Consultation Questionnaire Exemption Annex IV n. 49

Exemption for "Mercury in melt pressure transducers for capillary rheometers at temperatures over 300 °C and pressures over 1000 bar"

Abbreviations and Definitions

RoHS	Directive 2011/65/EU on the Restriction of Hazardous Substances in Electrical and Electronic Equipment
EEE	Electrical and Electronic Equipment
PEEK	Polyether ether ketone
Netzsch	Netzsch Gerätebau GmbH
Hg	Mercury

Background

The Oeko-Institut has been appointed by the European Commission, within a framework contract[1], for the evaluation of applications for exemption from Directive 2011/65/EU (RoHS), to be listed in Annexes III and IV of the Directive.

Netzsch submitted a request for the renewal of the above-mentioned exemption, which has been subject to an initial evaluation. A summary of the main argumentation for justifying the request is provided below. Additional information supporting this request can be found on the request webpage of the stakeholder consultation (https://rohs.exemptions.oeko.info/exemption-consultations/2025-consultation-1).

For further details, please check the exemption request and additional information submitted by the applicant on the request webpage of the stakeholder consultation.

The objective of this consultation and the review process is to collect and to evaluate information and evidence according to the criteria listed in Art. 5 (1) (a) of Directive 2011/65/EU (RoHS 2), which can be found under:

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011L0065:EN:NOT

[1] The contract is implemented through Framework Contract No. ENV.B.3/FRA/2019/0017, led by Ramboll Deutschland GmbH.

If you would like to contribute to the stakeholder consultation, please review the summary of the argumentation provided and answer the questions that follow.

1 Summary of argumentation of applicant on the justification of the exemption

This exemption relates to melt pressure transducers for capillary rheometers at very high temperature and pressure. Due to specific material properties, mercury is used as a filling in the pressure transducer of the capillary rheometer to transmit the pressure of the probe to a sensor outside the high temperature and pressure area.

The applicant Netzsch summarises the reasons for its request for renewal as follows: The transducer has to cover a range of up to 440 °C and 2000 bar (30'000 psi). A typical application is to investigate high performance polymers, for instance PEEK (melting temperature 343 °C), under melt processing conditions. For this operation range, there is no commercially available alternative to mercury as a filling material within the melt pressure transducer. Since the first request for this exemption, there are still no substitutes for mercury available on the market.

2 Questions

- Do you agree with the arguments put forward by the applicants? Are there any additional reasons that support the requested extension of the exemption?
- Based on your experience, are there any alternative alloys that could meet the requirements under the temperature and pressure conditions?
- In your opinion, what reasons oppose the requested extension of the exemption? In your opinion, are there other practical technological solutions, for example other technologies for signal transmission?
- Are there any other aspects that you believe should be taken into account when assessing this application? Please provide relevant documents and evidence.

Responses submitted electronically will be posted on the RoHS Exemption Website site as they are received unless respondents specifically request that their contribution should not be published. In the latter case, responses should be clearly and visibly marked with the words "Not for publication".