

**S.I. No. 272/2009 — European Communities
Environmental Objectives (Surface Waters) Regulations
2009**

SCHEDULE 3

**The Presentation of Monitoring Results and Surface
Water Classification**

SCHEDULE 4

**The Classification of Ecological Status for Rivers, Lakes, Transitional Waters and
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Criteria for Calculating Surface Water Ecological Status and Ecological Potential

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THE PRESENTATION OF MONITORING RESULTS AND SURFACE WATER CLASSIFICATION

Table 1

Ecological Status

| Ecological Status Classification | Colour Code |
|----------------------------------|-------------|
| High | Blue |
| Good | Green |
| Moderate | Yellow |
| Poor | Orange |
| Bad | Red |

Table 2

Ecological Potential

| Ecological Potential Classification | Colour Code | |
|-------------------------------------|-------------------------------------|------------------------------------|
| | Artificial Water Bodies | Heavily Modified |
| Good and Above | Equal green and light grey stripes | Equal green and dark grey stripes |
| Moderate | Equal yellow and light grey stripes | Equal yellow and dark grey stripes |
| Poor | Equal Orange and light grey stripes | Equal orange and dark grey stripes |
| Bad | Equal red and light grey stripes | Equal red and dark grey stripes |

Table 3

Chemical Status

| Chemical Status Classification | Colour Code |
|--------------------------------|-------------|
| Good | Blue |
| Failing to achieve good | Red |

Schedule 4

The Classification of Ecological Status for Rivers, Lakes, Transitional Waters and Coastal Waters

Table 4

The General Definition of High, Good and Moderate Ecological Status ⁽¹⁾ ⁽²⁾

| | |
|-----------------|--|
| High Status | <p>There are no, or only very minor, anthropogenic alterations to the values of the physico-chemical and hydromorphological quality elements for the surface water body type from those normally associated with that type under undisturbed conditions.</p> <p>The values of the biological quality elements for the surface water body reflect those normally associated with that type under undisturbed conditions, and show no, or only very minor, evidence of distortion.</p> |
| Good Status | <p>The values of the biological quality elements for the surface water body type show low levels of distortion resulting from human activity, but deviate only slightly from those normally associated with the surface water body type under undisturbed conditions.</p> |
| Moderate Status | <p>The values of the biological quality elements for the surface water body type deviate moderately from those normally associated with the surface water body type under undisturbed conditions. The values show moderate signs of distortion resulting from human activity and are significantly more disturbed than under conditions of good status.</p> |

(1) Surface waters achieving a status below moderate shall be classified as poor or bad.

(2) The text in Table 4 provides a general definition only of ecological quality. For the purpose of classifying surface water ecological status, regard must be had, as appropriate, to the biological, hydromorphological and supporting physico-chemical quality elements listed in tables 5,6, and 7 of this Schedule and to the boundary conditions established in Tables 8, 9, and 10 of Schedule 5.

Table 5**The Biological Quality Elements that may be used when calculating Ecological Status**

| Surface Water Category | Biological Quality Element |
|-------------------------------|--|
| River Water Quality | Composition and abundance of aquatic flora Composition and abundance of benthic invertebrate fauna Composition, abundance and age structure of fish fauna |
| Lake Water Quality | Composition, abundance and biomass of phytoplankton Composition and abundance of other aquatic flora Composition and abundance of benthic invertebrate fauna Composition, abundance and age structure of fish fauna |
| Transitional Water Body | Composition, abundance and biomass of phytoplankton Composition and abundance of other aquatic flora Composition and abundance of benthic invertebrate fauna Composition and abundance of fish fauna |
| Coastal Water Quality | Composition, abundance and biomass of phytoplankton Composition and abundance of other aquatic flora Composition and abundance of benthic invertebrate fauna |

