

Responses to REACH Regulation

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GIC Environmental Technology Sub-Committee

The REACH Regulation became effective on June 1, 2007. Following successive announcements of the candidate list of the Substances of Very High Concern (**SVHC**) by the European chemicals Agency (ECHA), questions about glass increased. Consequently, the Environmental Technology Sub-Committee of the Glass Industry Conference of Japan has collected information on the REACH Regulation and discussed how to respond to it. This is the Sub-Committee's view on this issue.

1. Registration under the REACH regulation

1.1 Glass Products

Article 3(3) of the REACH Regulation defines an **article** as "an object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition".

From the above definition, the glass products, such as glass bottle, glass fiber or sheet glass etc. are considered as "**ARTICLE**" under the REACH Regulation. So, most glass products are not **subjects** to registration.

1.2 Glass as the material glass

Since the REACH Regulation requires registration of all **substances**, it was required to clarify whether the glass before being shaped comprised a **substance** or a **mixture of substances**. Although some people considered glass as a **mixture of substances**, eventually it was judged that "Glass is treated as a **UVCB (Substance of Unknown or Variable composition, Complex reaction products or Biological materials)**".¹⁾

Registration is usually required for **substances**, but the EU Official Journal²⁾ (p. 6) states that glass is a **substance** on the list of the exemptions from the obligation to register under certain conditions. Some **substances** whose safety is widely known are exempt from obligation of registration, but hazardous **substances** will never be exempt from it. Because glass is chemically stable and therefore is exempted from registration, there is no need to register glass. But, to clarify the conditions for exemption of registration, it is recommended to refer the REACH Dossier³⁾ to check whether a **substance** is required to be registered or not.

2. Notification and communication in the supply chain for SVHC

If a **SVHC** contains in an **article** exceed 0.1% by weight, under the REACH Regulation, manufacturers are obligated to communicate all relevant information to their clients. Moreover, if the **SVHC** exceeds 1 ton per year and exposure to them cannot be eliminated, manufacturers have an obligation to notify ECHA.

However, under the REACH Regulation, glass is treated as a **UVCB**. Hence, even if a **SVHC** is used as a raw material in the process of glass production, the glass manufacturers have no obligation to communicate information on the respective raw material (**SVHC**) or to notify ECHA.

The European glass industry has adopted the same stance toward the issue, and expresses its view¹⁾ that “Glass is regarded as a **substance** under REACH. The **articles** made by the glass industry consist of the **substance** glass, which is not on the “candidate list” and can be assumed never to be on it. Thus, there is no duty under Article 33 to communicate information on **substances** in **articles** for **articles** made entirely of glass.”

3. Frequently asked questions and answers

Q1: Is a registration required for lead-glass products exported to Europe?

A1: The REACH Registration is not required for glass products, since they are **articles**. However, it is important to refer to the REACH Dossier³⁾ and confirm that the glass is exempted from the registration.

It is important not to confuse the REACH Regulation with the RoHS Directive. In the RoHS Directive, lead is restricted under 1,000 mg/kg or less, without regard to its chemical form. Meanwhile, the REACH Regulation is based on the premise that hazardous levels vary by chemical forms and physical properties, and even if heavy metals are contained in glass, the glass is exempted from registration, provided that such heavy metals are solidified in the glass and not hazardous. Requirements may differ by law, so accordingly containment and hazardousness must be considered separately.

Q2: Sometimes our clients request us to present them with a certificate of non-containment of **SVHC**. How shall we deal with these requests?

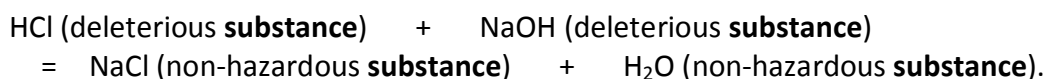
A2: Under the REACH regulation, glass is classified as a **substance (UVCB)**, not as a mixture of substances. Therefore, glass does not include such SVHC on the candidate list. Please refer to Q3 and A3.

However, if a certificate of non-containment is requested for specific compounds or a certificate of non-use is requested for specific raw materials, which are not required by the REACH regulation, it is adequate for you to reject the issuance of such a certificate in principle, because anything concerning composition or mixture of raw materials is related to the intellectual property rights.

Q3: Boric acid (H₃BO₃) or boron trioxide (B₂O₃) is mentioned on the **SVHC** (candidate) list. Is boric acid (H₃BO₃) or boron trioxide (B₂O₃) contained in glass?

A3: No, it isn't. Boric acid (H₃BO₃) or boron trioxide (B₂O₃) is sometimes used as raw material for glass production, but either decomposes thermally in an early stage of the melting process. The pyrolytic products are incorporated into the glass network, finally glass is obtained as a melting reaction product, through irregular and complex chemical reactions with other contents such as silica during the melting process.

The following formula shows an example of a non-hazardous product made of hazardous materials:



In the case of borosilicate glass as well, there is no need to take special care of the produced glass, although the raw materials should be carefully handled.

Q4: Some sheets of SDS for glass state the CAS registry numbers of boric acid. Are these expressions correct?

A4: Although the glass is not the mixture of oxides, it is convenient for both manufacturers and users to identify the glass types and express glass compositions in terms of oxides of the constituent elements. Consequently, the CAS numbers will appear in the official gazette announcements such as the SDS. This is a traditional technical custom in the glass-manufacturing field. And unfortunately, today, this causes some misunderstandings to communicate on glass.

However, in case of using glass products with the special use and treating these numbers as useful reference information, this custom can be regarded as appropriate communication.

References

- 1) Statement concerning Glass, Glass articles and the EU REACH Regulation February 2009
- 2) Commission Regulation (EC) No 987/2008 of 8 October 2008
- 3) REACH Dossier (Brussels, 12 November 2009)