



CFA

LABORATORY
WATER. FEED. FUTURE.

Guideline Information for Common Components in Drinking Water

Component	Maximum Allowable Value for Health	Maximum Desirable Aesthetic Level	Comments
E Coli	none detectable	-	<ul style="list-style-type: none">• Used as indicator bacteria. Presence indicates that disease causing organism could potentially be present.• Human and animal wastes are a primary source of bacteria in water.
pH	-	7.0-8.5	<ul style="list-style-type: none">• pH is the measure of acidity or alkalinity in water on a scale of 0-14 with 7 being neutral.• A pH value below 7.0 can cause corrosion of metals in distribution systems.• A pH value above 8.5 can promote calcium carbonate precipitation and scale formation in pipes and hot water cylinders. It reduces the effectiveness of chlorine disinfections.
Alkalinity	-	-	<ul style="list-style-type: none">• Alkalinity is a measure of the buffering capacity of water.• Important in determining the ability of water to neutralize acidic pollution from rainfall or wastewater.
Conductivity	-	-	<ul style="list-style-type: none">• Conductivity is the ability of water to carry an electrical current.• Measures dissolved ions which are mostly attributed to chloride, sodium, calcium, and magnesium concentrations.
Turbidity	-	2.5 NTU	<ul style="list-style-type: none">• Turbidity is the cloudiness of water caused by suspended particles. Light is scattered and absorbed rather than transmitted, causing water to have a cloudy appearance.• Excessive levels can protect micro-organisms from disinfection with chlorine. Can also be a source of nutrients for further growth.
Hardness	-	200 mg/l	<ul style="list-style-type: none">• Total hardness represents the calcium and magnesium content.• Excessive hardness >180 mg/l can cause scale formation in piping, heating elements, and cause washing problems. Very low hardness levels <61 mg/l can make water corrosive. Below this level the water is termed to be "Soft".
Calcium	-	-	<ul style="list-style-type: none">• Calcium is the chief component of hardness in water.
Magnesium	-	-	<ul style="list-style-type: none">• Magnesium is a component of hardness in water.
Chloride	-	250 mg/l	<ul style="list-style-type: none">• Affects taste.• Above 250 mg/l chloride makes water corrosive.• It is a major component of seawater.
Sodium	-	200 mg/l	<ul style="list-style-type: none">• Sodium affects taste. High levels not suitable for young children or with some diets.

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Nitrate-Nitrogen	11.3 mg/l	-	<ul style="list-style-type: none"> Elevated levels can indicate contamination by fertilizers or nearby septic tank effluent pond. Can cause a health disorder called Blue Baby (metahaemoglobinemia) in infants under six months and pregnant women.
Phosphorus	-	-	<ul style="list-style-type: none"> Key element for growth of plants and animals. Comes from weathering rocks and decomposition of organic matter. Other sources are sewage, run-off from agriculture sites, lawn/crop fertilizer.
Fluoride	1.5 mg/l	-	<ul style="list-style-type: none"> Fluoride is added to many supplies to promote dental health. The natural levels in NZ waters are mostly less than 0.2 mg/l. High fluoride levels can damage teeth
Copper	2.0 mg/l	1.0 mg/l	<ul style="list-style-type: none"> Copper in water rarely occurs naturally. Above 5 mg/l water will appear blue and has a bitter taste. Blue staining of fixtures is an indication of copper presence.
Iron	-	0.2 mg/l	<ul style="list-style-type: none"> Reddish-brown iron sediments cause discolouration of laundry and basins. This occurs when the level is above 0.2 mg/l. Above 0.2 mg/l levels can affect taste and alter the colour of prepared drinks and food.
Manganese	0.4 mg/l	0.04 mg/l	<ul style="list-style-type: none"> Has similar problems as iron, but deposits are black or dark brown.
Arsenic	0.01 mg/l	-	<ul style="list-style-type: none"> Most arsenic compounds are poisonous and generally enter water from timber preservatives.
Lead	0.01 mg/l	-	<ul style="list-style-type: none"> Lead is most likely to be sourced from lead pipework with aggressive water.
Zinc	-	1.5 mg/l	<ul style="list-style-type: none"> Zinc usually results from corrosion of galvanised or brass pipes etc. as it rarely occurs naturally.



Maximum Allowable Value for Health as stated in the Drinking Water Standards for NZ 2008.

Maximum Desirable Aesthetic Level: Water constituents which affect the waters appearance and taste but are not directly a health concern.

Corrosive or Soft Water: Will slowly dissolve metal pipes and cylinders causing taste and staining problems. Most natural waters, particularly bore and rain water are corrosive to some extent.

Explanation of units used

mg/L: Milligrams per litre (mg/l) same as ppm (parts per million) or g/m³ (grams per cubic meter).

NTU: Nephelometric Turbidity Units.

If your drinking water exceeds any of the above limits please consult your local health authority.

If you require further explanation of your results please phone CFA Laboratory via the contacts provided.

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