

Customer Bulk Water Quality Report - 12 Month

23 March 2017 to 22 March 2018 Date generated: 03 April 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	15 530	100.0%	0	0.12	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	15 530	99.8%	0	5.88	1
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	15 459	99.6%	21	843.46	133
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	206	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	206	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	988	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	1 363	100.0%	5.11	0.46	7.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	12 338	100.0%	19.72	5.58	59.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	1 531	100.0%	146.17	50.58	405.00
Turbidity	(NTU)	Operational	95.0%	≤1	12 855	99.5%	0.32	0.33	0.49
Turbidity	(NTU)	Aesthetic	95.0%	≤5	12 855	99.9%	0.32	0.33	0.49
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	12 329	100.0%	7.88	0.16	8.33
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	12 064	100.0%	0.23	0.16	0.53
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	1 402	100.0%	14.51	15.01	85.99
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	15 537	100.0%	0.40	0.53	1.95
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	10 968	100.0%	1.27	0.61	2.14
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	1 397	100.0%	0.20	0.04	0.37
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	12 237	100.0%	0.48	0.09	0.87
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	12 280	100.0%	0.06	0.08	0.39
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	12 236	100.0%	0.11	0.09	0.48
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.2 Free Chlorine; ≥0.1 Sum of Free and Monochloramine	15 537	97.1%	1.29	0.57	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	1 397	100.0%	11.08	10.32	63.12
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	1 430	100.0%	17.66	16.17	90.00
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	1 430	100.0%	17.66	16.17	90.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	1 397	100.0%	0.02	0.02	0.10
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	1 397	99.9%	32.66	18.07	96.36
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	1 287	100.0%	0.52	0.18	1.11
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	1 285	100.0%	1.03	0.99	5.20
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	1 390	100.0%	36.21	12.94	88.11
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	1 397	100.0%	27.15	11.80	59.24
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	1 285	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	1 396	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	1 397	100.0%	11.57	9.10	35.04
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	1 354	100.0%	5.30	2.14	12.00
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	1 397	100.0%	22.80	24.93	130.00
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	1 397	99.9%	22.80	24.93	130.00
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	1 285	100.0%	0.32	0.57	3.13
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	1 396	100.0%	11.57	11.07	50.00
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	1 396	99.6%	11.57	11.07	50.00
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	1 287	100.0%	0.80	0.02	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	1 397	100.0%	10.01	0.12	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	1 285	100.0%	1.04	1.18	6.23
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	1 287	100.0%	0.25	0.34	1.30
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	1 281	100.0%	3.81	0.72	6.22
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	1 232	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	1 451	100.0%	43.17	13.77	78.00
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	1 446	100.0%	0.55	0.35	2.70
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	1 446	100.0%	1.58	2.09	13.00
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	1 446	100.0%	13.23	2.85	20.00
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	1 446	100.0%	0.39	0.09	0.61
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	254	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	1397	100.0%	18.63	5.65	40
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	1 397	99.6%	70.13	26.08	180.00
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	1 397	100.0%	6.79	3.73	24.00
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	1 395	100.0%	3.95	0.96	8.62
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	4 072	100.0%	1.00	0.01	1.00
Taste	FTN	RWRD	95.0%	≤2	4 073	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%	99.96%
Acute health chemical	99.00%	99.97%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	99.96%
Operational	95.00%	99.20%

- 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)