



ACEA



European Automobile
Manufacturers Association

JAMA

JAPAN AUTOMOBILE MANUFACTURERS ASSOCIATION, INC.



KOREA AUTOMOBILE
MANUFACTURERS ASSOCIATION

VDA

Verband der
Automobilindustrie



CLEPA
European Association of
Automotive Suppliers



GLASS FOR EUROPE
Building, Automotive, Solar-Energy Glass

Fraunhofer IZM

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Cc: European Commission, DG Environment,

Mr. Garcia-Burgues, Mrs. Artemis Hatzi-Hull;

European Commission, DG Enterprise and Industry,

Mr. Phillippe Jean, Mr. Herlitz,

Brussels, 9 September 2011

**Joint Association Input to the European Commission Stakeholders' Consultation^[1] on
Adaptation to Scientific and Technical Progress of Exemption 8(i) of Annex II to
Directive 2000/53/EC (ELV).**

Application for extending entry 8 (i) of Annex II ELV directive 2000/53/EC

Dear Dr. Deubzer,

During the last 10 years the quantity of heavy metals used in car production has been decreased enormously. An Öko-Institute study published in 2010 confirmed the achieved heavy metal reductions. Even a member of the Environment committee of the European Parliament mentions in May 2011 ^[2] in his speech “*In Europe, almost all heavy metals from cars have vanished.*” This may be interpreted as a success of environmental policy and as well of intensive industry actions.

The specific provisions of the ELV directive and the elements of the European waste legislation ensure that end-of-life vehicles (ELV's) as well as waste from the repair and maintenance of vehicles enter well defined utilization and recycling paths.

In the opinion of the automotive industry further significant contributions to the reduction of heavy metals in European waste streams by car specific measures are not achievable. Beside the car battery, which is used and recycled in closed loops, there are only a few specific

[1] http://elv.exemptions.oeko.info/fileadmin/user_upload/Exe_8_i_2011/Guidance_doc_consult_ELV-exe8i.pdf 30.08.2011

[2] Source: EuCIA Debate Report 04052011.pdf; page2; www.eucia.org Brussels, May 2011;
<http://www.eucia.org/files/EuCIA%20Debate%20Report%2004052011.pdf>

exemptions with a relatively low lead amount required in some applications due to special technical needs.

One of these is the use of lead containing solders in electrical glazing applications on glass e.g. for contacting antenna or heater functions. Due to the lack of a proven technical solution that meets requirements - especially at higher temperature load - the actual expiry date 01/01/2013 for the current exemption is not achievable. Despite several research and development (R&D) activities a proven substitute for volume production covering the needs of all future vehicles is still missing. The R&D work is still ongoing. Around 20 different solder types have been tested in the past as substitute without success (for details see enclosure 2 industry activities 2009 -2011). If a solution would be found today, their qualification and implementation would require at least a 3 to 5 years period. This is because new technologies must be implemented with great care. Over vehicle life time safety, health and life of our customers depend on our products. Extensive testing and safeguarding procedures are obligatory.

For some vehicles Indium based lead-free solders are discussed to be a substitute. Due to missing data on real temperature load on glass connectors during the last stakeholder procedure in 2009 a final decision was not possible. First test have been conducted at 90 °C.

Tests at higher temperatures – that were proposed by some companies - were not conducted because the supplier of solder insisted not to apply tests at higher temperatures than 90 °C.

In the meantime up-dated test results on the temperature load are available (for details see enclosure 1). These test results reflect that depending on the car design, screen inclination, thickness and color of the glass there is a broad range in temperature load on the soldered glass connector terminals (for example, if all other parameters are kept constant then a change in glass colour alone, would affect this temperature with about a 20°C range, from light green glass to dark tinted glass.

The use of dark tinted glass will increase in future to reduce heating of car interior by solar radiation.

There were also some changes during the last years in the design of cars (geometry) to further reduce the aerodynamic resistance and this trend will continue in the coming years. This requires a lower inclination of screens and causes in the same way higher temperature load on the screens.

Temperatures measured in the tests were up to around 130 °C and the Indium based solder investigated in the last assessment as a potential substitute has a technical temperature limit from slightly above 100 °C.

Further challenges of Indium based solders are their instability and the corrosion behaviour (see enclosures).

In addition as investigated recently by the EU Commission Indium availability is very limited. Indium therefore was put on the EU's list of critical raw materials in 2010.

Indium use is essential for the production of electrical components like thin film solar cell types or high intensity white LED's and for LCD displays. In solders for soldering on automotive glass Indium is not essential and in addition non recoverable. Seen from a life cycle analysis approach, there is evidence that the use of Indium increases overall environmental load instead of effecting a reduction. Furthermore toxicological impacts are not yet clear. So from the perspective of the total environmental impact and the critical resource availability the use of Indium as a potential substitute in this application is very questionable. Details are outlined in enclosure 3 (non melting temperature related aspects).

In July 2010 the Automotive Industry represented by ACEA, JAMA, KAMA, CLEPA, Glass for Europe, and VDA sent a message with detailed technical arguments to DG Environment to continue the exemption entry 8 (i) as provided in COMMISSION decision 2010/115/EU of 23.02.2010 L48/16 beyond 2013.

The Automotive Industry is applying to extend the exemption 8 (i) until more sustainable and validated substitutes are available and - because research in this area is still ongoing - proposes a review of this entry together with the review of other entries in 2015. The current expiry date for vehicles new type approved after 31/12/2012 is neither feasible nor realistic due to missing alternatives or validated substitutes fulfilling the technical demands of all cars.

All details for the above characterized obstacles due to technical and scientific evidence are discussed and scrutinized in attached documents.

Whereas there is no special comment made, the arguments of the Automotive Industry of 2007 and 2009 consultation are still valid.

Please contact for questions or requests for further details Peter Kunze at European Automobile Manufacturers Association (ACEA), mail: pk@acea.be.

On behalf of the associations



Peter Kunze
Director Environmental Policy
ACEA - European Automobile Manufacturers Association

Attachment

This application is supported by the following associations:

- ACEA, the European Automobile Manufacturers Association, Brussels
(transparency registration ID number 0649790813-47)
- JAMA, the Japan Automobile Manufacturers Association, Tokyo / Brussels
(transparency registration ID number 71898491009-84)
- KAMA, the Korea Automobile Manufacturers Association, Seoul
(transparency registration ID number 72944376512-60)
- VDA, the German Association of the Automotive Industry, Berlin
(transparency registration ID number 95574664768-90)
- CLEPA, the European Association of Automotive Suppliers, Brussels
(transparency registration ID number 91408765797-03)
- Glass for Europe, the European Association for Manufacturers of Building, Automotive and Transport Glass, Brussels
(transparency registration ID number 15997912445-80)

Enclosures:

Answers to stakeholder questionnaire from Öko-Institute with enclosures 1- 4 added:

Enclosure 1: Temperature load measurements and specification

Enclosure2: Industry activities 2009 to 2011

Enclosure 3: Non low melting point related obstacles

Enclosure 4: Industry activity roadmap 2011 to 2016