | mg/L | Taste threshold |
| | ≤ 0.3 | mg/L | Odour threshold |
| Turbidity | ≤ 5 | NTU | Appearance |
| Xylene | ≤ 0.02 | mg/L | Odour threshold |
| Zinc | ≤ 1.5 | mg/L | Taste threshold |