

1st Questionnaire (Clarification Questionnaire)

Exemption for „Lead in thermal cutoff fuses overmolded into solenoid coils used in industrial monitoring and control instruments (Category 9) and EEE falling under Category 11”, requested for 5 years

Abbreviations and Definitions

ASCO	ASCO Numatics
EEE	electrical and electronic equipment
Pb	lead
PWB	printed wiring board/printed circuit board

Background

The Oeko-Institut and Fraunhofer IZM have been appointed within a framework contract¹ for the evaluation of applications for the renewal of exemptions currently listed in Annexes III and IV of the new RoHS Directive 2011/65/EU (RoHS 2) by the European Commission.

ASCO has submitted a request for a new exemption, which has been subject to a first evaluation. The information ASCO has referred has been reviewed and 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 your request.

We ask you to kindly answer the below questions until 11 October 2017 latest.

Questions

1. Please provide a list of manufacturers in and outside the EU
 - a. of solenoid coils with thermal cutoff fuses which can be used in similar devices/environments like the ones for which you request the exemption.
 1. Parker
 2. Peter-Paul
 3. Burkert
 4. Norgen
 5. Gould
 6. Festo
 7. Mac
 8. Mead Fluid Dynamics
 9. Max-Air
 10. Versa

¹ The contract is implemented through Framework Contract No. FWC ENV.A.2/FRA/2015/0008 of 27/03/2015, led by Oeko-Institut e.V.

11. SMC

We do not have detailed knowledge of design specifications of above listed manufacturers or how they achieve hazardous location requirements.

Thermal fuse technology may be used in motors over temperature limit technology

- b. of thermal cutoff fuses which can be applied in solenoid coils that are used in similar devices/environments like the ones for which you request the exemption.

1. Chatham
2. Set fuse
3. Uchihashi Estec Co., Ltd
4. Nec Schott components Corp.
5. Tamura Thermal Device Corp.

2. You indicate the amount of lead used under the exemption with around 2 kg per year, and we understand that applies to ASCO's products only. Please provide a substantiated estimate for the total use of lead under the requested exemption in the EU and worldwide.

We do not have the information about competitor's design and sales volume.

3. The operating temperature of the solenoid coil can go up to 180 °C in an environment with a temperature of up to 80 °C. Can alternative molding materials with a better heat transfer reduce the maximum coil wiring temperatures in 80 °C environments which would allow the use of lead-free alloys?

We have not found alternative molding materials that can meet our engineering requirement.

4. The molding process requires that the alloy used in the thermal cutoff fuse survives temperatures of up to 160 °C. Can the molding process be adapted to temperatures that would allow the use of alternative, lead-free alloys?

Materials that can be molded at temperature under 160 °C do not meet product application requirements.

5. The scope of the requested exemption is very wide and it can be expected that no all devices in the scope would be operated in ambient temperatures of up to 80 °C. Please specify the types of EEE which are designed and conceived to be operated in such high ambient temperatures.

Ambient temperature of subject products can vary from 52°C to 80°C, however the same protection method is used independent of ambient temperature.

6. As part of the evaluation, socio-economic impacts shall also be compiled and evaluated. For this purpose, please provide details in respect of the following:

- a. Volume of electrical and electronic equipment (EEE) concerned, which is placed on the EU market annually; Volumes of competitors are not known and ASCO volume is included into confidential document. Previously supplied.
- b. Please estimate possible impacts on employment in total, in the EU and outside the EU, should the exemption not be granted. Please detail the main sectors for which impacts are expected, i.e. manufacturers, supply chain, retail, etc. Unknown
- c. Please quantify additional costs (money expenditure) through substitution of the restricted substance – or replacement of the EEE by other, RoHS-compliant EEE if

feasible - divided into sectors (private, industry, public) if the exemption request is granted compared to the situation that it is rejected; [Unknown](#)

- d. Is there any generation of additional waste to be expected if the exemption is rejected compared to the situation that it is granted? [Unknown](#)

Please note that answers to these questions are to be published as part of the available information relevant for the stakeholder consultation to be carried out 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.