Table 6

The Hydromorphological Quality Elements Supporting the Biological Quality Elements

| Surface Water Category | Hydromorphological Quality Element | Description |
|-------------------------------|---|--|
| River Water Body | Hydrological Regime | Quantity and dynamics of water flow. Connection to groundwater bodies |
| | River Continuity | |
| | Morphological Conditions | River depth and width variation. Structure and substrate of the river bed Structure of riparian zone |
| Lake Water Body | Hydrological Regime | Quantity and dynamics of water flow Residence time Connection to groundwater bodies |
| | Morphological Conditions | Lake water variation Quantity, structure and substrate of the lake bed Structure of the lake shore |
| Transitional Water Body | Morphological Conditions | Depth variation Quantity, structure and substrate of the bed Structure of the intertidal zone |
| | Tidal Regime | Freshwater flow Water Exposure |
| | Morphological Conditions | Depth variation Structure and substrate of the coastal bed Structure of the intertidal zone |
| | Tidal Regime | Direction of dominant currents Wave exposure |

Table 7

The Physico-chemical Quality Elements Supporting the Biological Elements to be taken into account when calculating Ecological Status

| Surface Water Category | Physico-chemical Quality Element | |
|-------------------------|----------------------------------|---|
| River Water Body | General Conditions | <ul style="list-style-type: none"> ● Thermal conditions ● Oxygenation conditions ● Salinity ● Acidification status and ● Nutrient conditions |
| | Specific Pollutants | Pollution by synthetic or non-synthetic substances listed in Table 10 of Schedule 5 of these Regulations, not for the time being identified as priority substances, which are discharged in significant quantities into the body of water |
| Lake Water Body | General Conditions | <ul style="list-style-type: none"> ● Transparency ● Thermal conditions ● Oxygenation conditions ● Salinity ● Acidification status ● Nutrient conditions |
| | Specific Pollutants | Pollution by synthetic or non-synthetic substances listed in Table 10 of Schedule 5 of these Regulations, not for the time being identified as priority substances, which are discharged in significant quantities into the body of water |
| Transitional Water Body | General Conditions | <ul style="list-style-type: none"> ● Transparency ● Thermal conditions ● Oxygenation conditions ● Salinity and Nutrient conditions |
| | Specific Conditions | Pollution by synthetic or non-synthetic substances listed in Table 10 of Schedule 5 of these Regulations, not for the time being identified as priority substances, which are discharged in significant quantities into the body of water |
| Coastal Water Body | General Conditions | <ul style="list-style-type: none"> ● Transparency ● Thermal conditions ● Oxygenation conditions ● Salinity and Nutrient conditions |
| | Specific Conditions | Pollution by synthetic or non-synthetic substances listed in Table 10 of Schedule 5 of these Regulations, not for the time being identified as priority substances, which are discharged in significant quantities into the body of water |

Schedule 5

Criteria for Calculating Surface Water Ecological Status and Ecological Potential

Table 8

Biological Quality Parameters

RIVERS (All Types)

| Biological Quality Element | Classification System | Ecological Quality Ratio | |
|----------------------------|----------------------------------|--------------------------|--------------------------|
| | | High – Good Boundary | Good – Moderate Boundary |
| Benthic Invertebrate Fauna | Quality Rating System (Q- value) | 0.85 | 0.75 |
| Phytobenthos | Trophic Diatom Index (TDI) | 0.93 | 0.78 |

LAKES

| Biological Quality Element | Classification System | Lake Type ⁽¹⁾ | Ecological Quality Ratio | | Chlorophyll <i>a</i> (µg/l) | |
|------------------------------|--|--------------------------|--------------------------|--------------------------|-----------------------------|-----------------|
| | | | High – Good Boundary | Good – Moderate Boundary | High – Good | Good – Moderate |
| Phytoplankton ⁽²⁾ | Phytoplankton biomass ⁽³⁾ (Chlorophyll <i>a</i>) | Lake Type 4 | 0.50 | 0.33 | 6 | 9 |
| | | Lake Types 7,8,11 and 12 | 0.55 | 0.32 | 5.8 | 10 |
| Macrophytes | Lake Macrophytes | All Types | 0.90 | 0.68 | | |

