

Metsimaholo Municipality 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	621	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	621	100.0%	0	0.33	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	621	100.0%	1	2.14	7
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	809	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	68	100.0%	5.10	0.35	6.33
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	304	100.0%	19.14	1.67	25.91
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	68	100.0%	135.74	9.51	166.60
Turbidity	(NTU)	Operational	95.0%	≤1	302	99.7%	0.31	0.18	0.48
Turbidity	(NTU)	Aesthetic	95.0%	≤5	302	100.0%	0.31	0.18	0.48
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	304	100.0%	7.94	0.15	8.33
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	305	100.0%	0.05	0.04	0.34
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	35	100.0%	10.94	1.32	14.00
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	618	100.0%	1.42	0.43	2.18
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	not applicable	not applicable	not applicable	not applicable	not applicable
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	33	100.0%	0.20	0.05	0.41
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	308	100.0%	0.45	0.02	0.58
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	308	100.0%	0.03	0.02	0.09
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	308	100.0%	0.08	0.02	0.14
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.2 Free Chlorine	618	99.5%	1.42	0.43	2.18
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	72	100.0%	8.89	1.32	13.58
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	71	100.0%	13.97	1.23	17.30
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	71	100.0%	13.97	1.23	17.30
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	72	100.0%	0.02	0.01	0.05
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	72	100.0%	28.22	6.76	52.03
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	32	100.0%	0.55	0.23	1.47
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	32	100.0%	0.94	1.29	5.57
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	72	100.0%	32.36	8.20	55.29
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	72	100.0%	25.01	0.12	25.29
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	32	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	72	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	72	100.0%	10.04	0.35	10.87
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	68	100.0%	5.04	0.27	5.86
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	72	100.0%	21.12	15.64	70.38
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	72	100.0%	21.12	15.64	70.38
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	32	100.0%	0.21	0.06	0.46
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	72	100.0%	10.08	0.52	12.58
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	72	100.0%	10.08	0.52	12.58
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	32	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	72	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	32	100.0%	0.94	1.17	5.11
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	32	100.0%	0.22	0.07	0.50
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	32	100.0%	3.80	0.45	4.98
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	32	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	44	100.0%	35.29	23.99	84.99
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	43	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	43	100.0%	1.14	0.82	3.26
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	43	100.0%	11.20	4.98	19.58
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	43	100.0%	0.32	0.16	0.61
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	186	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	72	100.0%	17.10	2.88	23.58
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	72	100.0%	63.22	9.46	89.29
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	72	100.0%	5.91	1.08	9.23
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	72	100.0%	3.70	0.34	4.40
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	48	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	48	100.0%	1.00	0.00	1.00

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	100.00%
Acute health chemical	99.00%	100.00%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	100.00%
Operational	95.00%	99.88%

- Notes:**
- (1) Specification date of effect : 1 July 2016
 - (2) Free chlorine : Results from chlorinated system
 - (3) Monochloramine : Chlorinated system has no monochloramine
 - (4) Residual disinfectant : Results from chlorinated system
 - (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)