

JBCE answer to Questionnaire 1 (Clarification) Exemption 1a of RoHS Annex IV

29th August, 2020

As an applicant, JBCE would like to answer the questions dated on 18th August.

Please kindly find our answers in the attached.

If you have any further questions, please do not hesitate to contact to us.

We are looking forward to continued contribution during the consultation phase of evaluation.

Yours sincerely,

Contact details

Organization; Japan Business Council in Europe

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ABOUT JBCE

Founded in 1999, the Japan Business Council in Europe (JBCE) is a leading European organisation representing the interests of over 85 multinational companies of Japanese parentage active in Europe.

Our members operate across a wide range of sectors, including information and communication technology, electronics, chemicals, automotive, machinery, wholesale trade, precision instruments, pharmaceutical, railway, textiles and glass products.

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Questionnaire 1 (Clarification) Exemption 1a of RoHS Annex IV

Wording of the Requested Exemption:

Lead in pH glass electrodes and ion selective electrodes equipped with a pH glass electrode with complex shape as following.

1. Micro Type pH Glass Electrode

Composite electrode that has a spherical or tube-shaped pH responsive glass membrane with a diameter of 4.0 mm or less and a reference electrode with a liquid junction at a position vertically within 6.5 mm from the tip.

2. Flat Type pH Glass Electrode

pH glass electrode with a flat pH response membrane at the tip of a glass tube with a diameter of 6.0 mm or more.

3. Needle Type pH Glass Electrode

Composite electrode that has a conical pH response membrane with a tip angle of 40 ° or less and with a diameter of 10 mm or more.

Requested validity period: 7 years

1. Acronyms and Definitions

ISFET	Ion Sensitive Field Effect Transistor
Pb	lead

2. Background

Bio Innovation Service, UNITAR and Fraunhofer IZM have been appointed¹ by the European Commission through for the evaluation of applications for the review of requests for new exemptions and the renewal of exemptions currently listed in Annexes III and IV of the RoHS Directive 2011/65/EU.

JBCE submitted a request for the renewal of the above-mentioned exemption, which has been subject to a first review. As a result we have identified that there is some information missing. Against this background the questions below are intended to clarify some aspects concerning the request at hand.

We ask you to kindly answer the below questions until 29 August 2020 latest.

¹ It is implemented through the specific contract 070201/2020/832829/ENV.B.3 under the Framework contract ENV.B.3/FRA/2019/0017

3. Questions

1. Are there manufacturers of pH glass electrodes in the scope of your exemption request which are not represented by JBCE? If so, could you please let us know these manufacturers?

- **Yes. The manufacturers of pH glass electrode in the scope of our exemption request are represented by JBCE. We assume there are other manufactures of pH glass electrode which are not represented by JBCE, however, we do not have enough information about them.**

2. You explain reasons “[...] why lead-free glass is difficult to use for stem glass.” You also explain that “One difficulty is that lead-free glass is much less flexible at the highest temperature that can be used to bond the stem glass tube to the pH sensitive glass. If the temperature is raised to further soften the glass, the stem glass becomes too soft and distorts so it is impossible to make complex shapes.”

While the first explanation in our understanding points to the use of lead in the stem glass, the second one arises the impression that lead is currently used for the pH-sensitive glass as well to lower its melting point to a degree that facilitates the shaping of the stem glass.

Which of the two glasses contains the lead?

- **As you presumed, Stem Glass contains Lead.**

3. Would you agree to a slight rewording of your exemption, including a scope restriction to the glass that contains the lead, e.g., assuming that it is the stem glass:

Lead in THE STEM GLASS OF pH glass electrodes and of ion selective electrodes with complex shapes:

1. Micro Type pH Glass Electrode

Composite electrodes with a spherical or tube-shaped pH responsive glass membrane with a diameter of 4.0 mm or less and a reference electrode with a liquid junction at a position vertically within 6.5 mm from the tip

2. Flat Type pH Glass Electrode

pH glass electrodes with a flat pH response membrane at the tip of a glass tube with a diameter of 6.0 mm or more.

3. Needle Type pH Glass Electrode

Composite electrodes with a conical pH response membrane with a tip angle of 40 ° or less and a diameter of 10 mm or more.

- **Yes, we are pleased to agree with your proposed wording to include "Lead in Stem glass".**



4. Do these ISFETS also contain lead, e.g. because of another RoHS exemption? If so, can you try to quantify and compare the amounts of lead for the ISFETs and the 3 types of pH glass electrodes in the scope of your exemption?
If possible with acceptable effort, could you also try to quantify the lead – or other lead-restricted substances – in a voltmeter and a signal conversion unit?

- As long as we know, ISFET applies integrated circuit (IC) technology to detect the selective ion whose layer normally does not contain any lead. As for the transmitter of pH electrode, such as volt meter, or signal converter, we strongly believe these are not scope of this exemption. (1a-IV). As we mentioned in our renewal application, ISFET has the plastic body which is damaged by many organic solvents.

5. What is the price difference between an ISFET and a pH glass electrode?

- The price of ISFET is approximately twice or more as the one of pH glass electrode.

6. To avoid the accidental publication of proprietary information, could you please provide a public version of your exemption request where all confidential information is removed?

- We would like to refrain from publish the Sources of data * 1 Appendix_L-29_specifications.pdf.

Please note that answers to these questions will be published as part of the evaluation of this request. If your answers contain confidential information, please provide a version that can be made public along with a confidential version, in which proprietary information is clearly marked.