| | |
|-----|---|
| (1) | Type 4: Low alkalinity (<20 mg/l CaCO ₃), deep (>4m) and large (>50ha) |
| | Type 7: Moderate alkalinity (20 - 100 mg/l CaCO ₃), deep (>4m) and small (<50ha) |
| | Type 8: Moderate alkalinity (20 - 100 mg/l CaCO ₃), deep (>4m) and large (>50ha) |
| | Type 11: High alkalinity (>100 mg/l CaCO ₃), deep (>4m) and small (<50ha) |
| | Type 12: High alkalinity (>100 mg/l CaCO ₃), deep (>4m) and large (>50ha) |
| (2) | The phytoplankton boundary conditions for lake types 7,8,11 and 12 shall apply on an interim basis for classifying lake types not currently listed. EQR boundary conditions are yet to be developed for shallow calcareous lakes. |
| (3) | Growing season (March to October) mean value. A minimum of 4 samples distributed throughout the growing season is required in any one year. Phytoplankton biomass is not an appropriate indicator for assessing lake trophic status when zebra mussels are present. |

Coastal Waters (all types with the exception of coastal water lagoons)

| Biological Quality Element | Classification System | Ecological Quality Ratio | | High – Good Boundary | Good – Moderate Boundary |
|----------------------------|-------------------------------------|--------------------------|-----------------|--|---|
| | | High – Good | Good – Moderate | Chlorophyll (µg/l) ⁽¹⁾ | |
| Phytoplankton | Phytoplankton Biomass (Chlorophyll) | 0.66 | 0.33 | 2.5 (median value) and 5.0 (90 percentile value) ⁽²⁾ | 5.0 median value) and 10.0 (90 percentile value) ⁽²⁾ |
| | Phytoplankton Composition | 0.84 | 0.43 | 5.0 (median value) and 10.0 (90 percentile value) ⁽³⁾ | 10.0 (median value) and 20.0 (90 percentile value) ⁽³⁾ |
| | | | | Percentage of single taxa counts above thresholds | |
| | | | | 20 | 39 |

Coastal and Transitional Waters (all types with the exception of transitional and coastal water lagoons)

| Biological Quality Element | Classification System | Ecological Quality Ratio | |
|----------------------------|---|--------------------------|--------------------------|
| | | High – Good Boundary | Good – Moderate Boundary |
| Macroalgae | Rocky shore reduced species list multimetric system | 0.80 | 0.60 |
| | Opportunistic macroalgae multimetric system | 0.80 | 0.60 |

(1) Growing season March to September

(2) Cold acetone extraction method

(3) Hot methanol extraction method

Table 9**Physico-chemical conditions supporting the biological elements****PART A: General Conditions****THERMAL CONDITIONS**

| Thermal Conditions | River Water Body | Lake Water Body | Transitional Water Body | Coastal Water Body |
|--------------------|--|-----------------|-------------------------|--------------------|
| Temperature | Not greater than 1.5°C rise in ambient temperature outside the mixing zone | | | |

OXYGENATION CONDITIONS (BIOCHEMICAL OXYGEN DEMAND)

| Oxygenation Conditions | River Water Body | Lake Water Body | Transitional Water Body | Coastal Water Body |
|--|--|-----------------|-------------------------|--------------------|
| Biochemical Oxygen Demand (BOD) (mg O ₂ /l) | High status ≤1.3 (mean ⁽¹⁾) or ≤2.2 (95%ile) Good status ≤1.5 (mean ⁽¹⁾) or ≤2.6 (95%ile) | | ≤4.0 mg/l (95%ile) | |

⁽¹⁾ The calculation of the arithmetic mean and the analytical method used must be in accordance with the technical specifications for chemical monitoring and quality of analytical results to be adopted in accordance with Directive 2000/60/EC of the European Parliament and of the Council, including how to apply an EQS where there is no appropriate analytical method meeting the minimum performance criteria.

OXYGENATION CONDITIONS CONTINUED (DISSOLVED OXYGEN)

| Oxygenation Conditions | River Water Body | Lake Water Body | Transitional Water Body (Summer) | Coastal Water Body (Summer) |
|------------------------------|-------------------------|-----------------|---|-------------------------------------|
| Dissolved Oxygen Lower Limit | 95%ile >80% Saturation | | (0 psu ⁽¹⁾) 95%ile >70% Saturation (35 psu) 95%ile >80% Saturation | (35 psu) 95%ile >80% Saturation |
| Dissolved Oxygen Upper Limit | 95%ile <120% Saturation | | (0 psu ⁽¹⁾) 95%ile <130% Saturation (35 psu) 95%ile <120% Saturation | (35 psu) 95%ile <120% Saturation |

