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Federal Environment Agency

Fourth Amendment to the Notification of the Assessment Basis for Enamels and Ceramic Materials in Contact with Drinking Water[1, 2]

of 27 October 2025

The Notification of the Assessment Basis for Enamels and Ceramic Materials in Contact with Drinking Water (Enamel/Ceramic Assessment Basis) of 5 August 2019 (Federal Gazette AT 12/09/2019 B8), as last amended by the Third Amendment to the Assessment Basis for Enamels and Ceramic Materials in Contact with Drinking Water of 19 August 2024 (Federal Gazette AT 02/09/2024 B4), is amended as follows:

I.

Alterations and amendments

1. In Point 6.2.1, the maximum barium oxide content of 12% in Table 5 is replaced by 16%:

Substance	Content in %	
	Min.	Max.
“BaO	0	16”

2. In Point 6, a new Point 6.3 “Coatings” is inserted. The current Point 6.3 is replaced by Point 6.3.1 and a new Point “6.3.2 Zirconium coatings” is inserted:

   “6.3 Coatings

   6.3.1 Mixed Metal Oxide (MMO) coatings

   Titanium impressed current anodes for the cathodic internal protection of storage water heaters made of enamelled, low-alloy steel or stainless steel, and titanium impressed current anodes for the cathodic protection of filter tanks in drinking water treatment made of unalloyed steel (outside the drinking water installation with a permanent flow) or low-alloy steel, can be coated with mixed metal oxide coatings of iridium oxide (IrO_2) and tantalum oxide (Ta_2O_5) in a mass ratio between

   50%: 50% and 85%: 15% (w/w).

   The application of the titanium anode coatings involves the following processing steps:

   The titanium surface is degreased to remove impurities and adjust the surface roughness, then wet-etched (for example, with hydrochloric acid) and/or sandblasted. After subsequent rinsing and drying, an aqueous or alcoholic solution of iridium and tantalum salts (for example, H_2IrCl_6 und $TaCl_5$) is applied, for example, by spraying or immersion. Then it is dried at approximately 100 °C. The titanium substrates are then calcined at approximately 500 °C, forming iridium and tantalum oxides and causing organic compounds to evaporate. These steps (application of the salts, drying, and calcination) are repeated until a maximum layer thickness of 20 µm is achieved.

   If the products are processed as described above, testing according to Point 8 is not necessary.

   6.3.2 Zirconium oxide coatings

   Metallic materials can be coated with zirconium oxide using Physical Vapour Deposition (PVD). The coating can be classified as a ceramic coating. The composition of the coating must comply with Table 4, and testing of the products or components according to Point 8 is required.”

3. In Point 7.2, the sixth sentence is replaced by the following sentence:

   “Borosilicate glass may contain either only the ingredients listed in Table 2 or, alternatively, the ingredients listed in Table 1.”

1 Notified in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (OJ L 241, 17/09/2015, p. 1).

2 Notified under 2025/0325/DE.

4. In Point 7.2, a new paragraph is inserted:

   Zirconium oxide coatings may only contain the ingredients listed in Table 4. The specified doses are mandatory but may be modified upon request. Lead and cadmium may only be present as accompanying substances in small, technically unavoidable quantities that are not intentionally added. The lead and cadmium content must each be below 0.02% (w/w) and must be stated in the composition."

5. In Point 8.2, a new Point 8.2.6 is inserted:

   "8.2.6 Zirconium oxide coatings

   A composition analysis of the component or the test specimen must be performed. The composition analysis serves to:

   1. verify that the coating's composition complies with the relevant positive list (see Table 4),
   2. determine the elements to be determined in the migration water, and
   3. identify the product."

6. In Point 8.3.4, a new paragraph is inserted:

   "Zirconium oxide coatings

   Those elements of the coating that have a test value according to Table 11 must be determined. In addition, the lead and cadmium content of the migration water to be analysed must be determined. The analysis must be carried out using a suitable measurement method, for example, ICP-MS according to DIN EN ISO 17294-1."

II.

Entry into force

This 4th amendment enters into force on the day following its publication in the Federal Gazette.

Dessau-Roßlau, 27 October 2025

Federal Environment Agency

On behalf of
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