Verband der
keramischen Industrie e. V.

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Position Paper
on the plans of the EU Commission for a new European regulation on ceramic materials and articles intended to come into contact with foodstuffs

Since 2012 the European Commission has been planning to revise the Ceramic Directive 84/500/EEC[1] . Relevant plans of the EU Commission for a regulation have become known; they provide for a considerable lowering of the limit values for lead by a factor of 400 to 10 µg/litre and for cadmium by a factor of 60 to 5 µg/litre in the test medium. This lowering of limit values brings for our industry technical tasks that are near impossible to solve, and it would have serious economic impacts on the entire ceramic industry in Germany and in Europe.

In this paper, we – the manufacturers of ceramic colours, industrial tableware manufacturers and porcelain manufactories with a long tradition – would like to highlight the following points of major consequence:

- The proposed limit values for lead and cadmium are so low that over 50% of ceramic colours and, in particular, onglaze colours could no longer be used. In particular the colour ranges red-orange, intense yellow and green would be restricted significantly or become fully unavailable.
- The proposed test method (triple elution with acetic acid for 24 hours each) is highly time and cost-intensive. Especially for flatware (e.g. plates) this method is unrealistic and thus unsuitable for an appropriate hazard assessment.
- The proposed limit values are below the detection limit and are so low that they cannot be measured with the standard analytical methods which are currently used in the industry.
- The proposed limit values would lead to a situation where colours would no longer be available for hand painting, a craft which has grown historically over centuries.

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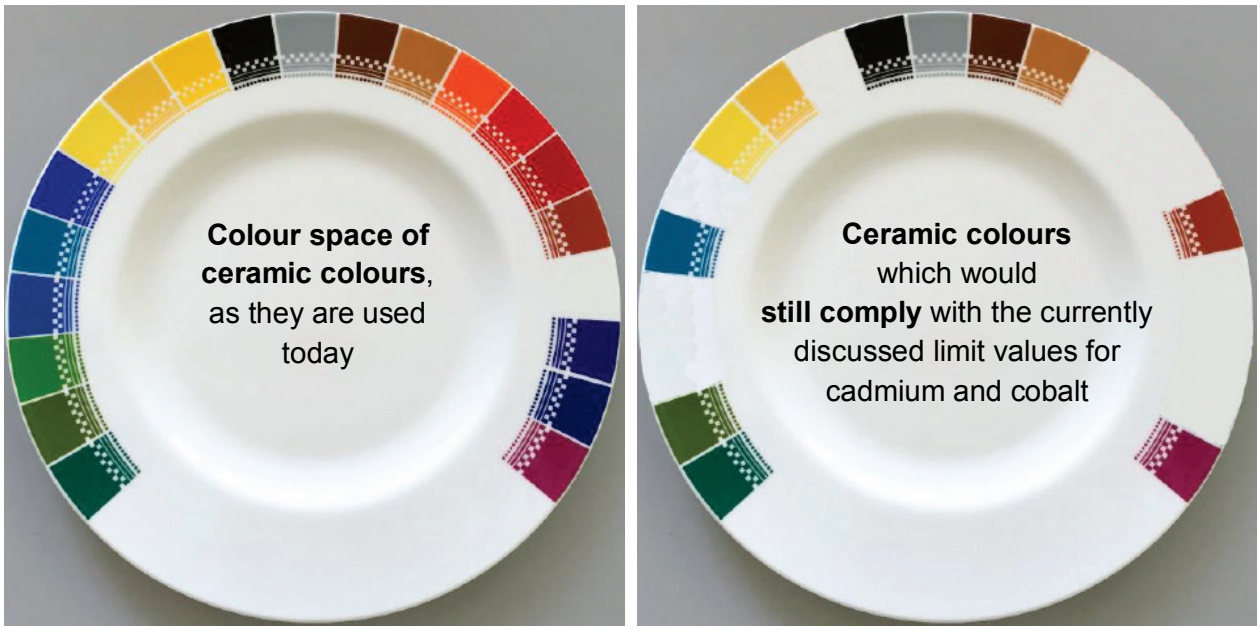
[1] Council Directive of 15 October 1984 on the approximation of the laws of the Member States relating to ceramic articles intended to come into contact with foodstuffs

The lowering of the limit values is so dramatic that these proposals are even below the maximum levels laid down in Regulation (EC) No 1881/2006[2] for foodstuffs: Meat can contain lead in quantities of up to 100 µg/kg and fish up to 300 µg/kg, i.e. 10 respectively 30 times more than the planned limit value for lead in tableware from which consumers eat. Even for baby foods intended for a particularly vulnerable group of consumers, the limit value is twice as high (20 µg/kg). It should be considered that the quantity of lead contained in foodstuffs is invariably taken in with the food. The limit value for lead migration from ceramic materials is determined in a "worst case scenario" which does not reflect the actual use of tableware.

