

## Environmental quality standards (EQS) for priority substances and other substances relating to chemical status

Substance	CAS no	PhS	AA-EQS in µg/l	AA-EQS in µg/l	MAC-EQS in µg/l	MAC-EQS in µg/l	Biota EQS in µg/kg wet weight
			Watercourses and lakes	Transitional and coastal waters	Watercourses and lakes	Transitional and coastal waters	Surface waters
<b>Nutrients</b>							
Nitrate (NO <sub>3</sub> )			50,000				
<b>Heavy metals, soluble concentration in µg/l</b>							
Lead (Pb) and lead compounds	7439-92-1		7.2	7.2	N.a.	N.a.	
Cadmium (Cd) and cadmium compounds (dep. on water hardness class) <sup>1</sup>	7440-43-9	X	≤ 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)	
Nickel (Ni) and nickel compounds	7440-02-0		20	20	N.a.	N.a.	
Mercury (Hg) and mercury compounds	7439-97-6	X	0.05	0.05	0.07	0.07	20
<b>Industrial pollutants</b>							
Anthracene	120-12-7	X	0.1	0.1	0.4	0.4	
Benzene	71-43-2		10	8	50	50	
Brominated diphenyl ether <sup>2,3</sup> (BDEs)	32534-81-9	X <sup>12</sup>	0.0005	0.0002	N.a.	N.a.	
C10-13 chloro-alkanes	85535-84-8	X	0.4	0.4	1.4	1.4	
1,2-Dichloroethane	107-06-2		10	10	N.a.	N.a.	
Dichloromethane	75-09-2		20	20	N.a.	N.a.	
Bis(2-ethyl-hexyl) phthalate (DEHP)	117-81-7		1.3	1.3	N.a.	N.a.	
Fluoranthene	206-44-0		0.1	0.1	1	1	
Hexachlorobenzene <sup>3</sup> (HCB)	118-74-1	X	0.01	0.01	0.05	0.05	10 <sup>4</sup>
Hexachlorobutadiene	87-68-3	X	0.1	0.1	0.6	0.6	55 <sup>5</sup>
Naphthalene	91-20-3		2.4	1.2	N.a.	N.a.	
Nonylphenol (4-Nonylphenol)	84852-15-3 <sup>6</sup>	X	0.3	0.3	2	2	
Octylphenol ((4-(1,1',3,3'-Tetramethylbutyl)-phenol))	140-66-9		0.1	0.01	N.a.	N.a.	
Pentachlorobenzene <sup>3</sup>	608-93-5	X	0.007	0.0007	N.a.	N.a.	
Pentachlorophenol	87-86-5		0.4	0.4	1	1	

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Polycyclic aromatic hydrocarbons (PAH) <sup>3,7</sup>	Not applicable	X	N.a.	N.a.	N.a.	N.a.	
Benzo[a]pyrene	50-32-8	X	0.05	0.05	0.1	0.1	
Benzo[b]fluoranthene	205-99-2	X	Σ = 0.03	Σ = 0.03	N.a.	N.a.	
Benzo[k]fluoranthene	207-08-9	X					
Benzo[g,h,i]perylene	191-24-2	X	Σ = 0.002	Σ = 0.002	N.a.	N.a.	
Indeno[1,2,3-cd]pyrene	193-39-5	X					
Tetrachloroethylene	127-18-4		10	10			
Carbon tetrachloride	56-23-5		12	12			
Trichlorobenzenes <sup>8</sup>	12002-48-1		0.4	0.4	N.a.	N.a.	
Trichlorethylene	79-01-6		10	10			
Trichloromethane	67-66-3		2.5	2.5	N.a.	N.a.	
<b>Pesticides</b>							
Alachlor	15972-60-8		0.3	0.3	0.7	0.7	
Atrazine	1912-24-9		0.6	0.6	2	2	
Chlorfenvinphos	470-90-6		0.1	0.1	0.3	0.3	
Chlorpyrifos (chlorpyrifos-ethyl)	2921-88-2		0.03	0.03	0.1	0.1	
DDT overall <sup>9</sup> (total DDT)	Not applicable		0.025	0.025			
4,4-DDT	50-29-3		0.01	0.01			
Diuron	330-54-1		0.2	0.2	1.8	1.8	
Cyclodiene pesticides (total of aldrin, dieldrin, endrin, isodrin)	309-00-2 60-57-1 72-20-8 465-73-6		Σ = 0.01	Σ = 0.005			
Endosulfan <sup>10</sup>	115-29-7	X	0.005	0.0005	0.01	0.004	
Hexachloro-cyclohexane <sup>11</sup> (HCHs)	608-73-1	X	0.02	0.002	0.04	0.02	
Isoproturon	34123-59-6		0.3	0.3	1	1	
Simazine	122-34-9		1	1	4	4	
Tributyl tin compounds (tributyl tin cation) <sup>3</sup> (TBT)	36643-28-4	X	0.0002	0.0002	0.0015	0.0015	
Trifluralin	1582-09-8		0.03	0.03	N.a.	N.a.	

