# RoHS "Pack 9" Exemptions Assessment Report - Umbrella Project Initial Feedback

| | | | |
|---|---|---|---|
| **ANIE Federation**<br><br>EU Transparency Register ID number: 74070773644-23 | **European Copper Institute (ECI)**<br><br>EU Transparency Register ID number: 04134171823-87 | **Gesamtverband der Aluminiumindustrie e.V. (GDA)** | **Orgalime, the European Engineering Industries Association**<br><br>EU Transparency Register ID number: 20210641335-88 |
| **American Chamber of Commerce to the EU (AmCham EU)**<br><br>EU Transparency Register ID number: 5265780509-97 | **European Garden Machinery Industry Federation (EGMF)**<br><br>EU Transparency Register ID number: 82669082072-33 | **Information Technology Industry Council (ITI)**<br><br>EU Transparency Register ID number: 061601915428-87 | **RadTech Europe** |
| **Communications and Information network Association of Japan (CIAJ )** | **European General Galvanizers Association (EGGA)**<br><br>EU Transparency Register ID number: 634416015579-93 | **IPC – Association Connecting Electronics Industries** | **The Aluminum Association** |
| **DIGITALEUROPE (DE)**<br><br>EU Transparency Register ID number: 64270747023-20 | **European Domestic Glass (EDG)**<br><br>EU Transparency Register ID number: 733257915694-82 | **Japan Business Council in Europe (JBCE)**<br><br>EU Transparency Register ID number: 68368571120-55 | **SPECTARIS – German Hightech Industry Association**<br><br>EU Transparency Register ID number: 55587639351-53 |

| | | | |
|---|---|---|---|
| **Electronic Components Industry Association (ECIA)** | **European Partnership for Energy and the Environment (EPEE)**<br><br>EU Transparency Register ID number: 22276738915-67 | **Japan Business Machine and Information System Industries Association (JBMIA)**<br><br>EU Transparency Register ID number: 246330915180-10 | **WirtschaftsVereinigung Metalle (WVMetalle)**<br><br>EU Transparency Register ID number: 9002547940-17 |
| **European Aluminium Association (AISBL)**<br><br>EU Transparency Register ID number: 9224280267-20 | **European Passive Components Industry Association (EPCIA)**<br><br>EU Transparency Register ID number: 22092908193-23 | **The Japan Electrical Manufacturers´ Association (JEMA)** | **ZVEI - German Electrical and Electronic Manufacturers´ Association**<br><br>EU Transparency Register ID number: 94770746469-09 |
| **European Ceramic Industry Association (Cerame-Unie )**<br><br>EU Transparency Register ID number: 79465004946-12 | **European Semiconductor Industry Association (ESIA) is part of the European Electronic Component Manufacturers Association**<br><br>EU Transparency Register ID Number: 22092908193-23 | **Japan Electronics and Information Technology Industries Association (JEITA)**<br><br>EU Transparency Register ID number: 519590015267-92 | |
| **European Committee of Domestic Equipment Manufacturers (CECED)**<br><br>EU Transparency Register ID number: 04201463642-88 | **European Special Glass Association (ESGA)**<br><br>EU Transparency Register ID number: 053892115799-18 | **LIGHTINGEUROPE (LE)**<br><br>EU Transparency Register ID number: 29789243712-03 | |

| | | | |
|---|---|---|---|
| **European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry (COCIR)**<br><br>EU Transparency Register ID number: 05366537746-69 | **European Steel Association (EUROFER)**<br><br>EU Transparency Register ID number: 93038071152-83 | **National Electrical Manufacturers Association (NEMA)** | |

July 2016

Mr. Daniel Calleja Crespo
Director-General
European Commission
Directorate-General for the Environment
Avenue de Beaulieu 5
B-1160 Brussels BELGIUM

DIRECTIVE 2011/65/EU ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RoHS)

**RE: Eunomia Research & Consulting, Oeko-Institut and Fraunhofer Institute IZM RoHS "Pack 9" Exemptions Assessment Report**

Dear Mr. Daniel Calleja Crespo,
Cc: Mr. Julio Garcia-Burgues, Mr. Michele Canova

## Executive Summary

- Participants in the umbrella project support the overall RoHS objective and remain committed to continue supporting the procedure for the adaptation to scientific and technical progress:

  - We support targeted adaptations where warranted from a practicability, reliability and environmental, health and consumer safety impacts standpoint;

  - However, given the current state of evolution of technology, we have difficulty in understanding how some of the consultant's recommended changes will lead to greater protection of human health and the environment;

