"12th Adaptation to scientific and technical progress of exemptions 2(c)(ii), 3, 8(e) and 8(g)(ii) of Annex II to Directive 2000/53/EC (ELV)"

To: Consultant Consortium of Bio Innovation Service (bio IS) and The United Nations Institute for Training &Research (UNITAR) and Fraunhofer Institute for Reliability & Micro Integration (IZM)
Via Email to: **elv@biois.eu**

Cc: DG ENV: Via Email to

- Ms. Vytaute Bacianskaite, Vytaute.Bacianskaite@ec.europa.eu
- Mr. Jaco Huisman, Jaco.Huisman@ec.europa.eu.
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Submission of ACEA, CLEPA, JAMA, KAMA et al representing the affected automotive industry including the supply chain to the stakeholder consultation published by bio IS on 08. Feb. 2024 on the review of four entries in EU ELV Directive Annex II, 18. April 2024.

Foreword

This set of documents provides the consolidated stakeholder submissions of the automotive industry associations ACEA, CLEPA, JAMA, KAMA and associated industrial stakeholders to the "12th adaptation to scientific and technical progress of exemptions 2(c)(ii)., 3., 8(e). and 8(g) (ii). of Annex II to Directive 2000/53/EC (ELV)". In the entry (exemption) specific submissions, the names of the participating associations are listed separately.

The consultation was announced on 08. February 2024 and concludes on 18th April 2024 and addresses the following entries to be reviewed:

Under category Lead as an alloying element, following entries are in our scope:

- 2(c)(ii). "Aluminium alloys not included in entry 2(c)(i) with a lead content up to 0,4 wt. % "(Applies to aluminium alloys where lead is not intentionally introduced but is present due to the use of recycled aluminium.)
- 3. "Copper alloys containing up to 4% lead by weight"

Under category Lead and Lead compounds in components we address:

- 8(e). "Lead in high melting temperature type solders" (i.e. lead-based alloys containing 85 % by weight or more lead) and
- 8(g)(ii). Lead in solders to complete a viable electrical connection between the semiconductor die and the carrier within integrated circuit flip chip packages where that electrical connection consists of any of the following:

  (1) a semiconductor technology node of 90 nm or larger;

  (2) a single die of 300 mm 2 or larger in any semiconductor technology node;

  (3) stacked die packages with dies of 300 mm^2 or larger, or Silicon interposers of 300mm^2 or larger

ACEA and the joint associations welcome the opportunity to provide submissions to the stakeholder consultation of reviewing the four entries of ELV Annex II 2(c)(ii)., 3., 8(e). and 8(g)(ii). and are pleased by outlining technical requirements to address the necessity to continue these exemptions.

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1. General data

1.1 **List of Acronyms**

ACEA	Association des Constructeurs Européens d'Automobiles European Automobile Manufacturers Association
CLEPA	European Association of Automotive Suppliers
COM	European Commission
EEA	European Environmental Agency
ECHA	European Chemicals Agency
EFTA	European Free Trade Association (Iceland, Liechtenstein, Norway and Switzerland)
EU (27)	27 Member States of the EU (year 2022)
ELV	End-of-Life-Vehicles
JAMA	Japan Automobile Manufacturers Association, Inc.
KAMA	Korea Automobile Manufacturers Association
UK	United Kingdom

1.2 Organisation information – Compliance rules of ACEA and the joint associations

For the association work ACEA has set mandatory compliance rules.

It is ACEA's policy to comply fully with European competition law.

This means that it is excluded to discuss the market conduct of companies, be it in relation to the application of EU law or in relation to any other matter. Equally, it is excluded to exchange any business sensitive information relating to companies, actual or potential competitors, business partners or other market operators.

2. Calculation of vehicles new registered in EU

Europe accounts for around 19 % of global vehicle sales in 2022 (ACEA).

Cars and vans new EU registered in **2022** [1] : European Union +UK +EFTA + Malta: **12, 92 Mio**.

- For all the submissions the following data for vehicles new placed (registered) on the EU market in the year 2022, including EU(27), EFTA, UK and Malta, were used as basis for quantity calculations:

Registrations 2022	**Passenger cars**	**Light commercial vehicles up to 3,5 t (´vans´)**	**Total**
EU 27 (without Malta)	9.255.926	1.278.509	
EFTA	416.949	56.121	
UK	1.614.063	282.139	
EU + EFTA + UK	**11.286.935**	**1.616.769**	12.903.704
+ Malta	6.429	847	7.187
All:			**12.910.891**

Table 1: *Registration figures for year 2022; new registrations figures for Malta were not yet available in ACEA pocket guide 2023/24; data source for Malta is Malta NSO National Statistics Office (see footnote)*

As ACEA et al. do not have access to technical data of vehicles in some specific markets, worldwide figures on applications would be incomplete and therefore we concentrate on figures of EU market only.

