

Customer Bulk Water Quality Report - 12 Month

23 May 2017 to 22 May 2018 Date generated: 01 June 2018

Determinand	Measurement units	Risk	Required compliance to SANS 241: 2015 standard (%)	SANS 241: 2015 standard limits (1)	No of results	Achieved Compliance to SANS 241: 2015 Spec(%)	Descriptive statistics		
							Mean	Standard Deviation	Mean + 3 standard deviations
Microbiological determinands									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	99.0%	0	15 572	99.9%	0	2.28	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	15 572	99.8%	0	6.12	1
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	15 572	99.7%	20	839.85	127
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	207	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	207	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	1 010	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	1 366	99.9%	5.18	1.17	8.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	12 349	100.0%	20.02	6.20	62.52
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	1 531	100.0%	149.10	57.59	425.00
Turbidity	(NTU)	Operational	95.0%	≤1	12 846	99.6%	0.32	0.32	0.49
Turbidity	(NTU)	Aesthetic	95.0%	≤5	12 846	99.9%	0.32	0.32	0.49
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	12 343	100.0%	7.89	0.16	8.33
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	12 075	100.0%	0.23	0.16	0.53
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	1 406	100.0%	15.52	18.40	99.95
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	15 563	100.0%	0.40	0.53	1.96
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	10 991	100.0%	1.27	0.61	2.13
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	1 401	100.0%	0.20	0.04	0.37
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	12 262	100.0%	0.46	0.07	0.78
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	12 303	100.0%	0.05	0.08	0.38
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	12 261	100.0%	0.10	0.09	0.46
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.2 Free Chlorine; ≥0.1 Sum of Free and Monochloramine	15 563	97.0%	1.30	0.57	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	1 412	100.0%	11.82	11.70	66.89
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	1 436	100.0%	18.59	17.77	93.65
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	1 436	100.0%	18.59	17.77	93.65
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	1 412	100.0%	0.02	0.02	0.10
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	1 412	99.9%	32.72	18.25	104.45
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	1 290	100.0%	0.52	0.19	1.11
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	1 288	100.0%	0.96	1.05	5.33
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	1 405	100.0%	37.83	13.88	92.88
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	1 412	100.0%	27.92	18.55	69.45
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	1 288	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	1 411	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	1 412	100.0%	11.50	8.72	35.89
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	1 357	100.0%	5.26	1.71	12.00
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	1 411	100.0%	21.42	24.99	134.50
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	1 411	99.9%	21.42	24.99	134.50
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	1 288	100.0%	0.33	0.60	3.13
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	1 411	100.0%	11.41	8.29	47.80
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	1 411	99.9%	11.41	8.29	47.80
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	1 290	100.0%	0.80	0.02	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	1 412	100.0%	10.00	0.12	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	1 288	100.0%	1.00	1.14	6.23
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	1 290	100.0%	0.25	0.35	1.32
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	1 283	100.0%	3.83	0.64	6.02
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	1 233	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	1 456	100.0%	40.57	13.60	72.45
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	1 451	100.0%	0.56	0.38	2.85
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	1 451	100.0%	1.78	2.24	13.50
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	1 451	100.0%	13.34	2.93	20.00
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	1 451	100.0%	0.38	0.09	0.60
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	255	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	1412	100.0%	18.65	5.93	41
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	1 412	99.6%	71.50	28.10	185.00
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	1 410	100.0%	7.18	4.15	25.00
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	1 410	100.0%	4.04	1.12	9.10
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	4 085	100.0%	1.00	0.02	1.00
Taste	FTN	RWRD	95.0%	≤2	4 086	100.0%	1.00	0.01	1.00

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	99.94%
Acute health chemical	99.00%	99.97%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	99.97%
Operational	95.00%	99.19%

- Notes:**
- (1) Specification date of effect : 1 July 2016
 - (2) Free chlorine : Results from both the chlorinated and chloraminated systems
 - (3) Monochloramine : Results are from the chloraminated systems
 - (4) Residual disinfectant : Results from both the chlorinated and chloraminated systems
 - (5) Measured at water treatment works exit points
 - (6) Customer request: Results not included in the risk indices compliance calculations
 - (7) (NO₂/0.9 + NO₃/11)
 - (8) (CHCl₃/300 + CHBr₃/100 + CHBr₂Cl/100 + CHBrCl₂/60)