ACIDIFICATION STATUS

| Acidification Status | River Water Body | Lake Water Body | Transitional Water Body | Coastal Water Body |
|------------------------|--|-----------------|-------------------------|--------------------|
| pH (Individual Values) | Soft ⁽²⁾ Water 4.5<pH<9.0 Hard ⁽³⁾ Water 6.0<pH<9.0 | | | |

(1) psu: The Practical Salinity Unit defines salinity in terms of a conductivity ratio of a sample to that of a solution of 32.4356g of KCl at 15°C in 1 kg of solution. A sample of seawater at 15°C with a conductivity equal to this KCl solution has a salinity of exactly 35 practical salinity units.

(2) Water Hardness ≤100 mg/l CaCO₃

(3) Water Hardness >100 mg/l CaCO₃

NUTRIENT CONDITIONS

| Nutrient Conditions | River Water Body | Lake ⁽¹⁾ | Transition Water Body | Coastal Water Body |
|--|--|---------------------|--|---|
| Total Ammonia (mg N/l) | High Status ≤ 0.040 (mean) or ≤ 0.090 (95%ile) Good Status ≤ 0.065 (mean) or ≤ 0.140 (95%ile) | | | |
| Dissolved Inorganic Nitrogen (mg N/l) | | | | Good Status (<u>0 psu⁽²⁾</u>) $\leq 2.5\text{mgN/l}$ <u>34.5 psu⁽²⁾</u> $\leq 0.25\text{mgN/l}$ High Status (<u>34.5 psu⁽²⁾</u>) $\leq 0.17\text{mgN/l}$ |
| Molybdate Reactive Phosphorus (MRP) (mg P/l) | High Status ≤ 0.025 (mean) or ≤ 0.045 (95%ile) Good Status ≤ 0.035 (mean) or ≤ 0.075 (95%ile) | | (<u>0-17 psu⁽²⁾</u>) ≤ 0.060 (median) (<u>35 psu⁽²⁾</u>) ≤ 0.040 (median) | |

(1) Total Phosphorus (TP) is an important measure of lake trophic status and TP measurements are included as part of the lakes monitoring programme; TP boundary conditions are yet to be established for lakes.

(2) Linear interpolation to be used to establish the limit value for water bodies between these salinity levels based on the median salinity of the water body being assessed.

Table 10**PHYSICO-CHEMICAL CONDITIONS SUPPORTING THE BIOLOGICAL ELEMENTS****PART B: SPECIFIC POLLUTANTS**

AA: Annual Average

MAC: Maximum Allowable Concentration

Unit: [$\mu\text{g/l}$]

| Name of substance | Environmental Quality Standard (EQS) ⁽²⁾ ⁽³⁾ ⁽⁶⁾ | | | |
|-----------------------|---|--------------------------------|---|---------------------------------|
| | AA-EQS ⁽⁷⁾ Inland Surface Waters | AA-EQS Other Surface Waters | MAC-EQS ⁽⁸⁾ Inland Surface Waters | MAC-EQS Other Surface Waters |
| Arsenic | 25 | 20 | - | - |
| Chromium III | 4.7 | - | 32 | - |
| Chromium VI | 3.4 | 0.6 | - | 32 |
| Copper ⁽⁴⁾ | 5 or 30 | 5 | - | - |
| Cyanide | 10 | 10 | - | - |
| Diazinon | 0.01 | 0.01 | 0.02 | 0.26 |
| Dimethoate | 0.8 | 0.8 | 4 | 4 |
| Fluoride | 500 | 1,500 | - | - |
| Glyphosphate | 60 | - | - | - |
| Linuron | 0.7 | 0.7 | 0.7 | 0.7 |
| Mancozeb | 2 | 2 | 7.3 | 7.3 |
| Monochlorobenzene | 1.5 | 25 | - | - |
| Phenol | 8 | 8 | 46 | 46 |
| Toluene | 10 | 10 | - | - |
| Xylenes | 10 | 10 | - | - |
| Zinc ⁽⁵⁾ | 8 or 50 or 100 | 40 | - | - |

(1) The calculation of the arithmetic mean and the analytical method used must be in accordance with technical specifications to be adopted for chemical monitoring and quality of analytical results in accordance with Directive 2000/60/EC of the European Parliament. And of the Council, including how to apply an EQS where there is no appropriate analytical method meeting of the minimum performance criteria.

