Consultation Questionnaire Exemption Request IV-2022-2

Acronyms and Definitions

Cat. Category, referring to the categories of EEE specified in Annex I of the current RoHS Directive 2011/65/EU

Cd Cadmium

Cd-free Not containing cadmium in the applications in scope of the exemption to be reviewed

COM European Commission

EEA European Economic Area (EU 27 + Iceland, Liechtenstein and Norway)

EEE Electrical and electronic equipment

EU European Union

IMCI Industrial monitoring and control instruments

MOCON AMETEK MOCON

# Introduction

## Background

Bio Innovation Service, UNITAR-SCYCLE and Fraunhofer IZM have been appointed[[1]](#footnote-2) by the European Commission for the evaluation of applications for new exemptions and the renewal of exemptions currently listed in Annexes III and IV of the RoHS Directive 2011/65/EU. The stakeholder consultation is part of the review process for the exemption request at hand. It addresses third parties – not the applicants – to provide and to evaluate information and evidence according to the criteria listed in Art. 5(1)(a) of Directive 2011/65/EU.[[2]](#footnote-3)

AMETEK MOCON (MOCON) submitted a request for the below exemption on 5 November 2022. The requested exemption is identical to exemption IV-43 which expires on 15 July 2023. The request was submitted later than 18 months prior to the exemption expiry and therefore formally is a request for a new exemption.

Table 1: Requested new exemption

|  |  |  |
| --- | --- | --- |
| No. | Current exemption wording | Current scope and dates of applicability |
| IV-X | Cadmium anodes in Hersch cells for oxygen sensors used in industrial monitoring and control instruments, where sensitivity below 10 ppm is required | Applies to category 9 industrial monitoring and control instruments. Expires on 15 July 2023 for category 9 industrial monitoring and control instruments. |

The applicant was requested to respond to a clarification questionnaire prior to this stakeholder consultation to complete missing information. This questionnaire along with the exemption application and – if submitted – further information or supporting evidence from other stakeholders are accessible on the stakeholder consultation web page.[[3]](#footnote-4)

## Summary of the exemption request provided by the applicant

An exemption is requested for cadmium in Hersch cells for high-sensitivity oxygen sensors capable of measuring oxygen concentration below 100 ppm. Using a Hersch Cell, the range of oxygen detection is from 80 ppt to 70 ppm.

With reference to Article 5.1.(a), this exemption is made for the following reason:

— their elimination or substitution via design changes or materials and components which do not require any of the materials or substances listed in Annex II is scientifically or technically impracticable,

An Annex IV n. 43 application exemption presently exists for cadmium in anodes of oxygen sensors. The renewal of this exemption was rejected because the request was submitted later than 18 month prior to the expiration.

While lead is less toxic than cadmium, lead anodes are unable to provide the levels of sensitivity (measurements of tens or hundreds of parts per trillion) and stability required by certain industries. Therefore, the request is made for cadmium in equipment designed for sensitivity ranges where lead is unsuitable.

Of the industries requiring high-sensitivity oxygen measurement, the following industries provide examples where human health or the environment would be placed at risk if the technology were to become unavailable:

* Manufacture of certain pharmaceutical products which are sensitive to extremely low levels of oxygen
* Integrity of food packaging design
* Lifespan of solar panels, which require a high oxygen barrier to ensure component integrity

The above examples were chosen to identify socioeconomic costs. There are other industries requiring highly sensitive oxygen measurements but, there is no other use known for the Hersch cell outside of analytical equipment.

The net environmental benefit to refusing this exemption request would be minimal, amounting to the removal of at most, 3.101 kg of cadmium from the European waste stream per year.

**To contribute to this stakeholder consultation, please answer the below questions until 19 January 2024.**

**Please also see the applicants’ renewal request form and – if submitted – further information on the consultation web page[[4]](#footnote-5).**

# Questions

1. Please let us know whether you support or disagree with the wording, scope and re-quested duration of the exemption. To support your views, please provide detailed technical argumentation / evidence in line with the criteria4 in Art. 5(1)(a). If applicable, please suggest an alternative wording and/or duration and explain your proposal.
2. Please provide information concerning technologies with the potential to substitute or eliminate at present or in the closer future the use of the restricted substances in the application at hand so that the requested exemption could be restricted in scope or revoked.
3. Please provide information as to research to find alternatives that do not rely on the exemption under review (substitution or elimination), and which may cover part or all of the applications in the scope of the exemption request.
4. Please provide a roadmap of such on-going substitution/elimination and research (phases that are to be carried out), detailing the current status as well as the estimated time needed for further stages.
5. MOCON claim to be the only producers of Hersch cells. Can you confirm this or do you know of any other producers?
6. As part of the evaluation, socio-economic impacts shall also be compiled and evaluated. For this purpose, if you have additional information on socioeconomic aspects that are expected to arise if the exemption is not renewed as requested, please provide details in respect of the following:
	1. What are the volumes of EEE in the scope of the requested exemptions which are placed on the market per year?
	2. What are the volumes of additional waste to be generated should the requested ex-emption not be renewed or not be renewed for the requested duration?
	3. What are estimated impacts on employment in total, in the EU and outside the EU, should the requested exemption not be renewed or be renewed for less than the re-quested time period? Please detail the main sectors in which possible impacts are expected – manufacturers of equipment in the scope of the exemption, suppliers, re-tail, users of MRI devices, etc.
	4. Please estimate additional costs associated should the requested exemption not be renewed, and how this is divided between various sectors (e.g. private, public, industry: manufacturers, suppliers, retailers).
7. Any additional information which you would like to provide?

**Please note that answers to these questions will be published as part of the evaluation of this exemption 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. Additionally, please also add “confidential” to the file name.**

**Please do not forget to provide your contact details (Name, Organisation, e-mail and phone number) so that the project team can contact you in case there are questions concerning your contribution.**

**It would be helpful for the review process if you could kindly provide the information in formats that allow copying text, figures and tables to be included in the review report.**

1. It is implemented through the specific contract 070201/2020/832829/ENV.B.3 under the Framework contract ENV.B.3/FRA/2019/0017 [↑](#footnote-ref-2)
2. Directive 2011/65/EU (RoHS) available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011L0065:EN:NOT> [↑](#footnote-ref-3)
3. C.f. consultation web page, <https://rohs.biois.eu/requests2b.html> [↑](#footnote-ref-4)
4. Consultation web page: <https://rohs.biois.eu/requests2b.html> [↑](#footnote-ref-5)