

# Consultation Questionnaire Exemption 1(c) of RoHS Annex IV

Table 1 shows the current wording of the exemption on Annex IV of the RoHS Directive.

**Table 1: Currently valid wordings of exemption IV-1(c)**

No.	Current exemption wording	Current scope and dates of applicability
IV-1(c)	Lead, cadmium and mercury in infra-red light detectors.	Applies to categories 8 and 9 Expires on <ul style="list-style-type: none"><li>- 21 July 2021 for cat. 8 other than in-vitro diagnostic medical devices, and cat. 9 other than industrial monitoring and control instruments</li><li>- 21 July 2023 for category 8 in-vitro diagnostic medical devices</li><li>- 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11</li></ul>

## ACRONYMS AND DEFINITIONS

COM European Commission

EEE Electrical and electronic equipment

IMCI Industrial monitoring and control instruments

PPTF Polish Technological Platform on Photonics

### 1. Background and objectives of this review

Bio Innovation Service, UNITAR-SCYCLE and Fraunhofer IZM have been appointed<sup>1</sup> by the European Commission for the evaluation of applications for new exemptions and the

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<sup>1</sup> It is implemented through the specific contract 070201/2020/832829/ENV.B.3 under the Framework contract ENV.B.3/FRA/2019/0017

renewal of exemptions currently listed in Annexes III and IV of the RoHS Directive 2011/65/EU.

Bruker and PPTF requested the renewal of exemption 1(c) with its current wording for the maximum validity periods for cat. 9 industrial monitoring and control instruments (IMCI). The applicants were requested to respond to clarification questionnaires prior to this stakeholder consultation to provide missing information. These questionnaires, along with the exemption applications, and – if submitted - supporting evidence from other stakeholders, are accessible on the consultation web page<sup>2</sup>. It should be noted that PPTF did not respond to the clarification questionnaire..

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.<sup>3</sup>

Exemption 1(c) was reviewed by Deubzer et al. (2022)<sup>4</sup> resulting in the below recommendation.

**Table 2: Proposed renewal of exemptions 1(c) in the last review in 2022**

Exemption		Scope and dates of applicability
1(c)(I)	Cadmium and mercury in mercury cadmium telluride (MCT) of infrared light detectors	Expiry on - 21 July 2028 for cat. 8 medical devices including in-vitro diagnostic medical devices, and for cat. 9 monitoring and control instruments incl. industrial monitoring and control instruments.
1(c)(II)	Lead in lead sulphide (PbS) and lead selenide (PbSe) of infrared light detectors	Expiry on - 21 July 2028 for cat. 8 medical devices including in-vitro diagnostic medical devices, and for cat. 9 monitoring and control instruments incl. industrial monitoring and control instruments.
1(c)(III)	Lead in PZT ceramics of infrared light detectors	Expiry on - 21 July 2027 for cat. 8 medical devices including in-vitro diagnostic medical devices, and for cat. 9 monitoring and control instruments incl. industrial monitoring and control instruments

Source: Deubzer et al. (2022)

The European Commission (COM) have not yet officially published their decision as to the adoption of the above recommendation. The COM wishes the consultants to assess in this current review round whether there are any substantial reasons in line with Art. 5(1)(a) against the adoption of the above recommendation for EEE of categories 8, 9 and 11 (RoHS

<sup>2</sup> Consultation web page: <https://rohs.biois.eu/requests2.html>

<sup>3</sup> Directive 2011/65/EU (RoHS) available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011L0065:EN:NOT>

<sup>4</sup> cf. Fraunhofer-Institute for Reliability and Microintegration (IZM), the United Nations Institute for Training and Research (UNITAR), and BIO Innovation Services (Bio IS), [https://rohs.biois.eu/RoHS-Pack-21\\_Final-Report\\_amended.pdf](https://rohs.biois.eu/RoHS-Pack-21_Final-Report_amended.pdf)

Annex I). This implies that the consultants will assess whether the validities of exemptions whose renewal is requested for cat. 8, 9 or 11 may exceed the validities recommended in the previous review (Table 2). Table 3 reflects the potential scope and wording if the exemption is renewed for cat. 9 industrial monitoring and control instruments (IMCI).

