european aluminium association

EAA position paper on the impact of the new proposed harmonised classification of Lead on the European Aluminium industry

Context 30 June 2014

The European Aluminium Association (EAA) represents the aluminium industry in Europe, including primary aluminium producers, downstream manufacturers, producers of recycled aluminium and manufacturers of rolled and extruded products. The European Aluminium Association actively engages to promote the properties of aluminium, secure growth and optimise the contribution our metal can make to meeting Europe's sustainability challenges.

The European aluminium industry has demonstrated its strong and voluntary commitment to delivering best in class performance in terms of environmental sustainability, health and safety.

This paper outlines the impact of the proposed harmonized classification for lead as toxic for reproduction (Reproductive Toxicity 1A), according to the Classification Labeling and Packaging Regulation (CLP).

The proposal, which has been issued by the Risk Assessment Committee of ECHA - European Chemical Agency (RAC) in December 2013, includes a Specific Concentration Limit (SCL) of lead to be set up on the level of 0.03%.

The classification of lead and in particular the defined SCL is based on the criteria included in the new SCL guidance. These criteria do not take into account the difference in bioaccessibility of the soluble, non-soluble compounds, metal in powder and massive form.

According to the proposed new classification all the aluminium alloys containing more than 0.03% of lead will be classified as Toxic for Reproduction.

In order to be at risk, lead must be in a form, which can be assimilated by human beings, animals or plants. A study currently available for lead metal, demonstrates that there is a difference in bio-accessibility between the different forms of lead and the lead in the metals.

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It is worth to notice that there are no negative environmental, health and/or consumer safety impacts recorded from low levels of dissolved lead in aluminium, as shown in results of such tests undertaken by some metals.

EAA calls for a careful consideration of a proposal to harmonize the classification for lead as toxic for reproduction according CLP regulations, based on scientific evidence and more specific data for the aluminium alloys that we will provide.

The new classification will have a serious impact on the recycling businesses operating in Europe.

Implications and expected consequences on the aluminium recycling industry

Today 90% of the secondary production of aluminium alloys manufactured according to the existing legal limits for lead and the relevant EU and international standards, contains lead above the new proposed Specific Concentration Limit (SCL) of 0.03%.

The main products that would be affected by the new classification are aluminium foundry alloys. This is a product produced by the aluminium recycling industry. The industry provides raw material used in the following sectors: automotive, building, packaging, aerospace, and engineering.

Many alloys contain lead in the range of 0.20% – 0.40%. This amounts in some EU regions to 80% of alloys.

On top, the existing recycling value chain operates with insignificant human exposure to lead and the lead content of the final product. The content of lead in the final product is defined according to the following existing legislation and standards:

Restriction for Lead in Aluminium products exceeding the proposed SCL of 0.03%:

- End of life Vehicle Directive 2000/53/EC. Lead content in Aluminium Products 0.4%
- Material in contact with food (CEN harmonized standards EN 601:2004, EN 602:2004 and local legislation): 0.05%
- Restriction of Hazardous Substances Directive (RoHS)): lead as alloying element in aluminium containing up to 0.4% lead by weight (exemption 6(b))

Lead in the scrap

- Waste classification Decision 2000/532/EC for the classification of hazardous and non hazardous waste *under review* Lead content to classify a waste as hazardous 0.3%
- End of Waste Criteria Council Regulation No 333/2011 applicable to waste classified as non hazardous.

Other

- Restriction of Hazardous Substances Directive (RoHS)) Lead in homogenous material < 0.1% by weight.

There are some applications like packaging following stricter regulations where the sum of concentration levels of lead, cadmium, mercury and hexavalent chromium shall not exceed 0.01% (Packaging and Packaging Waste Directive). This is applied in aluminium can to can recycling. It is possible to keep such low level of lead due to the scrap coming from one source: cans and this is remelted into cans again. This cannot be achieved in case of other scrap sources as they contain more than 0.03%.

In order to produce products with a level of Pb below 0.03%, companies would need to dilute the scrap with a relatively high lead content with more pure AL alloys or with primary metal. This would increase the cost of production to the extent of losing profitability. The cost estimated is 200-300Euro/tonne (it can differ depending on the facility).

Last but not least, dissolved lead impurities cannot be economically separated or removed during the scrap processing or secondary refining due to the high reactivity of aluminium versus lead[1].

Consequences

Europe is a world leader in aluminium recycling and it produces almost 4.1 Mt/year (in 2012) i.e.: two third of the overall EU aluminium production.

