

Questionnaire 1 (Clarification) for Exemption III-7(c)(I) (TMC)

Table 1: Currently valid exemption wordings

No.	Exemption	Scope and dates of applicability
III-7(c)(I)	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	<p>Applies to categories 1 to 11 (except applications covered under point 34) and expires on</p> <ul style="list-style-type: none"> - 21 July 2021 for categories 1-7 and 10, and for category 8 other than in vitro diagnostic medical devices and cat. 9 other than industrial monitoring and control instruments - 21 July 2023 for category 8 in vitro diagnostic medical devices; - 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11

Acronyms and Definitions

Cat.	Category, referring to the categories of EEE specified in Annex I of the current RoHS Directive
COM	European Commission
EEE	Electrical and electronic equipment

1. Background

Bio Innovation Service, UNITAR and Fraunhofer IZM have been appointed¹ by the European Commission through for the evaluation of applications for the review of requests for new exemptions and the renewal of exemptions currently listed in Annexes III and IV of the RoHS Directive 2011/65/EU.

TMC submitted a request the renewal of the above exemption for cat. 9 industrial monitoring and control instruments (IMCI) with the wording, scope and validity period shown in the below table:

Table 2: Requested exemption renewal

No.	Requested exemption	Requested scope and dates of applicability
III-7(c)(I)	<i>Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound</i>	Applies to category 9 industrial monitoring and control instruments and expires on 21 July 2031 (= 2024 +7 years)

¹ Implemented through the specific contract 070201/2020/832829/ENV.B.3 under the Framework contract ENV.B.3/FRA/2019/0017

As result of a first review we identified that some information is missing. Against this background the questions below are intended to clarify some aspects concerning the request at hand.

We ask you to kindly answer the below questions until 17 September 2023 latest.

2. Questions

1. Could you please confirm that Table 2 correctly reflects the requested renewal of the exemption?

TMC reply to question 1:

TMC would like to reiterate that all submitted renewal applications, including the renewal application for RoHS exemption III-7(c)-I, request the renewal of the exemption for category 9 industrial monitoring and control instruments in its existing wording with the subsequent maximum renewal period of 7 years.

Table 2 therefore correctly reflects TMC's exemption renewal request.

2. Exemption 7(c)(I) was reviewed by Baron et al. (2022)². They recommended specifying exemption 7(c)(I) like listed in Table 3 below.

² C.f. Öko-Institut, https://rohs.exemptions.oeko.info/fileadmin/user_upload/RoHS_Pack_22/RoHS_Pack-22_final_report_amended_February_2022.pdf



Table 3: Renewal of current exemption 7(c)(I) recommended by Baron et al. (2022)

Ex. No	Exemption formulation	Duration
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	Expires on 21 July 2024 for all categories
7(c)-V	Electrical and electronic components containing lead in a glass or glass matrix compound that fulfils the following functions: <ol style="list-style-type: none"> 1) protection and electrical insulation in glass beads of high voltage diodes and glass layers for wafer on the basis of a lead-zinc-borate or a lead-silica-borate glass body,* 2) for hermetic sealings between ceramic, metal and/or glass parts 3) for bonding purposes in a process parameter window for < 500°C combined with a viscosity of $10^{13,3}$ dPas (so called "glass-transition temperature") 4) used as resistance materials such as ink, with a resistivity range from 1 Ohms/square to 1 Mega Ohms/square, excluding trimmer potentiometers** 5) used in chemically modified glass surfaces for Microchannel Plates (MCPs), Channel Electron Multipliers (CEMs) and Resistive Glass Products (RGPs). 	Expires on 21 July 2026 for all categories
7(c)-VI	Electrical and electronic components containing lead in a ceramic that fulfils the following functions (excluding items covered under item 7(c)-II, 7(c)-III and 7(c)-IV of this annex): <ol style="list-style-type: none"> 1) piezoelectric lead zirconium titanate (PZT) ceramics 2) providing ceramics with a positive temperature coefficient (PTC) 	Expires on 21 July 2026 for all categories

Source: Baron et al. (2022)

The European Commission (COM) have not yet officially published their decision as to the adoption of the above recommendation. The COM wish 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 recommendations resulting from previous reviews in 2020 to 2022 for EEE of categories 8, 9 and 11.

TMC reply to question 2:

As outlined in the exemption renewal request and the annexed socio-economic analysis submitted to the European Commission by TMC on 20 January 2023, TMC **does not** agree with the recommendation presented in Table 3 for cat. 9 IMCI.

Exemption 7(c)-I is the most frequently used exemption in test and measurement electronic products; most electronic products contain this exemption because of the broad range of applications.

As further outlined in TMC’s submission there is no single substitute available that would be suitable to all the applications identified. The Test & Measurement Coalition therefore applies for a renewal of exemption 7(c)-I for the maximum validity period, as it considers the criteria of RoHS art. 5(1)(a) are met. Please also refer to the reply to question 3 regarding the suggested splitting of exemptions.