(2) The values for all metals are for dissolved metals i.e. after filtration through a 0.45 micron filter. In designing monitoring programmes, it was recommended that total chromium be determined. Where the result for total chromium is less than the EQS for Cr^{VI}, no further investigation is deemed necessary. Where the total chromium level is above the EQS, an assessment should be made of the potential discharges of Cr^{VI} into the water-body. Where there is a risk of Cr^{VI} contamination, speciation studies should be included in the monitoring programme.

(3) The values for all metals, except chromium VI are as added values to background concentrations.

(4) In the case of copper the value 5 applies where the water hardness in mg/l CaCO₃ is less than or equal to 100; the value 30 applies where the water hardness exceeds 100mg/l CaCO₃

(5) In the case of zinc, the standard shall be 8 $\mu\text{g/l}$ for water hardness with annual average values less than or equal to 10mg/l CaCO₃, 50 $\mu\text{g/l}$ for water hardness greater than 10mg/l CaCO₃ and 100 $\mu\text{g/l}$ elsewhere.

(6) Standards for compounds other than metals refer to total concentrations in the whole water sample.

(7) AA-EQS means that for each representative monitoring point within the water-body, the arithmetic mean of the concentrations measured over a 12 month monitoring period does not exceed the standard.

(8) MAC-EQS means that for each representative monitoring period within the water-body no measured concentration exceeds the standard

SCHEDULE 6

Table 11

The environmental quality standards for priority substances and certain other pollutants to apply for the purpose of assigning chemical status

With the exception of cadmium, lead, mercury and nickel (hereinafter "metals") the EQS values in Tables 11 and 12 are expressed as total concentrations in the whole water sample. In the case of metals the EQS refers to the dissolved concentration, i.e. the dissolved fraction of a water sample obtained by filtration through a 0.45µm filter or any equivalent pre-treatment.

Priority Substances

AA: Annual Average⁽¹⁾

MAC: Maximum Allowable Concentration

Unit: [µg/l]

| No. | Name of Substance | Chemical Abstract Service No. | AA-EQS ⁽²⁾ Inland Surface Waters ⁽³⁾ | AA-EQS ⁽²⁾ Other Surface Waters | MAC-EQS ⁽⁴⁾ Inland Surface Waters ⁽³⁾ | MAC-EQS ⁽⁴⁾ Other Surface Waters |
|-----|--|--------------------------------|---|---|--|--|
| 1 | Alachlor | 15972-60-8 | 0.3 | 0.3 | 0.7 | 0.7 |
| 2 | Atrazine | 1912-24-9 | 0.6 | 0.6 | 2.0 | 2.0 |
| 3 | Benzene | 71-43-2 | 10 | 8 | 50 | 50 |
| 4 | Carbon Tetrachloride ⁽⁵⁾ | 56-23-5 | 12 | 12 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 5 | Chlorofenvinphos | 470-90-6 | 0.1 | 0.1 | 0.3 | 0.3 |
| 6 | Chlorpyrifos (Chlorpyrifos-ethyl) | 2921-88-2 | 0.03 | 0.03 | 0.1 | 0.1 |
| 7a | Cyclodiene pesticides: Aldrine ⁽⁵⁾ , Dieldrin ⁽⁵⁾ , Endrin ⁽⁵⁾ , Isodrin ⁽⁵⁾ | 309-00-260-57-172-20-8465-73-6 | Σ=0.01 | Σ=0.005 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 7b | DDT total ^{(5) (6)} | <i>Not Applicable</i> | 0.025 | 0.025 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| | <i>Para-para</i> DDT ⁽⁵⁾ | 50-29-3 | 0.01 | 0.01 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 8 | 1,2 Dichloroethane | 107-06-2 | 10 | 10 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 9 | Dichloromethane | 75-09-2 | 20 | 20 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 10 | Di(2-ethylhexyl)-phthalate (DEHP) | 117-81-7 | 1.3 | 1.3 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 11 | Diuron | 330-54-1 | 0.2 | 0.2 | 1.8 | 1.8 |
| 12 | Fluoranthene | 206-44-0 | 0.1 | 0.1 | 1 | 1 |
| 13 | Isoproturon | 34123-59-6 | 0.3 | 0.3 | 1.0 | 10 |
| 14 | Lead and its compounds | 7439-92-1 | 7.2 | 7.2 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 15 | Naphthalene | 91-20-3 | 2.4 | 1.2 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 16 | Nickel and its compounds | 7440-02-0 | 20 | 20 | <i>Not Applicable</i> | <i>Not Applicable</i> |