[1] ACEA Pocket guide 2023 2024 https://www.acea.auto/files/ACEA-Pocket-Guide-2023-2024.pdf, ACEA Brussels and Malta NSO National Statistics Office https://nso.gov.mt/motor-vehicles-q4-2022/ table 3 (cat.: minibus, passenger cars, goods carriers; total 7276 units); last accessed 22.02.2024

3. Introduction

The automobile industry actively supports environmental policy efforts to design products free of hazardous substances and as environmentally sound as possible. All car manufacturers and actors in the supply chain have set up internal goals and environmental guidelines relating to products as well as production processes. We are aware that uncontrolled releases of Lead emissions into the environment are harmful for the environment and biosphere and people.

As self-responsible partners of the manufacturers, the suppliers are affected in a special way, having to deal with their global supply chain, sometimes down to the raw material basis and missing availability of specific materials or electronic components due to import restrictions or economy turbulences.

The automotive industry and their associations fully accept their product responsibility but emphasize the need for proportionate actions or initiatives. The represented industry stakeholders agree upon the minimization of negative environmental impacts during all phases of a vehicle life.

In order to reach this common goal to manufacture, market, operate service and recover products with the lowest possible impact on environment or human health, the environmental impact, the relevance of certain substances and their technical and economic implications need to be understood prior mandating substance restrictions.

In addition, as communicated in previous stakeholder contributions, the development period for implementation of lab-validated solutions into production is still 3 to 6 years if no failures occur. The average model cycle is typically around 8 years.

We would like to emphasize that vehicles and their components have to face harsh ambient conditions in Europe. Ambient temperatures from - 40 up to 50°C outside and interior temperatures to above 100°C have to be tolerated and operating temperatures e.g. of some engine components may exceed 800°C. Components like electronic control units have to be robust against vibrations and acceleration figures up to 100 g. With more and more electronic assisting driving functions and sensor or camera signals triggered actions of software, also IT related endurance is an important task.

The operating hours of vehicle electronics are up to around 25 000 h and even more in specific cases. During vehicle use, all components and their functions undergo long termed high levels of mechanical and thermo- mechanical stress and dynamic load conditions.

This is valid not only for a short period, but over for a use period of ten to fifteen years and sometimes longer. That is one of the reasons, why development and validation of new components require such long development periods. This ensures that safety and reliability demands are fulfilled.

Furthermore, the continued improvement of the overall environmental performance of vehicles and their production processes requires that we also assess the environmental performance of substitute materials in order to allow long lasting decisions for optimized materials in each application.

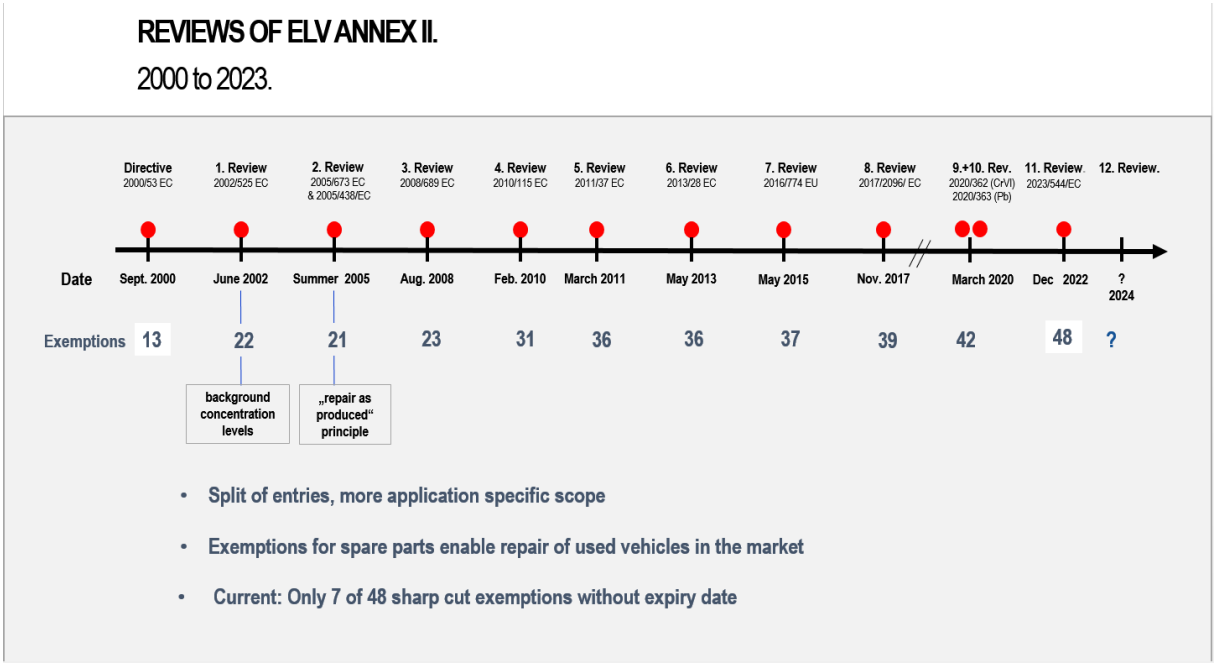
The entire industry, however, needs a reliable planning basis for these substitute materials for at least one development cycle of a vehicle. This needs to be considered in any future phase out recommendation and plans and EU Commission decisions.