  - We will continue R&D where no suitable substitutes currently exist, developing or requesting the development of possible new alternatives, taking into account the practicability, reliability or environmental, health and consumer safety impacts of substitution;

- We support efforts to simplify legislation, remove red tape and lower costs without compromising policy objectives, contributing to a clear, stable and predictable regulatory framework supportive of growth and jobs:

- However, if adopted, we believe some of the consultant's recommended changes may lead to a too complicated, too burdensome, and/or too bureaucratic legislative framework without obvious additional environmental, health and consumer benefits compared to its current form;

- There may be risk of stakeholders at large, including but not limited to smaller business, not being able to fully understand and accurately follow it, or devoting significant resources to apply the potential new rules, rather than continuing R&D where no suitable substitutes currently exist, developing or requesting the development of possible new alternatives, growing businesses and creating jobs;

- Should some of the consultant's proposed changes be approved, it will take time to disseminate them globally, and, where needed, to organize any new exemption requests that are found to be necessary. Requirements are complex and burdensome, and the amount of time and work required should not be underestimated;

- We would welcome the opportunity to meet with you to answer questions, expand on the concerns set forth in this letter and achieve a solution that ensures the necessary protection for human health and the environment, while maintaining and enhancing competitiveness.

## Introduction

We are writing to you with regard to Eunomia Research & Consulting, Oeko-Institut and Fraunhofer Institute IZM ("the consultant")'s assessment report on RoHS "Pack 9" Exemptions ("the report")[1] publicly released on June 27th, and upcoming formal procedure within the EU institutions.

Under the umbrella of the Cross-industry Project ("the umbrella project") involving 34+ industry associations globally, applications for renewals were submitted in January 2015 for twelve Pack 9 Exemptions: #4(f), 6(a)(b)(c), 7(a), 7(c)-I-II-IV, 8(b), 15, 34 and 37 ("the Exemptions")[2]. The umbrella project has also been heavily involved in the evaluation process, providing continual support to the European Commission and the consultant

[1] Assistance to the Commission on Technological Socio-Economic and Cost-Benefit Assessment Related to Exemptions from the Substance Restrictions in Electrical and Electronic Equipment: Study to assess renewal requests for 29 RoHS 2 Annex III exemptions [no. l(a to e -lighting purpose), no. l(f - special purpose), no. 2(a), no. 2(b)(3), no. 2(b)(4), no. 3, no. 4(a), no. 4(b), no. 4(c), no. 4(e), no. 4(f), no. 5(b), no. 6(a), no. 6(b), no. 6(c), no. 7(a), no. 7(c) - I, no. 7(c) - II, no. 7(c) - IV, no. 8(b), no. 9, no. 15, no. 18b, no. 21, no. 24, no. 29, no. 32, no. 34, no. 37]. Report for the European Commission Prepared by Oeko-Institut e.V., Institute for Applied Ecology and Fraunhofer-Institut IZM for Environmental and Reliability Engineering, at https://circabc.europa.eu/sd/a/eda9d68b-6ac9-4fb9-8667-5e561d8c957e/RoHS-Pack_9_Final_Full_report_Lamps_Alloys_Solders_June2016.pdf

[2] http://rohs.exemptions.oeko.info/index.php?id=228 & http://ec.europa.eu/environment/waste/rohs_eee/pdf/renewal_exemptions_oct14-jan15.pdf

throughout the preparatory stages, stakeholder consultations, and beyond. We appreciate the ongoing collaborative approach and are pleased to receive the report.

Recognizing the nature and breadth of this complex task, we welcome some of the consultant's recommendations in the report. We do have some serious concerns, however, which we believe warrant further consideration.

Key initial areas of concern include:

- Inclusion of shorter applicability dates;
- Rewordings and/or splitting of exemptions;

Please note neither all nor each of the identified areas of concern and related feedback in sections 1, 2, 3 and 4 further below apply across all the exemptions. See Annex Summary Overview Table for comments and recommendations for specific exemptions.

Participants in the umbrella project support the overall RoHS objective and remain committed to supporting the procedure for the adaptation to scientific and technical progress. Further, we are long-standing supporters of efforts to simplify legislation, remove red tape and lower costs without compromising policy objectives, contributing to a clear, stable and predictable regulatory framework supportive of growth and jobs.

In that regard, we support targeted adaptations where warranted from a practicability, reliability and environmental, health and consumer safety impacts standpoint, and will continue R&D where no suitable substitutes currently exist, developing or requesting the development of possible new alternatives, taking into account the practicability, reliability or environmental, health and consumer safety impacts of substitution.

