

NATIONAL WATER QUALITY STANDARDS FOR MALAYSIA

| PARAMETER | UNIT | CLASS | | | | |
|---------------------------|------|---|------------|------------------|---------------------|--------|
| | | I | IIA/IIB | III [#] | IV | V |
| Al | mg/l | ↑ | - | (0.06) | 0.5 | ↑ |
| As | mg/l | | 0.05 | 0.4 (0.05) | 0.1 | |
| Ba | mg/l | | 1 | - | - | |
| Cd | mg/l | | 0.01 | 0.01* (0.001) | 0.01 | |
| Cr (VI) | mg/l | | 0.05 | 1.4 (0.05) | 0.1 | |
| Cr (III) | mg/l | | - | 2.5 | - | |
| Cu | mg/l | | 0.02 | - | 0.2 | |
| Hardness | mg/l | | 250 | - | - | |
| Ca | mg/l | | - | - | - | |
| Mg | mg/l | | - | - | - | |
| Na | mg/l | ↓ | - | - | 3 SAR | ↓ |
| K | mg/l | | - | - | - | |
| Fe | mg/l | | 1 | 1 | 1 (Leaf) 5 (Others) | |
| Pb | mg/l | | 0.05 | 0.02* (0.01) | 5 | |
| Mn | mg/l | | 0.1 | 0.1 | 0.2 | |
| Hg | mg/l | | 0.001 | 0.004 (0.0001) | 0.002 | |
| Ni | mg/l | | 0.05 | 0.9* | 0.2 | |
| Se | mg/l | | 0.01 | 0.25 (0.04) | 0.02 | |
| Ag | mg/l | | 0.05 | 0.0002 | - | |
| Sn | mg/l | | - | 0.004 | - | |
| U | mg/l | L E V E L S A B O V E | - | - | - | I V |
| Zn | mg/l | | 5 | 0.4* | 2 | |
| B | mg/l | | 1 | (3.4) | 0.8 | |
| Cl | mg/l | | 200 | - | 80 | |
| Cl ₂ | mg/l | | - | (0.02) | - | |
| CN | mg/l | | 0.02 | 0.06 (0.02) | - | |
| F | mg/l | | 1.5 | 10 | 1 | |
| NO ₂ | mg/l | | 0.4 | 0.4 (0.03) | - | |
| NO ₃ | mg/l | | 7 | - | 5 | |
| P | mg/l | | 0.2 | 0.1 | - | |
| Silica | mg/l | 50 | - | - | | |
| SO ₄ | mg/l | 250 | - | - | | |
| S | mg/l | 0.05 | (0.001) | - | | |
| CO ₂ | mg/l | - | - | - | | |
| Gross-α | Bq/l | 0.1 | - | - | ↓ | |
| Gross-β | Bq/l | 1 | - | - | | |
| Ra-226 | Bq/l | < 0.1 | - | - | | |
| Sr-90 | Bq/l | < 1 | - | - | | |
| CCE | μg/l | 500 | - | - | | |
| MBAS/BAS | μg/l | 500 | 5000 (200) | - | | |
| O & G (Mineral) | μg/l | 40; N | N | - | | |
| O & G (Emulsified Edible) | μg/l | 7000; N | N | - | | |
| PCB | μg/l | 0.1 | 6 (0.05) | - | | |
| Phenol | μg/l | 10 | - | - | | |
| Aldrin/Dieldrin | μg/l | 0.02 | 0.2 (0.01) | - | | |
| BHC | μg/l | 2 | 9 (0.1) | - | | |
| Chlordane | μg/l | 0.08 | 2 (0.02) | - | | |
| t-DDT | μg/l | 0.1 | (1) | - | | |
| Endosulfan | μg/l | 10 | - | - | | |
| Heptachlor/Epoxide | μg/l | 0.05 | 0.9 (0.06) | - | | |
| Lindane | μg/l | 2 | 3 (0.4) | - | | |
| 2,4-D | μg/l | 70 | 450 | - | | |
| 2,4,5-T | μg/l | 10 | 160 | - | | |
| 2,4,5-TP | μg/l | 4 | 850 | - | | |
| Paraquat | μg/l | 10 | 1800 | - | | |

Notes :

* = At hardness 50 mg/l CaCO₃

= Maximum (unbracketed) and 24-hour average (bracketed) concentrations

N = Free from visible film sheen, discolouration and deposits

NATIONAL WATER QUALITY STANDARDS FOR MALAYSIA (cont.)

| PARAMETER | UNIT | CLASS | | | | | |
|---------------------------|--------------|-----------|-------------------------|-------|---------------------------|---------------------------|---------|
| | | I | IIA | IIB | III | IV | V |
| Ammoniacal Nitrogen | mg/l | 0.1 | 0.3 | 0.3 | 0.9 | 2.7 | > 2.7 |
| Biochemical Oxygen Demand | mg/l | 1 | 3 | 3 | 6 | 12 | > 12 |
| Chemical Oxygen Demand | mg/l | 10 | 25 | 25 | 50 | 100 | > 100 |
| Dissolved Oxygen | mg/l | 7 | 5 - 7 | 5 - 7 | 3 - 5 | < 3 | < 1 |
| pH | - | 6.5 - 8.5 | 6 - 9 | 6 - 9 | 5 - 9 | 5 - 9 | - |
| Colour | TCU | 15 | 150 | 150 | - | - | - |
| Electrical Conductivity* | μ S/cm | 1000 | 1000 | - | - | 6000 | - |
| Floatables | - | N | N | N | - | - | - |
| Odour | - | N | N | N | - | - | - |
| Salinity | ppt | 0.5 | 1 | - | - | 2 | - |
| Taste | - | N | N | N | - | - | - |
| Total Dissolved Solid | mg/l | 500 | 1000 | - | - | 4000 | - |
| Total Suspended Solid | mg/l | 25 | 50 | 50 | 150 | 300 | 300 |
| Temperature | $^{\circ}$ C | - | Normal + 2 $^{\circ}$ C | - | Normal + 2 $^{\circ}$ C | - | - |
| Turbidity | NTU | 5 | 50 | 50 | - | - | - |
| Faecal Coliform** | count/100 ml | 10 | 100 | 400 | 5000 (20000) ^a | 5000 (20000) ^a | - |
| Total Coliform | count/100 ml | 100 | 5000 | 5000 | 50000 | 50000 | > 50000 |

Notes :

N : No visible floatable materials or debris, no objectional odour or no objectional taste

* : Related parameters, only one recommended for use

** : Geometric mean

a : Maximum not to be exceeded

WATER CLASSES AND USES

| CLASS | USES |
|-----------|---|
| Class I | Conservation of natural environment. Water Supply I – Practically no treatment necessary. Fishery I – Very sensitive aquatic species. |
| Class IIA | Water Supply II – Conventional treatment required. Fishery II – Sensitive aquatic species. |
| Class IIB | Recreational use with body contact. |
| Class III | Water Supply III – Extensive treatment required. Fishery III – Common, of economic value and tolerant species; livestock drinking. |
| Class IV | Irrigation |
| Class V | None of the above. |