- If the review shows that TMC’s arguments justify the renewal of the exemption, the consultants would recommend the below wordings, scopes and expiry dates. These expiry dates may be adapted to the specific situation of cat. 9 IMCIs in the scope of TMC’s renewal request. Table 4 reflects the resulting wordings, scopes and validity periods in consistency with the state of science and technology assessed by Baron et al. (2022) and with their recommendations.

Table 4: Renewal of current exemption 7(c)(I) like recommended by Baron et al. (2022) (modified)

No. ³	Recommended Exemption	Recommended scope and dates of applicability
III-7(c)(I)	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	Expires on 21 July 2024 for all categories
III-7(c)(V)	Electrical and electronic components containing lead in a glass or glass matrix compound that fulfils the following functions: <ol style="list-style-type: none"> protection and electrical insulation in glass beads of high voltage diodes and glass layers for wafer on the basis of a lead-zinc-borate or a lead-silica-borate glass body,* for hermetic sealings between ceramic, metal and/or glass parts for bonding purposes in a process parameter window for < 500°C combined with a viscosity of 10 13,3 dPas (so called “glass-transition temperature”) 	Applies to all categories from 22 July 2024 on Expires on <ul style="list-style-type: none"> - 21 July 2026 for categories 1 to 8, 9 other than industrial monitoring and control instruments, 10 and 11 - 21 July [2026 + X] for cat. 9 industrial

³ The numbering is introduced in the current review to facilitate addressing the various exemption parts



	<p>4. used as resistance materials such as ink, with a resistivity range from 1 Ohms/square to 1 Mega Ohms/square, excluding trimmer potentiometers**</p> <p>5. used in chemically modified glass surfaces for Microchannel Plates (MCPs), Channel Electron Multipliers (CEMs) and Resistive Glass Products (RGPs).</p>	monitoring and control instruments
III-7(c)(VI)	<p>Electrical and electronic components containing lead in a ceramic that fulfils the following functions (excluding items covered under item 7(c)-II, 7(c)-III and 7(c)-IV of this annex):</p> <ol style="list-style-type: none">1. piezoelectric lead zirconium titanate (PZT)2. ceramics3. providing ceramics with a positive4. temperature coefficient (PTC)	<p>Applies to all categories from 22 July 2024 on</p> <p>Expires on</p> <ul style="list-style-type: none">- 21 July 2026 for categories 1 to 8, 9 other than industrial monitoring and control instruments, 10 and 11- 21 July [2026 + Y] for cat. 9 industrial monitoring and control instruments

X and y can be maximum 5 years (2024 + 7 years = 2026 + 5 years)

Please comment on this proposal explaining clearly any obstacles you see if you do not agree to the proposal.

TMC reply to question 3:

It appears that there has been an editing error in compiling table 4 of this document, as the first row relates to exemption III-7(a) and the text of question 3 makes reference to category 11. Given the context, it is therefore assumed that the wording of the first row of table 4 is identical to table 1, which depicts the current wording and scope of exemption III-7(c)-I.

As explained in TMC's official renewal application documents from 20 January 2023, TMC is applying for the renewal of exemption III-7(c)-I in its current wording and the maximum validity period (*please see answers to question 1 and 2 of this document*).

Whenever an exemption is renewed, TMC would like to emphasise the importance of *retaining the initial wording and numbering* as published in the original RoHS annexes. Amending the scope of the exemption by changing the application or substance restriction value has a significant administrative burden to industry and negatively impacts the compliance. This includes:

- The data management and ERP Solution re-engineering to segregate existing supplier declarations from those of the new (re-worded) exemption takes time as well as resources and is open to error.
- Separating and managing suppliers' declarations when schemas are in transition adds huge complexity where the same exemption number exists with a different description.

It needs to be kept in mind that industrial monitoring and control instrument manufacturers have to manage suppliers' declarations for hundreds of thousands of items. Additionally, after reviewing the current state of the evolution of technology for the cat. 9 industrial measurement and control instruments, TMC members have difficulty in understanding how the rewording and relisting and/or splits recommended by the consultants will lead to greater protection of human health and the environment compared to the wording in its current form. The recommended rewording/split would only lead to significant unnecessary burden for stakeholders without commensurate benefits.

TMC therefore does not agree with the consultants' proposed wording as outlined in the above table and reiterates the renewal request as outlined in renewal application documents and the answers to question 1 and 2.

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.

We ask you to kindly provide the information in formats that allow copying text, figures and tables to be included into the review report.

3. References

Baron et al. (2022): Study to assess requests for a renewal of nine (-9-) exemptions 6(a), 6(a)-I, 6(b), 6(b)-I, 6(b)-II, 6(c), 7(a), 7(c)-I and 7 (c)-II of Annex III of Directive 2011/65/EU (Pack 22) – Final Report (Amended Version). Under the Framework Contract: Assistance to the Commission on technical, socio-economic and cost-benefit assessments related to the implementation and further development of EU waste legislation. Author(s): Yifaat Baron, Carl-Otto Gensch, Andreas Köhler, Ran Liu, Clara Löw, Katja Moch, Oeko-Institut e. V. (Pack 22). retrieved from https://rohs.exemptions.oeko.info/fileadmin/user_upload/RoHS_Pack_22/RoHS_Pack-22_final_report_amended_February_2022.pdf.