However, given the current state of evolution of technology, we have difficulty in understanding some of the consultant's recommended changes, and how those will lead to greater protection of human health and the environment and to a clear, stable and predictable regulatory framework supportive of growth and jobs.

If adopted, we believe some consultant's recommended changes may lead to a too complicated, too burdensome, and/or too bureaucratic legislative framework without obvious additional environmental, health and consumer benefits compared to its current form. There may be risk of stakeholders at large, including but not limited to smaller business, not being able to fully understand and accurately follow it, or devoting significant resources to apply the potential new rules, rather than continuing R&D where no suitable substitutes currently exist, developing or requesting the development of possible new alternatives, growing businesses and creating jobs.

Further, RoHS affects industry and other stakeholders at large, including but not limited to businesses and public authorities, worldwide. Should some of the consultant's proposed

changes be approved, it will take time to disseminate them globally, and, where needed, to organize any new exemption requests that are found to be necessary. Requirements are complex and burdensome, and the amount of time and work required should not be underestimated.

We believe our views and recommendations presented below are aligned with the Commission's principles and efforts underway to improve Union legislation under the Better Regulation Agenda and Regulatory Fitness and Performance Programme (REFIT), making law simpler and reducing regulatory costs.

We trust that you will appreciate the importance of this matter to industries under the umbrella project and the limited time available to participants to analyze the report. These comments represent our initial feedback. We will provide more detailed positions on individual cases as the European Commission prepares for the adoption of its decision in the coming months.

In the meantime, we would be pleased to meet with you to answer questions and expand on the concerns set forth in this letter. We respectfully ask that you include these concerns in your upcoming discussions and consultations that relate to the review of the exemptions. We welcome the opportunity to continue working with you to achieve a solution that ensures the necessary protection for human health and the environment, while maintaining and enhancing competitiveness.

## Our Initial Feedback

### 1- Overview

Participants in the umbrella project have identified initial areas of concern that could introduce significant uncertainty and burden for stakeholders, including:

- Inclusion of shorter applicability dates;
- Rewordings and/or splitting of exemptions;

We address each concern below.

### 2- Inclusion of shorter applicability dates

We support targeted adaptations where warranted from a practicability, reliability and environmental, health and consumer safety impacts standpoint.

However, given the current state of evolution of technology, inclusion of applicability dates prior to July 2021 may result in further requests for renewals required 18 months before the shorter date; otherwise, the exemption would expire for those applications on that date.

The current Commission's estimate to take a decision on the pending renewal requests (official amendment of the Annex(es)) is 18 to 24 months from the date of submittal[3] (approximately early 2017, or beyond). Assuming the Annex(es) will be officially amended in early to mid-2017 or later, setting dates prior to July 2021 will not leave adequate time to spread changes globally and to apply for further exemptions where needed.

RoHS affects industry and other stakeholders at large, including but not limited to businesses and public authorities, worldwide. Should some of the consultant's proposed changes be approved, it will take time to disseminate them globally, and, where needed, to organize any new exemption requests that are found to be necessary. Requirements for applications for renewals are complex and burdensome, and the amount of time and work required should not be underestimated.

In some cases, this could be avoided by maintaining their existing wording for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years**. So long as stakeholders apply for future renewals in a timely manner, this would allow review of these exemptions in the 2020 to 2021 timeframe. If there are no applications for further renewal, they would expire on the date specified in RoHS Article 5 or in the Annex(es).

## 3- Rewordings and/or splitting of exemptions

We support targeted rewordings of the exemptions where warranted from a practicability, reliability and environmental, health and consumer safety impacts standpoint.

However, given the current state of evolution of technology, we have difficulty in understanding how some of the rewordings/listings and/or splits recommended by the consultant for certain exemptions will lead to greater protection of human health and the environment compared to their current form. In some cases, we fear recommended changes will lead to significant unnecessary burden for stakeholders without commensurate benefits.

In cases where maintaining the current exemptions or rewording and/or splitting them would serve the same purpose, **renewal of existing exemption wording**:

- Would avoid significant uncertainty and burden in light of changes to be managed by stakeholders at large;
- Moreover, would also avoid the risk of unintentionally excluding any necessary applications from their current scope;
- Furthermore, we would suggest articulating any potential changes in "merged" form, without additional splitting/renumbering/itemization of the exemptions.

[3] http://ec.europa.eu/environment/waste/rohs_eee/adaptation_en.htm

## 4- Individual comments

Please find in the Annex Summary Overview Table below our specific recommendations for the Exemptions. We have also included contact details for key individuals coordinating the umbrella project's dedicated technical working groups ("WGs"). They would very much welcome the opportunity to meet and/or discuss with you any questions you may have.