N.a.: Not applicable; PhS: Priority hazardous substance; AA-EQS: Annual average EQS; MAC-EQS: maximum allowable concentration

<sup>1</sup> For cadmium and cadmium compounds, the environmental quality standard depends on the water hardness, which is reflected in five class categories (class 1: <40 mg CaCO<sub>3</sub>/l, class 2: 40 to <50 mg CaCO<sub>3</sub>/l, class 3: 50 to <100 mg CaCO<sub>3</sub>/l, class 4: 100 to < 200 mg CaCO<sub>3</sub>/l and class

- 5:  $\geq 200$  mg CaCO<sub>3</sub>/l). The environmental quality standard of the hardness class derived from the 50 percentile of the water hardnesses calculated parallel to the cadmium concentrations is used to assess the annual average concentration of cadmium and cadmium compounds.
- <sup>2</sup> Environmental quality standard refer for the sum of congeners of numbers 28 (CAS no. 41318-75-6), 47 (CAS no. 5436-43-1), 99 (CAS no. 60348-60-9), 100 (CAS no. 68631-49-2), 153 (CAS no. 68631-49-2) and 154 (CAS no. 207122-15-4).
- <sup>3</sup> The total content may also be calculated from measurements of the materials in suspension content. The total content refer in this case to
1. sampling by centrifuge to total sampling;
  2. sampling by box to a fraction  $< 63$   $\mu\text{m}$ .
- <sup>4</sup> As an alternative for the water phase 0.0004  $\mu\text{g/l}$
- <sup>5</sup> As an alternative for the water phase 0.003  $\mu\text{g/l}$
- <sup>6</sup> 4-nonylphenol (branched); synonyms: 4-nonylphenol, branched, nonylphenol, technical mixture
- <sup>7</sup> In the group of polycyclic aromatic hydrocarbons (PAH), each individual quality standard is applicable, i.e. the environmental quality standard for benzo(a)pyrene, the environmental quality standard for the sum of Benzo(b)fluoranthene and benzo(k)fluoranthene and the environmental quality standard for the sum of benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene, must be met.
- <sup>8</sup> The environmental quality standard refer to the sum of 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene and 1,3,5-trichlorobenzene.
- <sup>9</sup> Total DDT comprises to the sum of 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane (CAS no. 50-29-3; EU no. 200-024-3), 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)ethane (CAS no. 789-02-6; EU no. 212-332-5), 1,1-dichloro-2,2-bis-(p-chlorophenyl)-ethylene (CAS no. 72-55-9; EU no. 200-784-6) and 1,1-dichloro-2,2-bis-(p-chlorophenyl)ethane (CAS no. 72-54-8; EU no. 200-783-0).
- <sup>10</sup> The environmental quality standard refer to the sum total of the two (stereo-)isomers alpha-endosulfan (CAS no. 959-98-8) and beta-endosulfan (CAS no. 33213-65-9).
- <sup>11</sup> The environmental quality standard refers to the sum of the isomers alpha-, beta-, gamma-, and delta-HCH.
- <sup>12</sup> Refer only Pentabrominated diphenyl ether (CAS no. 32554-81-9).

Source: Surface Waters Ordinance 2011