4. Status of last Annex II Review

Annex II of the ELV Directive lists the exemptions and conditions for allowed uses of the restricted heavy metals Lead, hexavalent Chromium, Cadmium and Mercury.

4.1 History

Annex II was often reviewed and amended since the year 2000 (see Graphics 4.1.1).
Currently only 7 of 48 sharp cut exemptions are without an expiry date.



Graphics 4.1.1: *Survey on Annex II reviews*

In March 2023, Delegated Directive 2023/544, amending Directive 2000/53/EC, as regards the exemptions for the use of lead in aluminium alloys for machining purposes, in copper alloys and in certain batteries, entered into force (source web page DG ENV [2]).

Recital (4) states that

(4) The Commission assessed the exemption set out in entry 3 of Annex II to Directive 2000/53/EC regarding copper alloys in view of technical and scientific progress. This assessment led to the conclusion that there are still no suitable alternatives to the use of lead in the materials and components covered by that exemption. Taking into account the progress made in the development of substitutes to lead in the materials and components concerned, it is appropriate to provide for a new review date for that exemption.

[2] https://environment.ec.europa.eu/topics/waste-and-recycling/end-life-vehicles_en#review; last accessed 08.03.2024

The review date for entry 3 (Lead in copper alloys) was set by Commission delegated act decision to the year 2025 (*note to the table (3) "This exemption shall be reviewed in 2025.").* The same date was set for entry 5(b)(i) Lead in batteries. And the review date for entries 2(c)(ii)., 8(e). and 8(g)(ii)., was determined to the year 2024 (*note to the table (3): (1) These exemptions shall be reviewed in 2024*).

5. Developments in European environmental policy with potential interference to current review

5.1 Reattribution of scientific and technical tasks

Currently the EU Commission is drafting a new Regulation[3] on re-attribution of scientific and technical tasks and on improving cooperation among Union Agencies in the area of chemicals. This shall compensate possible inconsistent outcomes of assessments for the same chemicals across different legislation. According to statements in the proposal draft, the ´one substance, one hazard assessment' approach is welcomed by the Council and the European Parliament.

The proposal for the revision of the Directive on end-of-life vehicles, resp. the new ELV Regulation draft, *´proposes reattribution of an existing task to ECHA. ECHA's Committee for Socio-Economic Assessment will be required to provide assessments underpinning review of exemption from existing restriction on lead, mercury, cadmium or hexavalent chromium. ECHA is also required as part of REACH process to provide assessments underpinning restriction of hazardous substances in end-of-life vehicles. Such restriction will be under the scope of REACH, so this relies on the existing REACH task ´* (reference see 7.12.2023 SWD2023) 850 final, page 15).

The ECHA expertise was yet applied in 2021 for the assessment of Lead use in ammunition[4] and in January 2024 for the implementation[5] of the drinking water directive (positive list of materials).

5.2 EU ICE ban 2035

New registered passenger vehicles with fossil-fuel powered internal combustion engine (ICE) are banned from 2035 with Regulation (EU) 2023/851 [6].