## ANNEX - SUMMARY OVERVIEW (PACK 9)

| Exemption # | Consultant's Recommendation | Our Recommendation | Contact Details WGs Co-Chairs |
|---|---|---|---|
| **4(f)** | (II) Mercury in high pressure mercury vapour lamps used in projectors where an output ≥2000 lumen ANSI is required<br><br>For Cat. 5: 21 July 2021<br><br>(III) Mercury in high pressure sodium vapour lamps used for horticulture lighting<br><br>For Cat. 5: 21 July 2021<br><br>(IV) Mercury in lamps emitting light in the ultraviolet spectrum for curing and disinfection<br><br>For Cat. 5: 21 July 2021 | **Renewal of existing exemption wording**<br><br>"Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex"<br><br>**for categories 1 to 7, 10 and 11 of Annex I** for an additional validity period of 5 years | Roumiana Kamenova<br>roumiana.kamenova@lightingeurope.org<br><br>Georg Niedermeier<br>g.niedermeier@osram.com<br><br>Lars Brückner<br>Lars.Bruckner@EMEA.NEC.COM |
| **6(a)** | I) Lead as an alloying element in steel for machining purposes containing up to 0,35 % lead by weight<br><br>For Cat. 1-7 and 10 and 11: 21 July 2019<br><br>II) Lead in batch hot dip galvanized steel components containing up to 0.2% lead by weight<br><br>For Cat. 1-7 and 10 and 11: 21 July 2021 | Targeted Rewording<br><br>"Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanized steel items containing up to 0.2% lead by weight"<br><br>[And, to the extent possible, avoid/limit splitting/renumbering/itemization]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years**. | Ainara Urionabarrenetxea<br>A.Urionabarrenetxea@eurofer.be<br><br>Murray Cook<br>mcook@egga.com |

| | | | |
|---|---|---|---|
| **6(b)** | Lead as an alloying element in aluminium<br><br>I) with a lead content up to 0.4 % by weight, used for the production of parts not machined with shape cutting chipping technologies<br><br>For Cat. 1-7 and 10 and 11: 21 July 2021<br><br>II) for machining purposes with a lead content up to 0.4 % by weight<br><br>For Cat. 1-11: 21 July 2021 | **Renewal of existing exemption wording**<br><br>"Lead as an alloying element in aluminium containing up to 0,4 % lead by weight"<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years**. | Magdalena Garczynska<br>garczynska@european-aluminium.eu |
| **6(c)** | Copper alloy containing up to 4% lead by weight<br><br>For Cat. 1-7 and 10 and 11: 21 July 2019; | Renewal of existing exemption wording<br><br>"Copper alloy containing up to 4 % lead by weight"<br><br>[as also proposed by the consultant]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | Dr. Michael Müller<br>michael.mueller@HARTING.com |
| **7(a)** | Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)<br><br>II) in all applications not addressed in items III and IV, but excluding applications in the scope of exemption 24<br><br>For categories 1 to 7 and 10: 21 July 2021<br><br>III) for die attach<br><br>For categories 1 to 7 and 10: 21 July 2019<br><br>IV) for electrical connections on or near the voice coil in power transducers<br><br>For categories 1 to 7 and 10: 21 July 2019 | **Renewal of existing exemption wording**<br><br>"Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)"<br><br>[as also recently implemented by the Commission under ELV[4]]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | Griffin Teggeman<br>Griffin.Teggeman@NXP.com |

[4] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2016_128_R_0002&rid=1.

