



Electronics and Information Technology Industries Association





### Joint Position of BVKI, JEITA and ZVEI Inside the Electrical Industry's Value Chain

View on SVHCs<sup>1\*</sup> in ceramics concerning the EU REACH regulation, including the handling of lead oxides and complex oxides containing lead added to the 8<sup>th</sup> revision of the SVHC candidate list

Lead oxides and complex oxides containing lead, which are well known constituents of ceramics, were added to the 8<sup>th</sup> revision of the SVHC candidate list of the EU REACH regulation (EC) No 1907/2006 (published on December 19<sup>th</sup>, 2012).

We present below the view of the electronic components industry concerning the notification and information transmission duties based on the REACH regulation for those constituents when included in ceramic materials (hereafter "ceramics").

## **1.** View of the electronic components industry concerning SVHCs

The electronic components industry understands and cooperates with the EU standpoint regarding the management and transmission of substance risk information. It shall be noted that substances called SVHCs are specified as candidate substances for "authorization" based on Article 59(1) of the REACH regulation and are not regarded as banned substances. The REACH regulation establishes requirements on the notification of SVHCs to ECHA (European Chemicals Agency) in accordance with Article 7(2) ff. and of the transmission of information on SVHCs to downstream users and consumers in accordance with Article 33, for articles imported or manufactured within the area of the EU Member States.

However, in the case of ceramics with a complex structure and composition that includes multiple constituents, a particular SVHC used as a constituent can become part of the ceramics matrix. In this case, to determine whether it still constitutes an SVHC or becomes part of a new compound due to chemical and physical reactions, it is imperative to establish standardized judgment criteria (see 3.1 and 3.2).

## 2. View concerning ceramics in electronic components

According to the EU Official Journal "Commission Regulation (EC) No. 987/2008" amending the REACH regulation, ceramics are one substance and not a mixture of several substances.

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<sup>&</sup>lt;sup>1</sup> SVHC: Substance of Very high Concern see also: http://echa.europa.eu/addressing-chemicals-of-concern/authorisation/substances-of-very-high-concern-identification





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Thus, to simplify the process of communicating information on ceramics, it has become common to refer to the composition of ceramics (e.g. within the International Material Data System of the automotive industry) as a list of constituent metallic oxides rather than in terms of its actual chemical structure. This information does not imply that the listed oxides themselves exist as constituents of the ceramics.

# 3. View concerning lead oxides and complex oxides containing lead added to the 8<sup>th</sup> revision of the SVHC candidate list

Based on the judgment criteria referred to in the view above concerning ceramics in general, we present our view concerning the notification and information duties based on the REACH regulation for lead oxides and complex oxides containing lead.<sup>2</sup>

### **3.1.** Handling of lead oxides (PbO, Pb<sub>3</sub>O<sub>4</sub>) noted as constituents of ceramics

As such, the chemical characteristics, including risk to the environment and humans, of lead oxides (PbO,  $Pb_3O_4$ ) as constituents of ceramics are not comparable with the properties of the final ceramics matrix.

The chemical compound created is not a Substance of Very High Concern (SVHC). Manufacturers/importers are not obliged to communicate information on the substances mentioned above according to Article 33(1) and in accordance with Article 7(2) ff. of the REACH regulation.

# 3.2. Handling of complex oxides containing lead (lead titanium trioxide, lead titanium zirconium oxide)

Ceramics containing lead titanium trioxide (PbTiO<sub>3</sub>) at a concentration range of 99.5% to 100% or lead titanium zirconium oxide ((Pb<sub>x</sub> Ti<sub>y</sub> Zr<sub>z</sub>)O<sub>3</sub>) at a concentration range of 80% to 98% forming a ceramics matrix will not be chemically modified if other constituents are not present during the ceramics manufacturing process.

In this case, manufacturers/importers are obliged to communicate information on the substances mentioned above according to Article 33(1) and in accordance with Article 7(2) ff. of the REACH regulation.

If other metallic oxides are introduced into the main structure, in addition to lead, titanium and zirconium, a substance different from lead titanium trioxide or lead titanium zirconium oxide is formed.

In this case, manufacturers/importers are not obliged to communicate information on the substances mentioned above according to Article 33(1) and in accordance with Article 7(2) ff. of the REACH regulation.

<sup>&</sup>lt;sup>2</sup> http://www.keramverbaende.de/