The aluminium recycling industry is essential for the European economy because it allows to increase the recycling of end of life scrap metal and to produce new raw materials with energy savings of 95% comparing from the production of primary aluminium. **Recycling actively contributes to the EU decarbonisation and resource efficiency goals.**

The main consequences of the proposed classification of lead for the sector are:

- **Decrease of market demand for recycled aluminium**.→ The products classified as toxic for reproduction will have more difficulties to be absorbed by the market and will suffer from higher and unbearable production costs. This is jeopardizing the entire aluminium recycling industry by further increasing the EU's import dependency to cover an EU growing demand in aluminium. The EU is already dependent on aluminium imports at a record level of 51%. We expect the EU secondary aluminium industry to lose orders and as consequence to become less competitive.

[1] Reference study of Professor Dr.-Ing Bernard Friedrich –"Existing technologies for lead removal from aluminium melts".

- **Dependency on imported primary Aluminium**→ In order to develop products with a lower lead content, the companies would need to dilute the scrap with relatively high lead content with more pure Aluminium alloys or even primary metal, as stated above.

- **Increased export of scrap** →There is a possibility that the classified scrap will be exported outside Europe's borders, processed to semi finished products as castings and sent back to the EU as 'articles', not subject to the same prescriptions like classification when containing lead over the SCL, as substances and mixtures under the REACH - Registration, Evaluation, Authorisation and Restriction of Chemical substances regulation. This will hinder the aluminium sector's efforts to increase scrap availability and limit scrap leakage.

- **Increase of landfilling in the EU** →The additional costs implied to scrap treatment can lead to landfilling. This would generate a loss of an essential resource as an "energy bank" for the sector and for Europe as a whole and will not bring any net benefit to the EU environment.

- **Companies granted environmental permits for End-of-Waste criteria cannot process hazardous waste** → The change of the criteria from non-hazardous to hazardous will impact the current environmental permits of the plants treating currently EoW criteria. The uptake of the EoW Regulation differs between EU countries, today Italy is a country where the regulation has the highest uptake.

- The **costs** associated are:
  - ❖ Higher operational costs: Higher transport cost, specific storage area: more complex shipment permit.
  - ❖ Higher administrative costs: Applying for an authorization to treat hazardous waste is usually more complex and expensive than the procedure to treat nont hazardous waste.
  - ❖ No possibility to apply the End of waste criteria, that are widely applied in the Italian market and consequently necessity to apply for an authorization for waste treatment.
  - ❖ Higher costs for labelling and packaging the final product, preparation of material safety data sheets.
  - ❖ Occupational and health safety more stringent rules: safety risk assessments for the workers, training and information for the workforce.

Furthermore we question the health and environment's benefit of imposing such SCL. It is assumed that if the lead currently in the global inventory of aluminium alloys is either diluted, landfilled or, most likely, exported and can be re-imported as articles, than no health or environmental objections will be met.

It can thus be concluded that the proposed threshold does not respect the EU proportionality principle as – in order to reach the stated objective – the measure would contradict several other EU key goals, especially in the fields of raw materials supply, resource efficiency and recycling targets, financial and administrative burden on Small and Medium Enterprises (SMEs), competitiveness and employment.

Conclusions

The secondary Aluminium recycling industry is an important industry in Europe, which contributes to the EU decarbonisation and resource efficiency goals, and operates in order to safeguard the environment, a safety workplace and the health of its employees.

The proposed Specific Concentration Limit (SCL) would lead to a further loss of European industries' competitiveness in a context characterized by an uneven global playing field, shortage of raw materials, increasing dependency from third-countries imports, jobs and plant closures.

The industry does not challenge the RAC opinion that the lead ion meets the criteria for hazard classification as a reproductive toxicant, but the Specific Concentration Limit (SCL) criteria do not take into account the different intrinsic hazard due to different bioavailability of the metal form. Such differences in bioavailability can be tested by e.g. bio-elution.

For this reason EAA urges the EU authorities to delay the inclusion of the classification of metallic lead and related SCL in the 7th ATP - Adaptation to Technical Progress until the possibility to review the Specific Concentration Limit (SCL) guidance and include bioavailability criteria.

In the meantime the industry is committed to provide all the technical and economical justification. To this end, EAA members are committed to performing tests on lead bioavailability in aluminium based on a series of bio-elution tests.

The EAA remains at the European Commission's disposal to further assess the implications of such a measure on the recycling industry and evaluate possible alternatives.

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