This decision may interfere with new powertrain developments for ICE vehicles for the EU market including sense making of further research for potential material substitutes thereof. Considering the time needed to validate materials, components made thereof, and their scrutiny in prototype vehicles, it could happen that they will be available only for a quite limited period before the deadline 2035.

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[3] EU Commission for Energy, Climate change, Environment, 7.12.2023; Proposal for a Regulation on the re-attribution of scientific and technical tasks and improving cooperation among Union agencies in the area of chemicals; https://environment.ec.europa.eu/document/download/d09a328f-7080-47eb-a073-4e0550c166fc_en?filename=COM_2023_783_1_EN_ACT_part1_v6_0.pdf

[4] ECHA(2021) Annex XV Restriction Report – Lead in outdoor shooting and fishing Version Number 2.0 24.March 2021 https://echa.europa.eu/documents/10162/da9bf395-e6c3-b48e-396f-afc8dcef0b21; last accessed 09.08.2023.

[5] https://environment.ec.europa.eu/publications/delegated-acts-drinking-water-directive_en and EURlex C/2024/0239 final last visited 08.03.2024.

[6] Regulation (EU) 2023/851 of 19 April 2023 amending Regulation (EU) 2019/631 as regards strengthening the CO2 emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition (http://data.europa.eu/eli/reg/2023/851/oj; OJ L 110, 25.4.2023, p. 5–20).

5.3 Draft Regulation on ELV´s

Here, we concentrate only on the measures related to material restriction, as in the draft Regulation the volume of articles increased from 13 to 57 articles and from 9 pages to around 100 pages compared to the ELV directive. Moreover, as the new draft Regulation, in general, is in scope of separate association dialogue activities with the legislator.

With document COM (2023) 451 final of 13 July 2023, the Commission published the draft [7] for a new Regulation covering the circularity requirements for vehicle design and on management of end-of-life vehicles. With this Regulation as intended successor of the waste oriented ELV Directive 200/53 EC, extended by circularity, and new reporting obligations, the ELV Directive shall be reviewed.

Recital (4) confirms that
´ (4) The Commission's evaluation of Directive 2000/53/EC 8 highlighted that it ***has been effective*** *in delivering many of its initial objectives,* ***especially the elimination of cadmium, lead, mercury and hexavalent chromium from vehicles,*** *an increase in collection points for end-of-life vehicles and the attainment of the recovery and recycling targets*.´

Recital (17) outlines that
´ In order to take account of scientific and technical progress, the power to adopt delegated acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should continue to be delegated to the Commission in respect of amending exemptions from restrictions on the use of lead, mercury, cadmium and hexavalent chromium in vehicles under this Regulation. Modifying or deleting such exemptions should be preceded by an assessment of the socio-economic impacts of such change, which is absent in the Directive 2000/53/EC, including consideration of the availability of alternative substances and the impacts on human health and the environment across the lifecycle of vehicles. To ensure effective decision-making, coordination and management of the technical, scientific and administrative aspects of amending this Regulation with respect to restrictions on use of substances in vehicles, the European Chemicals Agency should assist the Commission in such assessment.´

Article 5 sets the requirements for substances in vehicles. And Article 5.4.(b)(ii) adds a new assessment criterion for exemptions from the heavy metal ban. Now, it has also to be demonstrated that socio-economic benefits outweigh the risk to human health or the environment arising from the use of those substances. This aligns with other sectoral EU legislation.

Furthermore, by Article 5.5 the evaluation of required exemptions will be delegated to ECHA. In Article 5.8., this is detailed further as following:

´The Commission shall adopt the delegated acts referred to in paragraph 4 and shall take into account the socio-economic impact of introducing, modifying or deleting an exemption to the restriction in the use of lead, mercury, cadmium or hexavalent chromium in vehicle types, including the availability of alternatives and the impacts on human health and the environment across the full lifecycle of vehicles.´

The new procedure realizes the ´one substance, one hazard assessment´ approach.

5.4 Green Deal Targets

The targets of the Green Deal on minimizing the use of fluorinated substances may interfere with the continuously ongoing research on potential Lead substitutes in electronics, as such substances may be required in production processes.

The Green Deal´s target of achieving ´zero pollution ambition for a toxic-free environment´ is supported by the automotive industry; however, it is binding industry expert capacities for substances of concern.

