

## Questionnaire No. 1

**“Cadmium and its compounds in electrical contacts or one shot pellet type thermal cut-offs with current ratings of 5 Amperes or more, for use in monitoring and control instruments (Category 9.)”**

### **Background**

The Öko-Institut together with Fraunhofer IZM has been appointed for the technical assistance in reviewing the requests for exemptions from the requirements of the RoHS Directive 2011/85/EU (RoHS II) by the European Commission. You have submitted the above mentioned request for exemption which has been subject to a first completeness and understandability check.

As a result we have identified that there is some information missing and a few questions to clarify before we can proceed with the online consultation on your request. Therefore we kindly ask you to reformulate your request taking the following points into consideration.

### **Questions**

1. *In your proposal two different applications are mentioned:*

- *Cadmium and its compounds in electrical contacts*
- *One shot pellet type thermal cut-offs*

*For which of these applications a further exemption from the requirements of the RoHS-Directive will be needed?*

Based on supplier declarations and discussions both are needed for currents of 5 Amperes or more. These devices are in products that have already been converted for RoHS and there is insufficient resource to rework and requalify these products a second time prior to enforcement. It is accepted that Cadmium free one shot thermal cut-offs alternatives have become available.

In the case of electrical contacts switching currents of 5 Amperes or more we are unable to find suppliers of suitable cadmium free contacts in relays, contactors etc.

2. *Could you please provide a wording for the requested exemption taking into consideration the electrical performance characteristics (e.g. range of voltage and amperage)?*

The wording proposed has the key characteristic associated with arcing problems that can lead to fire, currents of 5 Amperes or more. The exemption is needed for mechanical types of switching high current in instruments and systems. Other characteristics like frequency of switching, bandwidth or voltage are not deemed relevant to the needs of this exemption.

3. *Could you please elaborate more detailed the efforts which have been made to develop alternative contact materials during the last three years?*

Manufacturers of monitoring and control instruments are dependent on suppliers' innovation efforts, and discussions have been ongoing since 2004.

The research into alternatives for applications covered by the old exemptions; testing and evaluation of available substitutes and defining of transition programmes; was not considered a priority as there was no apparent regulatory requirement since these applications were presumed to be available for the new categories brought into the RoHS scope. For further details see General comments Sections 1.1 and 2.

4. *Please describe more in detail the ongoing evaluation of cadmium-free contact materials specifically in category 9 sector and regarding possible sub sectors like low voltage applications etc.*

Evaluation of cadmium-free contact materials by manufacturers of monitoring and control instruments has been in association with suppliers for their particular sub-sectors of instruments. The numbers of category 9 sub-sectors is very diverse and large in number and cannot be limited from low-voltage applications since it is the current flowing through the conductor that has to be switched that is the limiting factor. However the exemption would not be needed for handheld instruments powered by batteries due to the de-facto nature of battery power available for handheld instruments - even power on-off switches for handhelds only switch less than five amperes of power from batteries inside the instruments.