

## Consultation Questionnaire Exemption Request 2015-1

### Exemption for „Lead in thin film electronic sensor elements such as pyroelectric sensors or piezoelectric sensors“

#### Background

The Oeko-Institut and Fraunhofer IZM have been appointed within a framework contract<sup>1</sup> for the evaluation of an application for granting an exemption to be included in or deleted from Annexes III and IV of the new RoHS Directive 2011/65/EU (RoHS 2) by the European Commission.

Pyreos has applied for the above-mentioned request for exemption, to be added to Annex III and to Annex IV of the RoHS Directive with the maximum validity period. The application has been subject to a first completeness and plausibility check. The applicant has been requested to answer additional questions and to provide an exemption wording formulation that limits the scope of the exemption to the use of the specified applications in such devices. Answers can be viewed on the request webpage of the stakeholder consultation: (<http://rohs.exemptions.oeko.info/index.php?id=221>).

Pyreos bases its exemption request on the following main arguments:

- Pyreos' pyroelectric sensor technology contain extremely low amounts of lead.
- Current lead-free alternatives are not commercially viable.
- The substitution of lead may potentially adversely impact the performance of monitoring and control equipment relying on PZT thin film sensors whereby consumer and worker safety may be impaired.

For details, please check the applicant's exemption request at:

<http://rohs.exemptions.oeko.info/index.php?id=221>

#### Questions

1. Pyreos states that lead-free pyroelectric sensors are all single crystal based, such as lithium tantalate, which, according to the applicant, is commercially not viable and may be technically not reliable enough to provide the proper performance of monitoring and control instruments.
  - a. What are the technical constraints of lead-free pyroelectric and piezoelectric sensor elements?
  - b. Can such lead-free sensor elements fully replace lead-containing ones, or can they at least be used in some applications?

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<sup>1</sup> Contract is implemented through Framework Contract No. ENV.C.2/FRA/2011/0020 led by Eunomia

- c. Can you explain in detail what it means that, as the applicant claims, lead-free sensors are commercially not viable, and/or do you have contrary information?
2. Do you share the applicant's other arguments, or are you opposed to the requested exemption? Please explain your arguments in detail.
3. According to Pyreos, there are other manufacturers offering (lead-free) pyroelectric and piezoelectric sensors:
  - Infratec
  - Excelitis
  - Panasonic
  - Murata

So far, none of these other manufacturers has supported the exemption request. Is there any information as to how these manufacturers solve the issues on which the applicant bases its exemption request, or vice versa, why only the applicant would need this exemption for its sensor elements?

**In case parts of your contribution are confidential, please clearly mark relevant text excerpts or provide your contribution in two versions (public /confidential).**

**Finally, please do not forget to provide your contact details (Name, Organisation, e-mail and phone number) so that Oeko-Institut/Fraunhofer IZM can contact you in case there are questions concerning your contribution. Please also note, however, that requested exemptions cannot be granted based on confidential information!**