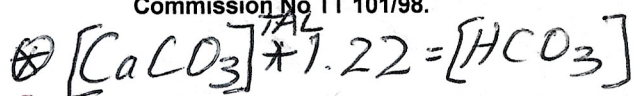


Water quality substances and criteria of concern for drinking purposes.

Substance	Unit of Measure	Substance range per class of water – health effects				
		Class 0	Class 1	Class 2	Class 3	Class 4
Group A : Substances which are general indicators of water quality						
Electrical Conductivity (EC)	mS/m	<70	70-150	150- 370	370-520	>520
Total dissolved salts (TDS)	mg/l	<450	450- 1000	1000-2400	2400- 3400	>3400
Feacal coliforms	Counts/100 ml	0	0-1	1-10	10-100	>100
pH Value (increasing acidic) (increasing alkaline)	pH units	7-5	5-4.5	4.5-4	4-3	<3
		7-9.5	9.5-10	10-10.5	10.5-11	>11
Turbidity	NTU	<0.1	0.1-1	1-20	20-50	>50
Group B : Substances which are commonly present at concentrations which may lead to health problems						
Nitrate & Nitrite	mg/l N	<6	6-10	10-20	20-40	>40
	mg/l NO3	<26	26-44	44-89	89-177	>177
Fluoride	mg/l F	<0.7	0.7-1.0	1.0-1.5	1.5-3.5	>3.5
Sulphate	mg/l SO4	<200	200-400	400-600	600-1000	>1000
Chloride	mg/l Cl	<100	100-200	200-600	600-1200	>1200
Arsenic	mg/l As	<0.010	0.01-0.05	0.05-0.2	0.2-2.0	>2.0
Total coliforms	Counts/100 ml	0	0-10	10-100	100-1000	>1000
Group C : Substances which occur less frequently at concentrations of real concern to health						
Cadmium	mg/l Cd	<0.003	.003-0.005	0.005-0.020	0.020-0.050	>0.050
Copper	mg/l Cu	<1	1-1.3	1.3-2.0	2.0-15	>15
Group D : Substances which may commonly be present at concentrations of aesthetic or economic concern in domestic water sources						
Manganese	mg/l Mn	<0.1	0.1-0.4	0.4-4.0	4.0-10.0	>10.0
Zinc	mg/l Zn					
Iron	mg/l Fe	<0.01	0.01-0.2	0.2-2.0	2.0-10.0	>10.0
Potassium	mg/l K	<25	25-50	50-100	100-500	>500
Sodium	mg/l Na	<100	100-200	200-400	400-1000	>1000
Calcium	mg/l Ca	0-80	80-150	150-300	>300	
Magnesium	mg/l Mg	<70	70-100	100-200	200-400	>400
Total Hardness as CaCO3	mg/l CaCO3	<200	200-300	300-600	>600	
Water quality class	Description	Drinking health effects				
Class 0	Ideal water quality	No effects, suitable for many generations.				
Class 1	Good water quality	Suitable for lifetime use. Rare instances of sub-clinical effects				
Class 2	Marginal water quality, water suitable for short-term use only	May be used without health effects by majority of users, but may cause effects in some sensitive groups. Some effects possible after lifetime use.				
Class 3	Poor water quality	Poses a risk of chronic health effects, especially in babies, children and the elderly. May be used for short-term emergency supply with no alternative supplies available.				
Class 4	Unacceptable water quality	Severe acute health effects, even with short-term use.				

Water Quality Standard = "Quality of Domestic Water Supplies", Volume 1 : Assessment Guide, Water Research Commission No TT 101/98.



Nitrite = 3mg/l as nitrite ion (NO₂) or 0.9mg/l as nitrite-nitrogen (methaemoglobinemia).

Alkalinity →