[7] Proposal for a Regulation of the EU Parliament and of the Council on circularity requirements for vehicle design and on management of end-of-life vehicles, amending Regulations (EU) 2018/858 and 2019/1020 and repealing Directives 2000/53/EC and 2005/64/EC; Brussels, 13.7.2023, COM(2023) 451 final, 2023/0284 (COD)

5.6 Interference of different reporting obligations

Currently all uses of the heavy metals in vehicles are disclosed and allocated to exemption entries in Annex II. Via the open accessible consultation reports, applications and uses can be identified. Parts to be dismantled in vehicle utilization, like vehicle batteries, are listed in the system IDIS (International dismantling information system) including dismantling and safe handling information. IDIS is available free of charge to all authorized vehicle treatment facilities in the EU.

Furthermore, such dismantled parts like the vehicle batteries are allocated to specific waste code entries of the European waste catalogue. Their application and reporting enable a proper tracing.

In addition, the use of heavy metals needs to be reported according REACH Article 33 and again in addition for each article and for each sub-component, their presence in concentration limits above threshold limits needs to be reported into the SCIP database according Waste Directive.

6. Information on Lead uses and emissions in EU

As one of 10 chemicals of major public health concern, the World Health Organization (WHO) has identified Lead [147] as substance needing action by Member States. Within the European Union and the Member states there a numerous and comprehensive legislative measures defined, whose consistent implementation in the Member States enables the control of unwanted Lead releases.

6.1 Lead demand

The ILZSG reports for the year 2022 a refined EU Lead usage[8] of around 1,8 Mio. t (1 798 000 tonnes). The largest application by volume were batteries.

In 2022, contribution of recycled materials to raw materials demand (end-of-life recycling input rate) for Lead was 83% according to EUROSTAT [9] figures.

6.2 EU Lead emissions

According to literature, most potential metallic Lead exposure risk in Europe is allocated to Lead particle emissions into the air [10, 11].

Table 6.2.1 displays the reported Lead emissions values to air in EU 27 for the year 2021.

According to EEA data the annual EU Lead emission have decreased from around 20 000 t in the year 1990 to around 1060 t in the year 2021. Especially with the phase out of Leaded fuel, the emission values decreased significantly.

All low hanging “fruits” for achievable Lead emissions reductions in the EU seem to be to have been harvested, as since the year 2015 the reported annual emission levels are sticking on a plateau of around 1100 t/y.

[8] https://www.ilzsg.org Press release February 2024 Lead 20240221; last accessed 18.03.2024.

[9] https://ec.europa.eu/eurostat/databrowser/view/CEI_SRM010__custom_3026831/default/table?lang=en; last accessed 18.3.2024.

[10] WHO (2022) https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health: last accessed 02.05.2023.

[11] EEA (2020) Air quality & Lead https://www.eea.europa.eu/publications/2-9167-057-X/page023.html last accessed 10.05.2023.

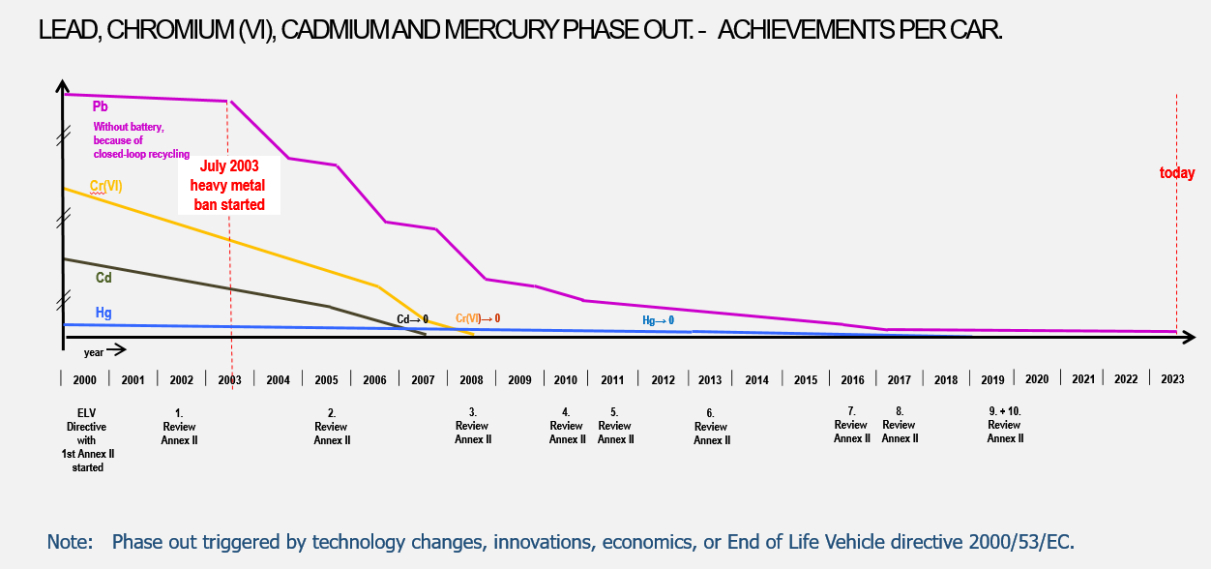
Category	Annual Pb Emissions EU-27 [t]	Remark
Waste	18,04	
Agriculture	6,8	Thereof 6,5 t energy use
Energy Supply	75,4	
Manufacturing and Extractive Industry	586	Thereof 59 % ferrous metals, 19 % non-ferrous metals, 20 % non-metallic minerals
Residential, Commercial and Institutional	123,4	
Transport	255	Thereof 11 % passenger cars, 1 % light duty vehicles

