

SUB-APPENDIX A1: ENVIRONMENTAL QUALITY STANDARDS (EQS)

NOT PROTECTIVELY MARKED

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Determinand	Units	Screening Value		Screening Value
		DWS	Freshwater EOS	WFD standard
Alkalinity	(mg/l as CaCO ₃)	-	-	-
Total Zinc	(µg/l)	5000 ⁶	75-500 ² AT* (300-2000) ^P	125 AT*
Total Iron	(µg/l)	200	-	-
Total Nickel	(µg/l)	20	-	-
Total Mercury	(µg/l)	1	1AT ¹¹	-
Total Lead	(µg/l)	25	-	-
Sodium	(mg/l)	200 ¹	170 ^{A*}	-
Total Ammonia as N	(mg/l as N)	-	1.3 ⁴	0.3 P
Un-ionised ammonia as N	(mg/l)	-	-	n/a
Un-ionised ammonia as NH ₃	(mg/l)	-	0.025 ⁷¹	-
Ammonium as N	(mg/l)	-	-	-
Ammonium as NH ₄	(mg/l)	0.5 ¹	1 ⁷ P95	-
BOD	(mg/l)	-	6 ⁴	5 (90%)
Chloride	(mg/l)	250 ^{1a}	250 ³ A	-
Nitrate	(mg/l)	50 ¹	-	-
Nitrite	(mg/l)	0.50 ¹	0.03 ⁷ P95	-
Suspended Solids	(mg/l)	-	25 ⁷ A	-
Total Hardness	(mg/l as CaCO ₃)	-	-	-
Total Petroleum Hydrocarbons (C ₆ -C ₂₅)	(µg/l)	50 ⁶ de P95	-	-
pH	pH units	6.5-10 ¹	6-9 ¹	6 (5%) 9 (95%)
Temperature	°C	-	-	25 (98%)
Dissolved Oxygen	% saturation	-	-	60 (10%)
	mg/l	-	50% > 8 ^{0.7} 100% > 5 ^{0.7} 50% > 7 ^{1.7}	-
Total Phosphorus	(mg/l)	-	0.035 ⁹	-
Soluble Reactive Phosphorus	(mg/l)	-	-	0.12 A
Dissolved Copper	(µg/l)	-	5-112 ⁸	28 A*
Dissolved Iron	(µg/l)	-	1000A	1000A
Dissolved Zinc	(µg/l)	-	-	n/a
Dissolved Cadmium	(µg/l)	-	5A	0.25 (Class 5 hardness)
Dissolved Mercury	(µg/l)	-	-	0.05A
Dissolved Nickel	(µg/l)	-	200A at hardness >200mg/l Ca CO ₃	20A
Dissolved Lead	(µg/l)	-	-	7.2A
Sulphate	(mg/l)	250 ⁶ P95	-	-
Dissolved Organic Carbon	(mg/l)	-	-	-

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NOTES

- 1 The Water Supply (Water Quality) Regulations 2000
- 2 National Environmental Quality Standards (EQS) - For List II substances. Source DoE Circular 7/89.
- 3 Environment Agency Non-Statutory (Operational) Environmental Quality Standards.
Source Table B11 Environment Agency EPR H1 Environmental Risk Assessment Part 2 Assessment of point source releases and cost benefit analysis.
- 4 River Ecosystem Classification (RE3) - The Surface Waters (River Ecosystem)(Classification) Regulations 1994 (90th percentile)
- 5 The Water Supply (Water Quality) Regulations 1989.
N.B These Regulations were superseded by the 2000 regulations therefore there is currently no UK DWS for zinc and / or Total Petroleum Hydrocarbons.
- 6 The Surface Waters (Abstraction) for Drinking Water (Classification) Regulations 1996. DW1 treatment (i.e simple physical treatment and disinfection) limit.
- 7 2006 / 44/ EC Fish Directive, Cyprinid Fish Guideline.
- 8 The Surface Waters (River Ecosystem) (Classification) Regulations 1994.
pH - Lower limit as 5 percentile; upper limit as 95 percentile.
Dissolved copper – 95 percentile
- 9 Organisation for Economic Co-operation and Development classification Trophic status of lakes classification scheme (1992), therefore guideline value. Boundary of Eutrophic class.
- 10 The Surface Waters (Dangerous Substances) (Classification) Regulations 1997
- 11 The Surface Waters (Dangerous Substances) (Classification) Regulations 1998
- 12 The Private Water Supply Regulations 1991. N.B. These Regulations were superseded by the 2008 regulations therefore there is currently no UK DWS for calcium, magnesium and potassium.

Ammonia calculations as presented in: Canadian Council of Ministers of the Environment (2010). Canadian water quality guidelines for the protection of aquatic life:

Ammonia. In: Canadian environmental quality guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.

- a Point of Monitoring / Compliance may be at samples leaving treatment works or at other supply point e.g consumers taps.
 - b The specified compounds are: chloroform, bromoform, dibromochloromethane and bromodichloromethane. quantified in the monitoring process.
 - c The parametric values applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.
 - d The specified PAH compounds are: Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene and benzo (ghi) pyrene.
- * Hardness related (Zinc toxicity is influenced by hardness. Specific EQS values (mg/l zinc) are given for different hardness ranges within the legislation).
- A Annual Average; MAC - Maximum Allowable Concentration; T - Total; D - Dissolved; P - 90% of results; P95 - 95% of results; I - Imperative value; G - Guideline Value; de - Dissolved or emulsified
- ^ Non statutory / proposed EQS, but EQS never adopted in UK. Therefore value quoted is for guidance only.
- * No statutory EQS for dissolved Boron - adopted Total Boron value
- a Point of Monitoring / Compliance may be at samples leaving treatment works or at other supply point e.g consumers taps.
- * Hardness related (Zinc toxicity for example is influenced by hardness. Specific EQS values (mg/l zinc) are given for different hardness ranges within the legislation. By comparing to the hardness value, the appropriate EQS concentration has been selected).
- N/A