## PROPOSED INTERIM NATIONAL WATER QUALITY STANDARD FOR MALAYSIA

| PARAMETERS | CLASSES | | | | | |
|---|---|---|---|---|---|---|
| | I | IIA | IIB | III | IV | V |
| Ammoniacal nitrogen | 0.1 | 0.3 | 0.3 | 0.9 | 2.7 | 2.7 |
| BOD (mg/l) | 1 | 3 | 3 | 6 | 12 | 12 |
| COD (mg/l) | 10 | 25 | 25 | 50 | 100 | 100 |
| DO (mg/l) | 7 | 5-7 | 5-7 | | 3 | 1 |
| pH | 6.5-8.5 | 6.5-9 | 6.5-9.0 | 3-5 | 5-9 | - |
| Colour (TUC) | 15 | 150 | 150 | 5-9 | - | - |
| Electrical Conductivity (umhos/cm)** | 1000 | 1000 | - | - | 6000 | - |
| floatables | NV | NV | NV | - | - | - |
| Odour | NOO | NOO | NOO | - | - | - |
| Salinity (%)** | 0.5 | 1 | - | - | 2 | - |
| Taste | NOT | NOT | NOT | - | - | - |
| Total Dissolved Solids (mg/l) | 500 | 1000 | - | - | 4000 | - |
| Total Suspended Solids (mg/l) | 25 | 50 | 50 | 150 | 300 | 300 |
| Temperature (C) | - | Normal 2 | - | Normal 2 | - | - |
| Turbidity (NTU) | 5 | 50 | 50 | - | - | - |
| Faecal Coliform (Counts/ 100ml) | 10 | 100 | 400 | 5000(2000)@ | 5000(2000)@ | - |
| Total Coliform (counts/100ml) | 100 | 5000 | 5000 | 5000 | 5000 | 5000 |
| Al (mg/l) | N | - | - | 0.056 | 0.5 | - |
| As (mg/l) | A | 0.05 | NR | 0.045 (0.44) | 0.1 | L |
| Ba (mg/l) | T | 1 | NR | - | - | E |
| Cd (mg/l) | U | 0.005 | NR | 0.001(0.011**) | 0.01 | V |
| B (mg/l) | R | 1 | NR | 3.4 | 0.75 | E |

| PARAMETERS | CLASSES | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 11A | 11B | 111 | IV | V |
| $Cl_2$ (mg/l) | L | - | NR | 0.022 | - | L |
| CN (mg/l) | | 0.02 | NR | 0.0023 (0.058) | - | |
| F (mg/l) | L | 1 | NR | (11) | 1 | A |
| $NO_3/NO_2$ (mg/l) | E | 7/3 | NR | 0.028 (0.37) | 5 | B |
| P (mg/l) | V | 0.1 | NR | 0.1 | - | O |
| Silica (mg/l) | E | 50 | NR | - | - | V |
| $SO_4$ (mg/l) | L | 200 | NR | - | - | E |
| S (mg/l) | S | 0.05 | NR | 0.001 | - | |
| $CO_2$ (mg/l) | | - | NR | - | - | IV |
| Gross (Bql) | | 0.1 | NR | - | - | |
| Gross (Bql) | | 1 | NR | - | - | |
| Ra-226 (Bql) | | +0.1 | NR | - | - | |
| Sr-90 (Bql) | | +0.1 | NR | - | - | |
| CCE (ug/l) | NL | 500 | NR | - | NR | NR |
| MBAS/BAS (ug/l) | NL | 500 | NR | 200 | NR | NR |
| O&G (Mineral) (mg/l) | NL | 40;NF | NR | NL | NR | NR |
| O&G (Emulsified edible) (ug/l) | NL | 7000;NF | NR | NL | NR | NR |
| PCB (mg/l) | NL | 0.1 | NR | 0.044, (6.1) | NR | NR |
| Phenol (ug/l) | absent | 10 | NR | (9900) | NR | NR |
| Aldrin/ | absent | 0.02 | NR | 0.08 | NR | NR |
| Dieldrin (ug/l) | absent | - | NR | (0.2), 0.13 | NR | NR |
| BHC (ug/l) | absent | 2 | NR | (9.9) | NR | NR |
| Chlordane (ug/l) | absent | 0.08 | NR | (2.2), 0.004 | NR | NR |
| t-DDT (mg/l) | absent | 0.1 | NR | (1) | NR | NR |
| Endosulfan (ug/l) | absent | 10 | NR | (0.01) | NR | NR |
| Heptachlor 1 | absent | 0.05 | NR | 0.06 | NR | NR |