Table 6.2.1: EU 27 Lead emissions in tonnes for the year 2021 (total 1065 t) per category according EU LRTP reporting; source EEA

Even if direct Lead use would be banned completely, anthropogenic Lead emissions would not disappear [12], as Lead is a natural by-product in many mineral and fossil resources.

7. Achieved Progress in heavy metal reduction in vehicles

The automotive industry has been continuously reducing the amount of heavy metals including Lead necessary for the production of vehicles since the year 2000 (see graphics 7.0). Cadmium, hexavalent Chromium and Mercury have no more meaning in actual car production.



Graphics 7.0: Reduction of heavy metals in cars 2000 to 2022 (schematic); without battery

As concluded in previous submissions the statement remains valid that - battery excluded because of being used in closed loop - the intentional use of Lead per vehicle is now in the range of background level concentration of all the raw materials used therein. Given that significant and impactful reductions in Lead have already been achieved, we believe that further measures offering tangible environmental benefits are currently lacking.

[12] KEMI (2007) Report 5/07: Lead in articles Stockholm, October 2007 Publisher: Swedish Chemicals Agency https://www.kemi.se/en/publications/reports/2007/report-5-07-lead-in-articles; last accessed 24.07.2023 ISSN: 0284-1185

7.1 Situation for Lead in current vehicles

Excluding the application battery, which is almost used in the EU in a closed loop, from the year 2000 until the year 2022, the required intentional use of Lead in vehicles has decreased enormously and therefore the potential to contribute to further Lead reductions is very low.

The existing exemptions allow for the use of around 0,11 kg of Lead per vehicle, with around two-thirds of that amount attributed to the use of secondary Aluminium.

This figure matches very well with a publication [Meng Hou 2023] evaluating data from China. There is also a similar legislative restriction for the use of Lead and Lead compounds in vehicles. The ending of exemptions in the Chinese Legislation has some time shift to expiry dates listed in the ELV Directive Annex II.

