

Microbiological determinands - As per SANS 241: 2011 Table 1

Physical, aesthetic, operational and chemical determinands:

Determinand	Unit	2014 BLUE DROP LIMITS Department of Water Affairs				WHO limits- might equate to SANS 241: 2013 limits ↑ relaxed limit, ↓ <u>more stringent limit</u>		2015 BLUE DROP LIMITS (derived from SANS 241: 2014)		
		SANS 241: 2006		SANS 241: 2011		WHO 4 th ed Guidelines				
		Risk	Standard limits	Risk	Standard limits	Risk	Guidelines	Risk	Standard limits	
Microbiological determinands										
<u>Bacteriological</u>										
<i>Escherichia coli</i> (<i>E. coli</i>)	Count/100mL			Acute Health	ND			Acute Health	ND	→
Faecal coliforms	Count/100mL			Acute Health	ND			Acute Health	ND	→
<u>Protozoan</u>										
<i>Cryptosporidium</i> species	Count/10mL							Acute Health	ND	
<i>Giardia</i> species	Count/10mL							Acute Health	ND	
Total coliforms	Count/100mL			Operational	< 10			Operational	< 10	
Heterotrophic plate count	Count/1mL	Operational	< 5 000					Operational	< 1 000	↓
Physical and aesthetic determinands										
Free chlorine	mg/L	-	-	-	-	Chronic health	≤ 5 (new)	Chronic health	≤ 5	
Monochloramine	mg/L	-	-	-	-	Chronic health	≤ 3 (new)	Chronic health	≤ 3	
Colour	Pt-Co	Aesthetic	< 20	-	-			Aesthetic	< 15	↓
Conductivity at 25°C	mS/m	-	-	Aesthetic	≤ 170			Aesthetic	≤ 170	→
Total dissolved solids	mg/L	-	-	Aesthetic	≤ 1 200			Aesthetic	≤ 1 200	→
Turbidity	NTU	-	-	Operational	≤ 1			Operational Aesthetic	≤ 1 ≤ 5	→

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		Risk	Standard limits	Risk	Standard limits	Risk	Guidelines			
pH at 25 C	pH units	-	-	Operational	≥ 5 to ≤ 9,7			Operational	≥ 5 to ≤ 9,7	→
Chemical determinands — macro-determinands										
Ammonia as N	mg/L	-	-	Aesthetic	≤ 1,5			Aesthetic	≤ 1,5	→
Calcium		-	-	-	-					
Chloride as Cl ⁻	mg/L	-	-	Aesthetic	≤ 300			Aesthetic	≤ 300	→
Fluoride as F ⁻	mg/L			Health (chronic)	≤ 1,5	Chronic health	≤ 1,5 ↑	Chronic health	≤ 1,5	→
Magnesium as Mg		-	-	-	-					
Nitrate as N	mg/L	-	-	Acute health	≤ 11	Acute health	≤ 11 (new)	Acute health	≤ 11	
Nitrite as N	mg/L	-	-	Acute health	≤ 0,9	Acute health	≤ 0,9 (new)	Acute health	≤ 0,9	
Nitrite-nitrate ratio								Acute health	≤ 1	
Nitrate and Nitrite as N	mg/L	Health	< 10	-	-			-	-	
Sodium as Na	mg/L	-	-	Aesthetic	≤ 200			Aesthetic	≤ 200	→
Sulfate as SO ₄ ²⁻	mg/L			Health (acute)	≤ 500	Acute health	≤ 500 ↑	Acute health Aesthetic	≤ 500 ≤ 250	→
Zinc as Zn	mg/L	-	-	Aesthetic	≤ 5			Aesthetic	≤ 5	→
Chemical determinands — micro-determinands										
Aluminium as Al	µg/L	-	-	Operational	≤ 300			Operational	≤ 300	→
Antimony as Sb	µg/L	-	-	Health (chronic)	≤ 20	Chronic health	≤ 20 ↑	Chronic health	≤ 20	→
Arsenic as As	µg/L	Health	< 10	-	-	Chronic health	≤ 10 →	Chronic health	≤ 10	→
Barium as Ba	µg/L							Chronic health	≤ 700	

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		Risk	Standard limits	Risk	Standard limits	Risk	Guidelines			
Boron as B	µg/L							Chronic health	≤ 2 400	
Cadmium as Cd	µg/L	Health	< 5	-	-	Chronic health	≤ 3 ↓	Chronic health	≤ 3	↓
Chromium (total) as Cr	µg/L	Health	< 100	-	-	Chronic health	≤ 50 ↓	Chronic health	≤ 50	↓
Cobalt as Co	µg/L	Health	< 500	-	-			-	-	
Copper as Cu	µg/L	-	-	Health (chronic)	≤ 2 000	Chronic health	≤ 2 000 ↑	Chronic health	≤ 2 000	→
Cyanide (recoverable) as CN ⁻	µg/L	-	-	Health (acute)	≤ 70	Acute health	≤ 70 ↑	Acute health	≤ 200	↑
Iron as Fe	µg/L	-	-	Aesthetic	≤ 300	Chronic health	≤ 2 000 (new)	Chronic health Aesthetic	≤ 2 000 ≤ 300	→
Lead as Pb	µg/L	Health	< 20	-	-	Chronic health	≤ 10 ↓	Chronic health	≤ 10	↓
Manganese as Mn	µg/L	Aesthetic	< 100	-	-	Chronic health	≤ 500(new)	Chronic health Aesthetic	≤ 400 ≤ 100	→
Mercury as Hg	µg/L	-	-	Health (chronic)	≤ 6	Chronic health	≤ 6 ↑	Chronic health	≤ 6	→
Nickel as Ni	µg/L	Health	< 150	-	-	Chronic health	≤ 70 ↓	Chronic health	≤ 70	↓
Selenium as Se	µg/L	Health	< 20	-	-	Chronic health	≤ 10 ↓	Chronic health	≤ 40	↑
Uranium as U	µg/L	-	-	-	-	Chronic health	≤ 15 (new)	Chronic health	≤ 30	
Vanadium as V	µg/L	Health	< 200	-	-			-	-	
Chemical determinands — organic determinands										
Dissolved organic carbon as C	mg/L	Health	< 10	-	-			-	-	
Total organic carbon as C	mg/L	-	-	Health (chronic)	≤ 10	Chronic health	≤ 10 (new)	Chronic health	≤ 10	→
Trihalomethanes (total)	mg/L	Health	< 200	-	-			-	-	