| PARAMETERS | CLASSES | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 11A | 11B | 111 | IV | V |
| Epoxide (ug/l) | absent | - | NR | (0.91) | NR | NR |
| Lindane (ug/l) | absent | 2 | NR | 0.38, (2.9) | NR | NR |
| 2,4-D (ug/l) | absent | 70 | NR | (450) | NR | NR |
| 2,4,5-T (ug/l) | absent | 10 | NR | (160) | NR | NR |
| 2,4,5-P (ug/l) | absent | 4 | NR | (850) | NR | NR |
| Paraquat (ug/l) | absent | 10 | NR | (1800) | NR | NR |
| Cr(1V) (mg/l) | NL | 0.05 | - | 0.056 (1.45) | 0.1 | - |
| Cr (III) (mg/l) | NL | - | NR | -(2053) | - | L |
| Cu (mg/l) | NL | 1 | NR | 0.01(0.012**) | 0.2 | E |
| Hardness (mg/l) | NL | 100 | NR | - | - | V |
| Ca (mg/l) | NL | - | NR | - | - | E |
| Mg (mg/l) | NL | 0.05 | NR | - | - | L |
| Na (mg/l) | NL | - | NR | - | 3SAR | |
| K (mg/l) | NL | - | NR | - | - | A |
| Fe (mg/l) | NL | 0.3 | NR | 1 | 1(Leaf) 5 (0thers) | B |
| Pb (mg/l) | NL | 0.05 | NR | 0.01(0.014*) | 5 | O |
| Mn (mg/l) | NL | 0.1 | NR | 0.1 | 0.2 | V |
| Hg (mg/l) | NL | 0.001 | NR | 0.0001(0.004) | 0.002 | E |
| Ni (mg/l) | NL | 0.05 | NR | -(0.9*) | 0.2 | |
| Se (mg/l) | NL | 0.01 | NR | 0.037(0.25) | 0.02 | IV |
| Ag (mg/l) | NL | 0.05 | NR | - (0.0002) | - | |
| Sn (mg/l) | NL | NR | NR | 0.05 | - | |
| U (mg/l) | NL | NR | NR | - | - | |
| Zn (mg/l) | NL | 5 | NR | -(0.35) | 2 | |

| | NOTES |
|---|---|
| CLASS 1 | Conservation of natural environmental Water Supply 1 - practically no treatment necessary.<br>Fishery 1- very sensitive aquatic species |
| CLASS 11A | Water Supply 11 - conventional treatment required<br>Fishery 11- sensitive aquatic species |
| CLASS 11B | Recreational use with body contact |
| CLASS 111 | Water Supply 111- extensive treatment required<br>Fishery 111- common, of economic value, and tolerant species.<br>Livestock drinking. |
| CLASS 1V | Irrigation |
| CLASS V | None of the Above |
| NV | No Visible floatable materials or debris |
| NOO | No objectionable odour |
| NOT | No objectionable taste |
| ** | Related Parameters, only one recommended for use |
| @ | maximum not to be exceeded |
| NR | No Recommendation |
| * | At hardness 50mg/l $CaCO_3$ |
| # | 24-hr average and maximum (bracketed) concentrations are shown |
| NF | Free from visible film, sheen, discoloration and deposits |
| NL | Free form visible layer, discoloration and deposits |

## MICROBIOLOGICAL AND BIOLOGICAL QUALITY

| ORGANISM | UNIT | GUIDELINE VALUE | REMARKS |
|---|---|---|---|
| 1. Microbiological quality | | | |
| **A. Piped Water supplies** | | | |
| **A.1 Treated water entering the distribution system** | | | turbidity<1 NTU; for disinfection with chlorine, pH |
| fecal coliforms | number/100ml | 0 | |
| coliform organisms | number/100ml | 0 | preferably < 8.0 ; free chlorine residual 0.2-0.5 mg/l following 30 minutes (min) contact |
| **A.2 Untreated water entering the distribution system** | | | |
| fecal coliforms | number/100ml | 0 | in 98 of sampkes examined throughout the year- in the case of large supplies when sufficient samples are examined |
| coliform organisms | number/100ml | 0 | |
| coliform organisms | number/100m | 3 | in an occasional sample, but not in consecutive samples |
| **A.3 Water in the distribution system** | | | |
| fecal coliforms | number/100ml | 0 | in 95% of samples examined throughout the year - in the case of large supplies when sufficient samples are examined |
| coliform organsims | number/100ml | 0 | |
| coliform organisms | number/100ml | 3 | in an occasional sample, but not in consecutive samples |
| **B. Unpiped Water Supplies** | | | |
| fecal coliforms | | 0 | should not occur repeatedly; if occurance is frequent |
| coliform organisms | | 10 | |

| | | | |
|---|---|---|---|
| | | | and if sanitary protection cannot be proved, an alternative source must be found if possible |
| **C. Bottled Drinking Water** | | | |
| fecal coliforms<br>coliform organisms | number/100ml<br>number/100ml | 0<br>0 | source should be free from fecal contamination |
| **D. Emergency Water Supplies** | | | |
| fecal coliform<br>coliform organisms | number/100ml<br>number/100ml | 0<br>0 | advise public to boil water in case of failure to meet guideline values |
| enterovirus | | no guideline value set | |
| II Biological quality | | | |
| protozoa (pathogenic) | - | no guideline value set | |
| helminths (pathogenic) | - | no guideline value set | |
| free-living organisms (algae, others) | - | no guideline value set | |