

QCVN 43 : 2012/BTNMT

NATIONAL TECHNICAL REGULATION ON SEDIMENT QUALITY

Preamble

QCVN 43:2012/BTNMT compiled by the compilation committee of national technical regulations on water quality, the General Department of Environment, Department of Science and Technology, Department of Legal Affairs submitted for approval and issued together the Circular No.10/2012/TT-BTNMT dated October 12, 2012 of the Minister of Natural resources and Environment.

NATIONAL TECHNICAL REGULATION

ON SEDIMENT QUALITY

1. GENERAL PROVISIONS

1.1. Scope of governing

1.1.1. This regulation specifies the limit value of sediment quality parameters of freshwater, saltwater and brackish water.

1.1.2. This regulation is applied to assess, control sediment quality for the purpose of protecting aquatic life.

1.2. Subject of application: This regulation is applied to all organizations and individuals whose activities are related to sediment quality.

1.3. Interpretation of terms

In this Regulation, the following terms shall be construed as follows:

Sediment is the material particles located at a depth of not more than 15 cm from the bottom surface of the water, the particles with size of smaller than 2 mm or passing through a sieve with 2 mm diameter hole (U.S. # 10 sieve).

2. TECHNICAL REGULATIONS

Limit values of the sediment quality parameters are specified in the table below.

Table: Limit values of the parameters in the sediment

No.	Parameters	Unit (by dry volume)	Limit values	
			Freshwater sediment	Saltwater and brackish water sediments
1	Arsenic (As)	mg/kg	17.0	41.6
2	Cadmium (Cd)	mg/kg	3.5	4.2
3	Lead (Pb)	mg/kg	91.3	112
4	Zinc (Zn)	mg/kg	315	271
5	Mercury (Hg)	mg/kg	0.5	0.7
6	Total Chromium (Cr)	mg/kg	90	160
7	Copper (Cu)	mg/kg	197	108
8	Total hydrocarbons	mg/kg	100	100
9	Chlordane	mg/kg	8.9	4.8
10	DDD	µg/kg	8.5	7.8

11	DDE	µg/kg	6.8	374.0
12	DDT	µg/kg	4.8	4.8
13	Dieldrin	µg/kg	6.7	4.3
14	Endrin	µg/kg	62.4	62.4
15	Heptachlor epoxide	µg/kg	2.7	2.7
16	Lindan	µg/kg	1.4	1.0
17	Polychlorinated biphenyls (PCB)*	µg/kg	277	189
18	Dioxin and Furan	ng/kg TEQ	21.5	21.5
19	The compounds of multi-ring aromatic hydrocarbons (PAH)			
19.1	Acenaphthene	µg/kg	88.9	88.9
19.2	Acenaphthylene	µg/kg	128	128
19.3	Athracene	µg/kg	245	245
19.4	Benzo[a] anthracen	µg/kg	385	693
19.5	Benzo[e]pyrene	µg/kg	782	763
19.6	Chryren	µg/kg	862	846
19.7	Dibenzo[a,h]anthracene	µg/kg	135	135
19.8	Fluroanthene	µg/kg	2355	1494
19.9	Fluorene	µg/kg	144	144
19.10	2-Methylnaphthalene	µg/kg	201	201
19.11	Naphthalene	µg/kg	391	391
19.12	Phenanthrene	µg/kg	515	544
19.13	<i>Pyrene</i>	µg/kg	875	1398

Note:

(*) Total PCB: total concentrations of the PCBs 28; 52; 101; 118; 138; 153; 180.

3. METHOD OF DETERMINATION

3.1. Sampling to determine sediment quality is applied under the guidance of the following national standards:

- TCVN 6663 - 3:2000 - Water quality - Sampling. Part 13: Guidance on sampling of sludge, sewage sludge and related sludge.

- TCVN 6663 - 15: 2004 - Water quality - Sampling. Guidance on storage and handling of sludge and sediment sample.

3.2. Valuation methods of sediment quality parameters comply with the following national standards:

- TCVN 6649:2000 (ISO 11466:1995) Soil quality - Extraction of trace elements soluble in spring water.

- TCVN 6496:2009 - Soil quality - Determination of chromium, cadmium, cobalt, copper, lead, manganese, nickel and zinc in soil extracts by spring water - The methods of spectrometry of flame and un-flame atomic absorption.

- TCVN 8467:2010 (ISO 20280:2007) Soil quality - Determination of arsenic, antimony and selenium in soil extracts of spring water by means of atomic absorption spectrometry in thermal power technique or creation of hydride.

- TCVN 8882: 2011 (ISO 16772: 2004) Soil quality - Determination of mercury in soil extract of spring water using spectrometry of cold - vapor atomic absorption or cold - vapor fluorescence atomic absorption spectroscopy.

- TCVN 8601: 2009 (ISO 10382: 2002) Soil quality - Determination of plant protection chemical of organic chlorine and polychlorinated biphenyls - Gas chromatographic method with electron trap detector.

3.3. Accepted the methods of guiding analysis in the international standards with an accuracy equal to or higher than the standards cited in section 3.2 and in the absence of national standards for the analysis of parameters specified in this Regulation.

4. IMPLEMENTATION ORGANIZATION

4.1. The State management agencies on environment are responsible for dissemination, guidance, inspection, and monitoring of the implementation of this Regulation.

4.2. Where the national standards on the method for determination referred in this Regulation are amended, supplemented or replaced, apply the new standards.