| | | | |
|---|---|---|---|
| **7(c)-I** | 7(c)-I: Electrical and electronic components containing lead in a ceramic other than dielectric ceramic in discrete capacitor components, e.g. piezoelectronic devices<br><br>For categories 1-7 and 10: 21 July 2019<br><br>7(c)-V: Electrical and electronic components containing lead in a glass or in a glass or ceramic matrix compound.<br><br>This exemption does not cover the use of lead in the scope of exemption 34 (cermet-based trimmer potentiometers).<br><br>For categories 1-7 and 10: 21 July 2021 | Targeted Rewording<br><br>"Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in discrete capacitor components, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound"<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | Klaus Kelm<br>kkelm@murata.com<br><br>Wolfgang Werner<br>wolfgang.werner@vishay.com |
| **7(c)-II** | Lead in dielectric ceramic in discrete capacitor components for a rated voltage of 125 V AC or higher, or for a rated voltage of 250 V DC or higher<br><br>For Cat. 1-7 and 10: 21 July 2019 | Targeted Rewording<br><br>"Lead in dielectric ceramic in discrete capacitor components for a rated voltage of 125 V AC or higher, or for a rated voltage of 250 V DC or higher."<br><br>[as also proposed by the consultant]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | Walter Huck<br>whuck@murata.com |
| **7(c)-IV** | Lead in PZT-based dielectric ceramic materials of capacitors being part of integrated circuits or discrete semiconductors<br><br>For Cat. 1-7 and 10: 21 July 2019 | Renewal of existing exemption wording<br><br>"Lead in PZT based dielectric ceramic materials for capacitors which are part of integrated circuits or discrete semiconductors"<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | Frédéric Chapuis<br>frederic.chapuis@st.com |
| **8(b)** | 8(c): Cadmium and its compounds in electrical contacts of<br><br>(I) circuit breakers<br>(II) thermal motor protectors excluding hermetically sealed thermal motor protectors<br><br>For Cat. 1-7 and 10: 21 July 2021 | Targeted Rewording<br><br>"Cadmium and its compounds in electrical contacts of circuit breakers, thermal sensing controls, thermal motor protectors (excluding hermetic thermal motor protectors), DC switches rated at 20 A at 18 V DC and more, AC switches rated at 6 A 250 V AC - 12 A 125 V AC and more, and switches used at voltage | Mark Kohorst<br>mar_kohorst@nema.org |

| | | | |
|---|---|---|---|
| | (III) thermal sensing controls<br><br>For Cat. 1-7 and 10: 21 July 2019<br><br>(IV) AC switches rated at 6 A and more in combination with 250 V AC and more<br>(V) AC switches rated at 12 A and more in combination with 125 V AC and more<br><br>For Cat. 1 to 5, 7 and 10: 21 July 2019<br><br>(VI) AC switches for corded tools rated at 6 A and more in combination with 250 V AC and more<br>(VII) AC switches for corded tools rated at 12 A and more in combination with 125 V AC and more<br>(VIII) DC switches for cordless tools with a rated current of 20 A and more in combination with at a rated voltage of 18 V DC and more<br>(IX) switches for tools conceived to be used with power supplies of 200 Hz and more<br><br>Applies to Cat. 6 EEE: 21 July 2021 | supply frequencies of 200 Hz and more"<br><br>[And, to the extent possible, avoid/limit splitting/renumbering/itemization].<br><br>**for categories 1 to 7, 10 and 11 of Annex I** for an additional validity period of **5 years**. | |
| **15** | II) Lead in solders to complete a viable electrical connection between semiconductor die and the carrier within integrated circuit flip chip packages where one of the below criteria applies:<br><br>a) A semiconductor technology node of 90 nm or larger<br><br>For categories 1-7 and 10: 21 July 2019<br><br>b) A single die of 300 mm2 or larger in any semiconductor technology node<br><br>For categories 1-7 and 10: 21 July 2021<br><br>c) Stacked die packages with dies of 300 mm² or larger, or silicon interposers of 300 mm2 or larger<br><br>For categories 1-7 and 10: 21 July 2021 | Targeted Rewording<br><br>"Lead in solders to complete a viable electrical connection between the semiconductor die and the carrier within integrated circuit flip chip packages where one of the below criteria applies:<br><br>- A semiconductor technology node of 90 nm or larger<br>- A Single Die of 300 mm2 or larger in any semiconductor technology node<br>- Stacked die packages with die of 300 mm2 or larger, OR silicon interposers of 300 mm2 or larger<br>- Flip chip on lead-frame (FCOL) packages with a rated current of 3 A or higher and dies smaller than 300 mm²…" | Stephen Tisdale<br>Stephen.tisdale@intel.com |

| | | | |
|---|---|---|---|
| | | [And, to the extent possible, avoid/limit splitting/renumbering/itemization]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years**. | |
| **34** | Lead in cermet-based trimmer potentiometers<br><br>For Cat. 1-7 and 10: 21 July 2019; | Renewal of existing exemption wording<br><br>"Lead in cermet-based trimmer potentiometer elements"<br><br>[as also proposed by the consultant]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | James Vetro<br>james.vetro@ge.com |
| **37** | Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body<br><br>For categories 1-7 and 10: 21 July 2019; | Renewal of existing exemption wording<br><br>"Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body"<br><br>[as also proposed by the consultant]<br><br>for categories 1 to 7, 10 and 11 of Annex I for an additional validity period of **5 years** | James Vetro<br>james.vetro@ge.com |