

DRINKING WATER – SPECIFICATION

Test Characteristics for Drinking Water

S. No.	Substance or Characteristic	Requirement (Desirable Limit)	Permissible Limit in the absence of Alternate source
Essential characteristics			
1.	Colour, (Hazen units), Max	5	25
2.	Odour	Unobjectionable	--
3.	Taste	Agreeable	--
4.	Turbidity (NTU), Max	5	10
5.	pH Value	6.5 to 8.5	No Relaxation
6.	Total Hardness (as CaCO ₃) mg/L, Max	300	600
7.	Iron (as Fe) mg/L, Max	0.3	1.0
8.	Chlorides (as Cl) mg/L, Max.	250	1000
9.	Residual, free chlorine, mg/L, Min	0.2	--
10.	Fluoride (as F) mg/L, Max	1.0	1.5
Desirable Characteristics			
11.	Dissolved solids mg/L, Max	500	2000
12.	Calcium (as Ca) mg/L, Max	75	200
13.	Magnesium (as mg) mg/L, Max	30	100
14.	Copper (as Cu) mg/L, Max	0.05	1.5
15.	Manganese (as Mn)mg/L, Max	0.10	0.3
16.	Sulfate (as SO ₄) mg/L, Max	200	400
17.	Nitrate (as NO ₃) mg/L, Max	45	No Relaxation
18.	Phenolic Compounds (as C ₆ H ₅ OH) mg/L, Max	0.001	0.002
19.	Mercury (as Hg) mg/L, Max	0.001	No relaxation
20.	Cadmium (as Cd) mg/L,	0.01	No relaxation

	Max		
21.	Selenium (as Se) mg/L, Max	0.01	No relaxation
22.	Arsenic (as As) mg/L, Max	0.01	No relaxation
23.	Cyanide (as CN) mg/L, Max	0.05	No relaxation
24.	Lead (as Pb) mg/L, Max	0.05	No relaxation
25.	Zinc (as Zn) mg/L, Max	5	15
26.	Anionic detergents (as MBAS) mg/L, Max	0.2	1.0
27.	Chromium (as Cr ⁶⁺) mg/L, Max	0.05	No relaxation
28.	Poly nuclear aromatic hydrocarbons (as PAH) g/L, Max	--	--
29.	Mineral Oil mg/L, Max	0.01	0.03
30.	Pesticides mg/L, Max	Absent	0.001
31.	Radioactive Materials		
	i. Alpha emitters Bq/L, Max	--	0.1
	ii. Beta emitters pci/L, Max	--	1.0
32.	Alkalinity mg/L, Max	200	600
33.	Aluminium (as Al) mg/L, Max	0.03	0.2
34.	Boron mg/L, Max	1	5

DRINKING WATER – SPECIFICATION (contd. ...)

Bacteriological Examination

Water in the distribution system

Ideally, all samples taken from the distribution system including consumers' premises, should be free from coliform organisms. In practice, this is not always attainable, and the following standard of water collected in the distribution system is therefore recommended when tested in accordance with IS 1622:1981.

- a) Throughout any year, 95 percent of samples should not contain any coliform organisms in 100 mL;
- b) No sample should contain E. coli in 100 mL;
- c) No sample should contain more than 10 coliform organism per 100 mL; and
- d) Coliform organism should not be detectable in 100 mL of any two consecutive samples.

Source: Indian standard drinking water - specification (First Revision) IS-10500:1991. BIS, New Delhi, India