| No. | Name of Substance | Chemical Abstract Service No. | AA-EQS ⁽²⁾ Inland Surface Waters ⁽³⁾ | AA-EQS ⁽²⁾ Other Surface Waters | MAC-EQS ⁽⁴⁾ Inland Surface Waters ⁽³⁾ | MAC-EQS ⁽⁴⁾ Other Surface Waters |
|-----|---|-------------------------------|---|---|--|--|
| 17 | Octyphenol ((4-(1,1',3,3' tetra methylbutyl)-phenol)) | 140-66-9 | 0.1 | 0.01 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 18 | Pentachloro-phenol | 87-86-5 | 0.4 | 0.4 | 1 | 1 |
| 19 | Simazine | 122-34-9 | 1 | 1 | 4 | 4 |
| 20a | Tetrachloro-ethylene ⁽⁵⁾ | 127-18-4 | 10 | 10 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 20b | Trichloro-Ethylene ⁽⁵⁾ | 79-01-6 | 10 | 10 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 21 | Trichloro-benzene | 12002-48-1 | 0.4 | 0.4 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 22 | Trichloro-methane | 67-66-3 | 2.5 | 2.5 | <i>Not Applicable</i> | <i>Not Applicable</i> |

(1) The calculation of the arithmetic mean and the analytical method used must be in accordance with the technical specifications to be adopted for chemical monitoring and quality of analytical results in accordance with Directive 200/60/EC of the European Parliament and of the Council including how to apply an EQS where there is no appropriate analytical method meeting the minimum performance criteria.

(2) This parameter is the Environmental Quality Standard expressed as an annual average value (EQS-AA). Unless otherwise specified, it applies to the total concentration of isomers.

(3) Inland surface waters encompass rivers and lakes and related artificial or heavily modified water bodies.

(4) This parameter is the European Quality Standard expressed as a maximum allowable concentration (MAC-EQS). Where the MAC-EQS are marked as "not applicable", the AA-EQS values are considered protective against short-term pollution peaks in continuous discharges since they are significantly lower than the values derived on the basis of acute toxicity.

(5) This substance is not a priority substance but one of the pollutants for which the EQS are identical to those laid down in community legislation that applied prior to Directive 2008/105/EC of the European Parliament and Council on environmental quality standards in the field of water policy.

(6) DDT total comprises the sum of isomers 1,1,1 trichloro-2,2 bis (*p*-chlorophenyl) ethane (CAS number 50-29-3; EU number 200-024-3); 1,1,1trichloro-2 (*o* chlorophenyl)-2-(*p*-chlorophenyl) ethane (CAS number 789-02-6; EU number 212-332-5); 1,1-dichloro-2,2 bis (*p*-chlorophenyl) ethylene (CAS number 72-55-9); EU number 200-784-6); and 1,1-dichloro-2,2 bis (*p*-chlorophenyl) ethane (CAS number 72-54-8; EU number 200-783-0).

Table 12

The environmental quality standards for priority hazardous substances to apply for the purpose of assigning chemical status

