

6.4 Appendix D: Sudanese Drink Water Standards

6.4.1 The contents of biological and microbial organisms

Organisms	Guideline value
1. All water intended for drinking • E. coli or thermotolerant coliform bacteria • Pathogenic intestinal protozoa	Must not be detectable in any 100 ml sample
2. Treated water entering the distribution system • E. coli or thermotolerant coliform bacteria • Total coliform bacteria • Pathogenic intestinal protozoa	Must not be detectable in any 100 ml sample
3. Treated water entering the distribution system • E. coli or thermotolerant coliform bacteria • Total coliform bacteria • Pathogenic intestinal protozoa	Must not be detectable in any 100 ml sample Must not be detectable in any 100 ml sample. In the case of large supplies where sufficient samples are examined, must not be detectable in 95% of samples examined throughout any consecutive 12 months period Must not be detectable in any 100 ml sample

6.4.2 Maximum permissible limit of the non-organic chemical materials has a dangerous effect on consumer health

Parameter	Max. Permissible Limit in (mg/L)
Antimony	0.004
Arsenic	0.05
Barium	0.5
Boron	0.2
Cadmium	.003
Chromium (Total)	.04
Copper	1.5
Cyanide	0.05
Fluoride	1.5
Lead	0.007
Manganese	0.5
Mercury (Total)	0.002
Molybdenum	0.05
Nickel	0.014
Nitrate as No3	50
Nitrate as No2	2
Selenium	0.007

6.4.3 Maximum permissible limit of the organic chemical materials has a dangerous effect on consumer health

Parameter	Max. Permissible in µg/l
Chlorinated Alkanes :-	
Carbon tetrachloride	1.3
Dichloroethane	14
1,2 – Dichloroethane	20
Chlorinated Ethenes :-	
Vinyl chloride	3.5
1,1 - Dichloroethane	20
1,2 - Dichloroethane	35
Trichloroethene	50
Tetra chloroethene	30
Aromatic Hydrocarbons :-	
Benzene	7
Toluene	500
Xylenes	350
Ethyl benzene	200
Styrene	15
Benzo(a) Pyrene	0.5
Chlorinated Benzene :-	
Monochlorobenzene	200
1,2 - Dichlorobenzene	700
1,4 - Dichlorobenzene	200
Trichlorobenzene (Total)	15
Miscellaneous :-	
Di(2 – ethylexyl) adipate	55
Di(2 – ethylexyl) phthalate	5.4
Acrylamide	0.4
Epichlorohydrine	0.3
Edetic acid (EDTA)	150
Nitrilotriacetic Acid	150
Tributyltin oxide	1.5
Hexachlorobutadiene	0.4

6.4.4 Maximum permissible limit of the chemical materials (pesticides and disinfectants and there products) has a dangerous effect on consumer health

Parameter	Max. Permissible in mg/l
Pesticides :-	
Alachlor	15
Aldrin / Dieldrin	0.02
Aldicarb	7.5
Atrazine	1.5
Bentazone	20
Carbofuran	3.5
chlorodane	0.15
chlorotoluron	20
1,2 – Bromo – 3 – Chloropropane	0.7
DDT	1.5
2,4 – D	20
1,2 Dichloropropane	15
1,3 Dichloropropane	15
Heptachlor and heptachlorepoide	0.02
Hexachlorobenzene	0.7
Isoproturon	7
Lindane	1.5
MCPA	1.5
Methoxychlor	15
Metolachlor	7
Molinate	4
Pendimethaline	15
Pentachlorophenol	7
Permethrin	15
Propanil	15
Pyridate	75
Simazine	1.5
Trifluralin	15
Chlorophenoxy Herbicides other than 2,4 – D and MCPA :-	
2,4 – DB	67

Dichloroprop	75
Fenoprop	6
Mecoprop	7
2,4,5 – T	6
Disinfectants :-	
Monochloramine	2000
Chlorine	3400
Disinfectants by products :-	
Bromate	17
Chlorite	150
2,4,6 – Trichlorophenol	150
Formaldehyde	600
Bromoform	75
Dibromochloromethane	75
Bromodichloromethane	40
Chloroform	150
Dichloroacetic acid	35
Trichloroacetic acid	75
Chloral Hydrate (Trichloroacetaldehyde)	7
Dichloroacetonitrile	60
Dibromoacetonitrile	75
Trichloroacetonitrile	0.7
Cyanogen Chlorides (CN)	50

6.4.5 Maximum permissible limit of radiological quality

Parameter	Screening value in Bq/l
Gross alpha activity	0.07
Gross beta activity	0.7

6.4.6 Maximum permissible limit of the different materials has an effect on the acceptance of water for drinking

Parameter	Levels Likely to Give Rise to Consumer Complaints
Physical parameters	
Colour	15 TCU
Taste & Odour	Acceptable
Temperature	Acceptable
Turbidity	5 NTU
PH	6.5 – 8.5
Inorganic Constituents	
Aluminum	0.02 mg/l
Ammonia	1.5 mg/l
Chloride	250 mg/l
Hydrogen sulfide	0.05 mg/l
Iron (Total)	0.3 mg/l
Sodium	200 mg/l
Total Dissolved Solids (TDS)	1000 mg/l
Zinc	3 mg/l
Organic Constituents	
2 - Chlorophenol	5
2,4 - Dichlorophenol	2

TCU = True colour Unit

NTU = Nephelometric Turbidity Unit