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Federal Environment Agency

Fourth amendment to the recast notice of the assessment basis for metallic materials in contact with drinking water (Metal Assessment Basis)[1, 2]

Dated 10 June 2024

I.

Amendments

1. In point 1, the first paragraph is replaced by the following paragraph:

   Substances and materials used for the refurbishment or maintenance of plants for the production, treatment or distribution of drinking water, which have contact with drinking water may not, in accordance with § 14 of the Drinking Water Ordinance (TrinkwV)

   a) reduce, directly or indirectly, the intended protection of human health;

   b) impair the colour, smell or taste of the water;

   c) promote the propagation of microorganisms; or

   d) release substances into the water in larger quantities than is unavoidable if they comply with the generally accepted rules of technology.

2. In point 1, the second paragraph is replaced by the following paragraph:

   The present assessment basis pursuant to § 15(1) of the Drinking Water Ordinance specifies the aforementioned general hygiene requirements for metal materials listed in the scope of application.

3. In point 1, the first sentence of the third paragraph shall be replaced by the following sentence:

   The assessment basis contains as an annex a final positive list (§ 15(3)(3) of the Drinking Water Ordinance) of metal materials.

4. In point 1, the first sentence of the fourth paragraph shall be replaced by the following sentence:

   The manufacturers of products in contact with drinking water must declare whether their products comply with the requirements of the assessment principles in accordance with § 15 of the Drinking Water Ordinance.

5. In point 1, the first sentence of the sixth paragraph shall be replaced by the following sentence:

   Under § 15(2)(2) Drinking Water Ordinance, the basis for assessment shall apply for two years after its publication (i.e. from 10 April 2017).

6. In point 1, the fourth sentence of the sixth paragraph shall be replaced by the following sentence:

   As from that date, water supply operators shall ensure that, in accordance with § 13(2) Drinking Water Ordinance, only metal materials which are listed on the positive list of metallic materials suitable for drinking water hygiene are used for the construction or maintenance of drinking water, taking into account the limitations (product groups or use with certain drinking water) contained in this assessment basis.

7. In point 1, the eighth paragraph is replaced by the following paragraph:

   Under the revised Drinking Water Directive (Directive (EU) 2020/2184), requirements that are uniform across Europe for materials in contact with drinking water will be imposed in the future. These rules will replace the present assessment basis.

8. In point 3.2.1, the penultimate sentence is replaced by the following sentence:

   Appropriately evaluated coatings are listed in the positive list of metallic materials suitable for drinking water hygiene (see Annex 3 Coatings).

9. In point 5.1, first sentence of the first paragraph shall be replaced by the following sentence:

   The UBA evaluates metal materials on request (§ 15(5) Drinking Water Ordinance) of a manufacturer or association ('applicant').

10. The term 'drinking water-installation' is replaced by 'drinking water installation' throughout the document.

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1 Notified under 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, 17.9.2015, p. 1).

2 Notified under 2024/0103/D

11. The term 'entrepreneur and other holder' is replaced by 'operator' throughout the document.
12. In the Annex ‘Positive list of metallic materials suitable for use in drinking water systems’, the following changes are made in the existing list entries:
    - 2.1.3.4 CW506L-DW (CuZn33): Deletion of the addition '-DW'
    - 2.1.3.5 CW507L-DW (CuZn36): unavoidable accompanying element Pb: Addendum to the *-character
    - 2.1.3.7 CW509L-DW (CuZn40): Best alloy proportion Cu: Change of the lower limit from 59.5 % (m/m) to 59.0 % (m/m)
    - 2.2.3.1 CuZn42Al: Addendum to the standard designation “CC773S”
    - 2.5.3.1 CW511L (CuZn38As): Addendum to the explanatory note to the *-character: '* further limitations of composition (see below) compared to the European standardised composition of CW511L', addendum to the *-character on the designation CW511L and addendum of the addition '-DW' to the standard designation
    - 2.7.3.1 CC771S: Addendum of '-C' in the chemical name 'CuZn36AlAsSb-C'
    - 2.9.3.1 (new numbering!) CW617N (CuZn40Pb2)/CW612N (CuZn39Pb2) and 2.9.3.2 CW614N (CuZn39Pb3)/CW603N (CuZn36Pb3): Addendum of the addition '-DW' to the standard names and unavoidable accompanying element Si: Addendum to the *-character
    - 2.11.3.2 (new numbering!) CW626N and 2.11.3.3 CW625N: Addendum of the addition '-DW' to the standard designations
    - 2.12.3.1 (new numbering!) CC772S: Addendum of '-C' in the chemical name: 'CuZn36Pb1.5AsSbAl-C'.
    - 2.13.3.1 (new numbering!) CW725R (CuZn33Pb1AlSiAs): Alloying component As: Addition of the *-character and addendum of the addition '-DW' to the standard designation
    - 2.14.3.1 (new numbering!) CC499K* (CuSn5Zn5Pb2-C): Alloy constituents Pb and Ni: Deletion of the *-character
    - 2.16.3.1 (new numbering!) CW724R: Addendum of the addition '-DW' to the standard designation
    - 2.16.3.2 (new numbering!) CC768S: Addendum of '-C' in the chemical name 'CuZn21Si3P-C'.
    - 2.19.3.1 (new numbering!): CW453K (CuSn8): Addendum to the explanatory note to the *-character: '* further limitations of composition (see below) compared to the European standardised composition of CW453K.', addendum to the *-character to the designation CW453K and alloy constituent P: Addendum to the *-character
    - 2.20.3.1 (new numbering!) CuSn10-C: Alloy constituents Pb and P: Addendum to the *-character
13. In the Annex 'Positive list of metal materials suitable for drinking water hygiene', the category 2.8 'Copper-zinc-tin-phosphorus alloys' including the material 'CW727R-DW (CuZn35Sn1P)' is added in point 2:

    2.8 Copper-zinc-tin-phosphorus alloys

    2.8.1 Alloy constituents

    Alloy constituents (% (m/m)):

Cu	Zn	Sn	P
≥ 63.0 %	Remainder	0.5 % - 1.0 %	0.05 % - 0.2 %

    Unavoidable accompanying elements (% (m/m)):

Al	Fe	Ni	Pb	Si
≤ 0.1 %	≤ 0.1 %	≤ 0.1 %	≤ 0.1 %	≤ 0.10 %

    2.8.2 Reference material

    Alloy constituents (% (m/m)):

Cu	Zn	Sn	P
63.5 % - 65.0 %	Remainder	0.5 % - 1.0 %	0.05 % - 0.10 %

    Unavoidable accompanying elements (% (m/m)):

Al	Fe	Ni	Pb	Si
≤ 0.05 %	≤ 0.10 %	0.06 % - 0.10 %	0.06 % - 0.10 %	≤ 0.10 %

    Elements to be determined in comparative testing as per DIN EN 15664-1 in contact water: Lead, copper, nickel, zinc

    Most critical test water:

    Test water 1 in accordance with

    DIN EN 15664-2

    2.8.3 Materials suitable for use in drinking water systems

    2.8.3.1 CW727R-DW (CuZn35Sn1P)

Designation:	Product group
CW727R-DW (CuZn35Sn1P)	B – D

Alloy constituents (% (m/m)):

Cu	Zn	Sn	P
63.5 % - 65.0 %	Remainder	0.5 % – 1.0 %	0.05 % – 0.15 %

Unavoidable accompanying elements (% (m/m)):

Al	Fe	Ni	Pb	Si
≤ 0.05 %	≤ 0.10 %	≤ 0.10 %	≤ 0.10 %	≤ 0.10 %

14. In the Annex Positive list of metal materials suitable for drinking water hygiene, the insertion of the new category 2.8 results in the displacement of the further numberings in point 2.

15. In the Annex 'Positive list of metal materials suitable for drinking water hygiene' it is added in point 3 'Galvanic Cu/Sn coatings of the outer surface' as follows:

    3.3 Galvanic Cu/Sn coatings of the outer surface

    Components made of all metal materials according to point 2 Materials for mountings, pipe connectors, apparatuses and pumps (B) and for construction parts in mountings, pipe connectors, apparatuses and pumps (C) in this positive list can be electroplated with a Cu/Sn coating.

    Limitations:

    – Constituents of the Cu/Sn coating: Cu 62 (± 1) % and Sn 38 (± 1) % (mole ratio 1:1)

    – Purity of the anodes used: ≥ 99.90 %

    – Coatings production method; electroplating

    Additional requirement:

    It must be demonstrated for the production process in question that the finished products are not contaminated with organic and inorganic substances added to the electroplating bath. This can be demonstrated with a migration test as per DIN EN 12873-1.

    The proof can be provided within the framework of a permit or certification procedure. In a procedure of this kind, testing of the metal discharge is not required. In addition, a quality control system for the production process is required.

16. In the Annex 'Positive list of metal materials suitable for drinking water hygiene', the materials 'NiCr8020' and 'TaCr' are supplemented in point 4 as follows:

    4.3.2 NiCr8020

Designation:	Product group
NiCr8020	B – D

Alloy constituents (% (m/m)):

Ni	Cr	Si
≥ 75.0 %	19.0 % - 21.0 %	0.50 % - 2.0 %

Unavoidable accompanying elements (% (m/m)):

Al	C	Co	Cu	Fe	Mn	P	S	Ti
≤ 0.30 %	≤ 0.15 %	≤ 1.5 %	≤ 0.50 %	≤ 1.0 %	≤ 1.00 %	≤ 0.020 %	≤ 0.015 %	≤ 0.1 %

4.3.9 TaCr

Designation:	Product group
TaCr	C and D

Alloy constituents (% (m/m)):

Ta	Cr
74.7 % - 80.7 %	19.3 % - 25.3 %

17. In the Annex ‘Positive list of metal materials suitable for drinking water hygiene’, the insertion of the new materials under the points 4.3.2 and 4.3.9 results in the displacement of the further numberings in point 4.

II.

Entry into force

These amendments shall enter into force on the day following publication in the Federal Gazette.

Dessau-Roßlau, 10 June 2024

Federal Environment

Agency

The President
Prof. Dr. Dirk Messner