Priority Hazardous Substances

AA: Annual Average
 MAC: Maximum Allowable Concentration
 Unit: [µg/l]

| No. | Name of Substance | Chemical Abstract Service No. | AA-EQS ⁽²⁾ Inland Surface Waters | AA-EQS ⁽²⁾ Other Surface Waters | MAC-EQS ⁽⁴⁾ Inland Surface Waters | MAC-EQS ⁽⁴⁾ Other Surface Waters |
|------|--|-------------------------------|---|---|--|--|
| (1) | Anthracene | 120-12-7 | 0.1 | 0.1 | 0.4 | |
| (2) | Brominated diphenylether ⁽⁵⁾ | 32534-81-9 | 0.0005 | 0.0002 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| (3) | Cadmium and its compounds (depending on water hardness classes) ⁽⁶⁾ | 7440-43-9 | ≤0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5) | 0.2 | ≤0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5) | ≤0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5) |
| (4) | C ₁₀ – C ₁₃ Chloroalkanes | 85535-84-8 | 0.4 | 0.4 | 1.4 | 1.4 |
| (5) | Endosulfan | 115-29-7 | 0.005 | 0.0005 | 0.01 | 0.004 |
| (6) | Hexachlorobenzene | 118-74-1 | 0.01 | 0.01 | 0.05 | 0.05 |
| (7) | Hexachlorobutadiene | 87-68-3 | 0.1 | 0.1 | 0.6 | 0.6 |
| (8) | Hexachlorocyclohexane | 608-73-1 | 0.02 | 0.002 | 0.04 | 0.02 |
| (9) | Mercury and its compounds | 7439-97-6 | 0.05 | 0.05 | 0.07 | 0.07 |
| (10) | Nonylphenol (4-Nonylphenol) | 104-40-5 | 0.3 | 0.3 | 2.0 | 2.0 |
| (11) | Pentachlorobenzene | 608-93-5 | 0.007 | 0.0007 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| (12) | Polyaromatic Hydrocarbons (PAH) ⁽⁷⁾ | <i>Not Applicable</i> | <i>Not Applicable</i> | <i>Not Applicable</i> | <i>Not Applicable</i> | <i>Not Applicable</i> |
| | Benzo(a)pyrene | 50-32-8 | 0.05 | 0.05 | 0.1 | 0.1 |
| | Benzo(b)fluoranthene | 205-99-2 | Σ=0.03 | Σ=0.03 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| | Benzo(k)fluoranthene | 207-08-9 | | | <i>Not Applicable</i> | <i>Not Applicable</i> |
| | Benzo(g,h,i)perylene | 191-24-2 | Σ=0.002 | Σ=0.002 | <i>Not Applicable</i> | <i>Not Applicable</i> |
| | Indeno (1,2,3-cd)pyrene | 193-39-5 | | | <i>Not Applicable</i> | <i>Not Applicable</i> |
| 13 | Tributyltin Compounds (Tributyltin-cation) | 36643-28-4 | 0.0002 | 0.0002 | 0.0015 | 0.0015 |

- (1) The calculation of the arithmetic mean and the analytical method used must be in accordance with the technical specifications to be adopted for chemical monitoring and quality of analytical results in accordance with Directive 200/60/EC of the European Parliament and of the Council including how to apply an EQS where there is no appropriate analytical method meeting the minimum performance criteria.
- (2) This parameter is the Environmental Quality Standard expressed as an annual average value (EQS-AA). Unless otherwise specified, it applies to the total concentration of isomers.
- (3) Inland surface waters encompass rivers and lakes and related artificial or heavily modified water bodies.
- (4) This parameter is the European Quality Standard expressed as a maximum allowable concentration (MAC-EQS). Where the MAC-EQS are marked as "not applicable", the AA-EQS values are considered protective against short-term pollution peaks in continuous discharges since they are significantly lower than the values derived on the basis of acute toxicity.
- (5) For the group of priority substances covered by brominated diphenylethers listed in Decision 2455/2001/EC, an EQS is established only for congener numbers 28, 47, 99, 100, 153 and 154.
- (6) For cadmium and its compounds the EQS values vary dependent upon hardness of the water as specified in five class categories (Class1: <40mg CaCO₃/l, Class 2: <40 to <50mg CaCO₃/l, Class 3: 50 to <100mg CaCO₃/l, Class 4: 100 to <200mg CaCO₃/l and Class 5: ≥200mg CaCO₃/l).
- (7) For the group of substances polyaromatic hydrocarbons (PAH), each individual EQS is applicable, i.e. the EQS for Benzo(a)pyrene, the EQS for the sum of Benzo(b)fluoranthene and Benzo(k)fluoranthene and the EQS for the sum of Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene must be met.