**Table 3: Renewal of exemption 1(c)-1 for cat. 9 IMCI**

No.	Exemption	Scope and dates of applicability
IV-1(c)(I)	Cadmium and mercury in mercury cadmium telluride (MCT) of infrared light detectors	Applies to categories 8 and 9. Expires on <ul style="list-style-type: none"> <li>- 21 July 2028 for category 8 incl. in-vitro diagnostic medical devices</li> <li>- 21 July 2028 for category 9 except industrial monitoring and control instruments</li> <li>- 21 July (2024 + <b>A</b>) for category 9 industrial monitoring and control instruments</li> </ul>
IV-1(c)(II)	Lead in lead sulphide (PbS) and lead selenide (PbSe) of infrared light detectors	Applies to categories 8 and 9. Expires on <ul style="list-style-type: none"> <li>- 21 July 2028</li> </ul>
IV-1(c)(III)	Lead in PZT ceramics of infrared light detectors	Applies to categories 8 and 9. Expires on <ul style="list-style-type: none"> <li>- 21 July 2027</li> </ul>

“**A**” can range between 0 and 7 years.

**To contribute to this stakeholder consultation, please answer the below questions until 11 December 2023.**

**Please also see the applicants’ request form and clarification questionnaire response and – if submitted – further information on the consultation web page<sup>5</sup>.**

## 2. Questions

- 1) *In their answers to the clarification questionnaire Bruker agrees that exemption IV-1(c)-I would cover their applications of cadmium and mercury in EEE of category 9 industrial monitoring and control instruments provided that the exemption would remain valid for four years, i.e. until 2028 as recommended by Deubzer et al. (2022).*

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<sup>5</sup> Consultation web page: <https://rohs.biois.eu/requests2.html>

- a. In case you do not agree to Bruker's above conclusions, please support your views with detailed technical argumentation / evidence in line with the criteria in Art. 5(1)(a).

*trinamiX agrees to the argumentation of Bruker*

- b. Do you agree that that exemption is required for category 9 industrial monitoring and control instruments for another four years until 2028? Please provide arguments and evidence for your opinion.

*trinamiX agrees that the specifications of many mercury-free, cadmium-free and lead-free IR detectors on the market are still not competitive.*

- c. Are you aware of cadmium-free and mercury-free substitutes being used in EEE of category 9 industrial monitoring and control instruments in applications that are in the scope of the requested exemption?

*Laser Components, et al. have given an overview of alternative IR detectors in the Exemption 1(c) review by Deubzer et al. (2022). This comparison is still valid as no breakthrough in Hg, Cd and Pb free IR detector has happened since then. It is still unclear if materials with comparable properties can be developed.*

- 2) Bruker provided a socioeconomic analysis related to cadmium and mercury in Fourier-Transform Infrared Spectroscopy. The document is available online in the consultation folder for this exemption.

Do you agree with the underlying data and conclusions?

*trinamiX agrees to the argumentation of Bruker*

- 3) Is there any additional information which you would like to provide?

*In the Exemption 1(c) review by Deubzer et al. (2022) Laser Components and other companies also requested the exemption of "lead in lead sulphide (PbS) and lead selenide (PbSe) of infrared light detectors" for categories 8 and 9. Also in these areas no improved products have entered the market since 2022. Consequently, also for these materials the Exemption 1(c) review by Deubzer et al. (2022) is still valid. (also see Consultation Questionnaire from trinamiX <https://www.rohs.biois.eu/trinamix.pdf>)*

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**Please note that answers to these questions can be published on the stakeholder consultation website and in the review report. 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.**

**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.**