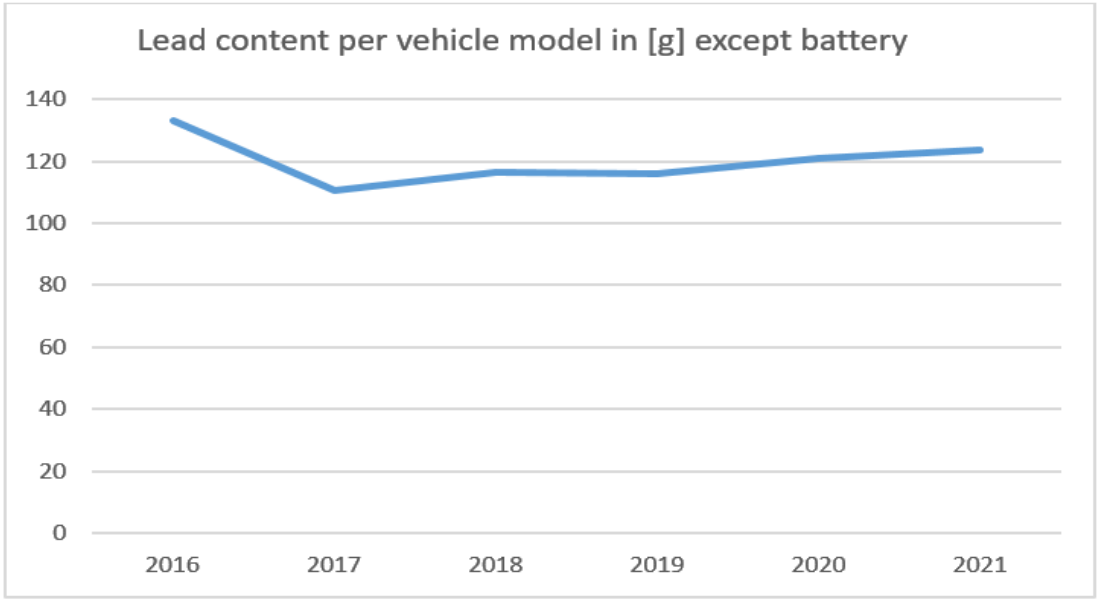


Figure 7.1.1: *Total Lead content in [g] per vehicle put on the Chinese market annually 2016 to 2021* [13] *(except battery ;) Graphics based on data in publication of Meng Hou et al. Fig.1 p.2.*

As figure 7.1.1 demonstrates for vehicles put on the Chinese market, the average Lead use quantities per vehicle are on the same level of around 0,12 kg. We estimate that in fig. 7.1.1 the slight increase from 2017 to 2021 in the volume is due to use of more recycled metals like cast Aluminium and an increased vehicle weight.

On average, for an actual new vehicle for the European market, we estimate a further decrease of the amount of Lead in recycling Aluminium materials, which is partly compensated by application of more recycling Aluminium and advanced electronic systems and essential uses of Lead therein.

For end-of-life-vehicles in the EU there are legally determined endpoints (Authorized Treatment Facilities) and clear take back obligations. Further legal requirements focus on utilization and further treatment of the material fractions. At our opinion, application of existing European and national legislation ensure that related risks are minimized and in orderly pathways.

[13] [Meng Hou et al , 2023]: Research on Limit of Hazardous Elements in Automotive Interior Parts Based on Acid Sweat Extraction; J. Phys.: Conf. Ser. 2529 012006; doi:10.1088/1742-6596/2529/1/012006;

8. Concluding comments to stakeholder contribution

The enclosed entry specific contributions reflect the work of our industry since the last reviews of these exemptions. In general, technical information given during previous consultations is seen still as valid and not all times reproduced explicitly in the current submissions.

We ask to keep wording for the entries 3 and 8(e) and in addition to avoid any further split of existing entries into new subentries, especially if there is no technical solution for the subentries.

For entry 2(c)(ii) (Lead in recycled Aluminium) we see the possibility to lower the allowed Lead concentration in vehicles new type approved from 1.1.2030 onwards by 25 % meaning a reduction from 0,4 to 0,3 wt. % Pb.

For entry 8(g)(ii) we see the possibility to end his exemption for vehicles with a new whole vehicle type approval after 1.1.2030.

The Lead uses covered by these exemptions are either alloys in which the Lead is physically bound within the metal matrix and does not significantly release through corrosion, friction, or wear, or other Lead-based solder alloys used within electronic components' interiors. In these cases, the solders are encapsulated within the components and do not release during product use. Recycling is also feasible without challenges and has been successfully realized in practice.

We ask to recommend a succeeding consultation or review not before a time period of eight years to reflect developments of one product cycle and to enable current research efforts to find their way in a future volume production.

We would welcome the opportunity, to continue the open discussions with the European Commission and the consultants during the assessment process of the consultation and are willing to answer to further possible questions on the subject.

Should you need any further information, please address your requests in writing to the listed contact person below Cc'ing the listed associations representatives.

In conclusion, the automotive industry requests the extension of the exemptions as specified in the attached documents.

We would appreciate it if you could confirm the receipt of the present document. We thank you in anticipation.

With best regards,

Silvia Vecchione
Senior Environmental Policy Manager ACEA,
On behalf of the joint industry associations and the associated industry stakeholders

Enclosures:

Stakeholder Consultation submission for entry 2(c)(ii): Enclosure_ACEA_et_al_entry_2cii_submission.pdf
Stakeholder Consultation submission for entry 3: Enclosure_ACEA_et_al_entry_3_submission.pdf
Stakeholder Consultation submission entry 8(e): Enclosure_ACEA_et_al_entry_8e_submission.pdf
Stakeholder Consultation submission entry 8(g)(ii): Enclosure_ACEA_et_al_entry_8gii_submission.pdf

9. Contact details of the representatives of the associations

(For details on the associations see next page)

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9.1 Associations [14] (Registration ID number listed in EU transparency register can be found below)

Listed in alphabetical order.