Over 50% of ceramic colours would no longer be available.

Ceramic colours must have special properties for their use and fixing on tableware. One important property is temperature stability. Therefore, unlike in other fields of application (e.g. coatings or plastics) it is frequently not possible to resort to comparable alternatives. The proposed limit values for lead and cadmium would significantly reduce the diversity of colours, with the colour ranges red-orange, intense yellow and green shades being particularly affected.

Moreover, should the limit values for cobalt be prescribed in a regulation as they are currently under discussion, there is also the danger of losing almost all shades of blue.



Picture: Reduced colour space of ceramic colours at currently discussed limit values.

In consequence, the colour space available for decorating tableware is reduced to muted earth colours. This will be hard to understand for consumers. From our perspective, it will result in a clear competitive disadvantage for European manufacturers compared to competitors from outside Europe.

[2] Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs

The proposed test method is unsuitable for an appropriate hazard assessment.

The EU Commission's assumptions for an exposure scenario, the proposed limit values and the test method are totally unsuitable for flatware (e.g. plates).

In the future, flatware is to be filled to the rim with acetic acid and exposed to triple elution for 24 hours each. This test simulates the storage of liquids, which is not the typical intended use of flatware. In normal use, the migration of lead and cadmium is expected to be in the non-measurable range. Consequently, a lowering of the admissible limit values for flatware would not bring any measurable reduction in the lead/cadmium exposure to consumers, so that there would be no discernible additional benefit or any improvement in consumer protection.

The proposed test methods might be more justified for hollowware like bowls or jars, where use for the long-term storage of food is possible. Here, it cannot be ruled out that heavy metals are leached from ceramic hollowware through acid-containing foodstuffs (e.g. fruit juices).

If a lowering of the limit values for heavy metals is intended for consumer protection, it might make sense to apply such lower limit values exclusively to hollowware for the above reasons. However, the mentioned vessels are usually decorated on the outside only. Therefore, long-term contact of foodstuffs with ceramic colours is unlikely for these articles too.

The proposed limit values are not detectable with standard methods.

Overall, the method of triple elution for 24 hours each is extremely time and cost-intensive.

Triple elution can reduce certain contents of heavy metals to levels below the detection level of standard methods. Thus, they cannot be reliably detected with established analytical instruments available in Germany. For this purpose, special methods would be needed which are currently available only in a very small number of laboratories in Europe.

The basis for porcelain manufactories would be destroyed.

It is worth noting that in particular the manufactories make their living with sophisticated decors that are designed and painted by hand and have a long tradition. They constitute the business basis and the unique features and selling points of these very special companies. Some decors represent 200 years or more of history. Such decors with their enduring influence on styles are displayed in important museums worldwide. Exquisitely designed porcelain products, which can be deemed singular in terms of quality and intricacy, could no longer be sold. Ultimately, the manufacture of unique articles of cultural value from Germany and Europe would cease.

Hand painting by brush or pen on hard porcelain has developed historically over centuries. It relies on colours that contain lead oxides in their molten mass. Only these colours, which have a high specific density due to their composition, can be compounded into easily paintable paints and adjusted for different styles of painting. Elaborate brush strokes and pen drawings, intended or suppressed colour gradients, shades and structuring of the painted areas presuppose not only many years of training and painting practice but also a specific adjustment of the colours. This colour adjustment is an indispensable part of the traditional art of porcelain painting. Also in the future, it should continue to be possible to offer products with hand painted design to the European market.

The time and cost input is disproportionate to the benefit.

In the revision of the Ceramic Directive 84/500/EEC with a lowering of the limit values for lead and cadmium and the identification of a relevant test method for reasons of consumer protection, sight should not be lost of workability in practice: Future limit values and the test method should both serve consumer protection and remain workable.

The existing test method of simple migration has been used worldwide for many years; it is prescribed in international standards and national provisions (e.g. ISO standard 6486-1, European standard DIN EN 1388-1 and ASTM C 738 (USA/FDA standard). The test results obtained under the present testing conditions are widely used as references in quality assurance. In this setting, historical continuity is highly important for the manufacturing industry.

Introducing a three-step test method for determining the release of heavy metals has neither a discernible additional benefit nor does it improve consumer protection; it merely leads to higher costs and duplicate testing. This would undermine the goal of the EU REFIT programme, namely creating a clear, stable and predictable legal framework that is conducive to growth and employment.

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