9.1.1 The European Automobile Manufacturers Association (ACEA)

The European Automobile Manufacturers' Association (ACEA) represents the 15 major Europe-based car, van, truck and bus makers. BMW Group, DAF Trucks, Daimler Truck, Ferrari, Ford of Europe, Honda Motor Europe, Hyundai Motor Europe, Iveco Group, Jaguar Land Rover, Mercedes-Benz, Renault Group, Nissan, Toyota Motor Europe, Volkswagen Group, Volvo Group

ACEA works with a variety of institutional, non-governmental, research and civil society partners - as well as with several industry associations with related interests.

ACEA has permanent cooperation with the European Council for Automotive R&D (EUCAR), which is the industry body for collaborative research and development.

ACEA has close relations with the 29 national automobile manufacturers' associations in Europe and maintains a dialogue on international issues with automobile associations around the world.

9.1.2 The European Association of Automotive Supplier (CLEPA)

CLEPA, the European Association of Automotive Suppliers, represents over 3,000 companies supplying state-of-the-art components and innovative technologies for safe, smart, and sustainable mobility.

CLEPA brings together over 120 global suppliers of car parts, systems, and modules and more than 20 national trade associations and European sector associations. CLEPA is the voice of the EU automotive supplier industry linking the sector to policy makers.

- The automotive sector accounts for 30% of R&D in the EU, making it the number one investor.
- European automotive suppliers invest over €30 billion yearly in research and development.
- Automotive suppliers register over 9,000 new patents each year.
- Automotive suppliers in Europe generate close to five million direct and indirect jobs.

[14] The associations are registered at the EU Transparency register as follows:
European Automobile Manufacturers Association (ACEA) Identification No. 0649790813-47
European Association of Automotive Suppliers (CLEPA) Identification No. 91408765797-03
Japan Automobile Manufacturers Association, Inc. (JAMA) Identification No. 47288759638-75

9.1.3 Japan Automobile Manufacturers Association, Inc. (JAMA)

Japan Automobile Manufacturers Association, Inc. (JAMA) is a non-profit industry association which comprises Japan's fourteen manufacturers of passenger cars, trucks, buses and motorcycles. JAMA works to support the sound development of Japan's automobile industry and to contribute to social and economic welfare.

For entry 3. "Copper alloys containing up to 4% Lead by weight" and entry 8(e)

9.1.4 Japan Auto-Parts Industries Association (JAPIA)

The Japan Auto Parts Industries Association (JAPIA) is an industry organization that was established in August 1969, when its predecessor, the Auto Parts Industries Association was reorganized as an incorporated association with a higher level of public interest. Today, the value of shipments of auto parts from member companies has reached approximately 20 trillion yen, supporting the manufacture of automobiles not only in Japan but also around the world.

Each and every one of these high-quality parts makes a significant contribution to the safety and comfort of automobiles. The environment surrounding the automotive parts industry is becoming more and more severe, and the industry is facing many challenges such as responding to structural changes, dealing with environmental issues, and promoting international cooperation.

JAPIA will continue to develop proactive business activities to contribute to the growth of the Japanese economy and society while promoting the sound progress of the "motorized society" through the automotive industry.

9.1.5 Korea Automobile Manufacturers Association (KAMA)

The Korea Automobile & Mobility Association (KAMA), Seoul is a professional association consisting of 6 major mobility actors (Hyundai, KIA, Genesis, GM Korea, Renault Korea, KG Mobility) of the Korean market. KAMA primary responsibility is to represent the positions of the Korean automobile industry in terms of automobile industry policy, global standard harmonization, and international cooperation.

- The Korean automobile industry accounts for more than 10% of the nation's total exports, which amount to about 2.3 million units annually in the global market.
- The EU is an important export market for South Korea (the second largest after North America), and accounts for more than 400,000 Korean-made cars annually.
- The Korean automobile industry produces more than 700,000 vehicles in the Czech Republic, Turkiye, and Slovakia, directly contributing to the employment and development of the automobile industry in EU.
- Korean auto parts companies export more than $5 billion annually to the EU based as a result of superior quality and performance, contributing to the automotive production of European automobile manufacturers.