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Kemikalieinspektionen
Swedish Chemicals Agency

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Our reference

To:
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Contribution to Stakeholder Consultation B-2016
Request for exemption of Lead and cadmium in PVC profiles of electric windows and doors

The Swedish Chemicals agency welcomes the opportunity to comment on this request for an exemption under the RoHS directive. In conclusion we do not find that the application provides sufficient reasoning for the requested exemption. In particular our concerns are that the proposed scope is not adapted to the aim of the RoHS directive, the applicant has neither managed to verify the benefits nor the disadvantages with the use of the recycled PVC and most of the current risk management measures under the REACH regulation is missing.

Please find our comments under the respective question in the text below.

1. Scope / wording and relevant category of the exemption request

The applicant has requested an exemption for "Cadmium and Lead used for windows and doors, being manufactured out of plastic window profiles containing recovered PVC, in case these windows and doors may be equipped or retrofitted with electric and/or electronic devices"
a. Do you agree with the scope of the exemption as proposed by the applicant?

No. We do not agree with the scope proposed by the applicant for the following reasons:

- The RoHS directive regulates that EEE placed on the market does not contain certain hazardous substances. The applicant asks for an exemption of a material with a certain history, namely recycled from waste. When an equipment is placed on the market we are not able to see if its content material has been recycled or not. There are no provisions in RoHS that requires the supplier to keep track of the origin of the input material. Thus the same provisions have to be given both virgin and recycled materials when RoHS is implemented. Virgin PVC can be produced without the addition of cadmium and lead, and thus we can not justify that those elements are necessary in the manufacturing of doors and windows equipped with electric parts.
- It is not clear from the wording in which parts of the windows or doors the lead and cadmium may occur. With the proposed wording the recycled material could theoretically be used in any part, also in the electronic equipment mounted on a door or window.

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- It is not clear that it is meant that the cadmium and lead substances are added to the EEE as part of the recycled PVC. The wording does not include such information, which opens for separate addition of lead and cadmium.
- There is no information on the maximum expected concentration for lead and cadmium in any homogenous material.
- We find that the category 11 is correctly addressed in other parts of the application.

b. Please suggest an alternative wording and explain your proposal, if you do not agree with the proposed exemption wording.

We have no suggestion for another wording since we cannot support that this exemption is granted. The reason for this is that it is possible to manufacture windows and door frames without the use of cadmium and lead.

2. Environmental / health protection / consumer safety considerations

Do you have any comments with respect to the applicant's assessment of environmental, health and consumer safety issues?

Without any data on specific volumes and emissions it is difficult to assess the consequences for the environment, human health or consumer safety.

In section 9 of the exemption request form the applicant refers to intentions to recycle by the communication COM(2014) 398 "Towards a circular economy: A zero waste programme for Europe". The communication COM(2014) 398 did not exclusively address recycling as a priority for handling waste streams. For all kinds of waste it rather emphasized measures like waste prevention, ecodesign, reuse and similar. There was also stated that the chemicals policy aims at phasing out toxic substances of very high concern as well as an aim for reducing the use of materials that are hazardous or difficult to recycle in products and production processes (substitution).

Rather than promoting of recycling, this communication thus asked for more upstream activities like better design of plastics and plastic products.

It might also be noted that the intended programme in the referred communication was withdrawn by the commission, and later on replaced by a new plan "Closing the loop - An EU action plan for the Circular Economy" COM (2015) 614/2 .

Do you know about possible health effects of Cd/Pb contained in recycled PVC, which are no longer permitted in virgin PVC to protect the health of different actors?

Cadmium is toxic to the environment and can also cause osteoporosis, kidney damage and cancer in humans. The most common way for cadmium to enter the body is through food. This is because plants easily absorb cadmium from the soil. Cadmium enters the soil through anthropogenic airborne emission sources of which the manufacturing, use and recycling of plastic articles are some examples.

Lead is a very toxic substance which may not be used in certain products. It can damage the nervous system and affect, for instance, the ability to learn. Foetuses and children are especially vulnerable. The European Food Safety Authority (EFSA) has

concluded[1] that for lead there is no longer evidence for a safe exposure limit below which no damage will occur. The developing brain in young children is extremely sensible to lead exposure. Exposure can induce neurodevelopmental damages, which would be noted, for example, as a decrease in the intelligence quota (IQ).

Do you have any comments regarding the environmental and health requirements as per the REACH Regulation?

Some provisions under REACH that are relevant for lead and cadmium are missing in section 8 of the application.

SVHC and the Candidate list: Lead and cadmium compounds, including elemental cadmium, are included in the REACH Candidate list. Several lead compounds already included in the Candidate list may be used as stabilisers in PVC, examples but not the only ones are orange lead, lead monoxide, lead dinitrate and lead oxide sulfate.

Proposal inclusion Annex XIV: Several lead substances, among them also substances that are used as stabilisers in PVC, has been recommended by ECHA/the member state committee for inclusion in REACH Annex XIV.

Annex XVII: Lead in PVC when used in consumer articles that could be mouthed by children is restricted in REACH Annex XVII, entry 63 since June 2016.

Registry of intensions: There are two registry of intentions made by ECHA for lead substances. For one of them the European Commission has requested ECHA to start the preparation of an Annex XV restriction dossier concerning lead stabilisers in PVC in general. The expected date of submission for the Annex XV restriction dossier was 16 December 2016, why we expect that it will be launched for public consultation at the end of March 2017. The recently submitted dossier is however already uploaded at ECHA´s website:

https://echa.europa.eu/registry-of-submitted-restriction-proposal-intentions/-/substance-rev/15539/term

The other registry of intention is concerning the content of lead in ammunition: https://echa.europa.eu/registry-of-current-restriction-proposal-intentions/-/substance-rev/13398/term

When restrictions for decaBDE and PFOA where recently discussed and voted for inclusion in Annex XVII of REACH the same limit values were set for virgin and recycled materials. Specific exemptions or higher limit values for recycled material have not been regarded as an appropriate option for those restrictions in REACH. It seems appropriate to apply a similar approach for recycled materials in the RoHS directive.

Do you have any comments regarding the applicant's assessment of impacts and benefits?

Would you be able estimating the amount of Cd and Pb in recycled PVC-U profiles of electronic doors and windows which is placed on the market in the EU every year? Please indicate figures if yes.

We have no such data.

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[1] EFSA (2010) European Food and Safety Authority. Scientific Opinion on lead in Food. EFSA Journal 2010; 8(4):1570

Do you support the applicants conclusion that: "The use of recycled PVC has a strong positive environmental impact by closing the loop towards a circular economy, by reducing the use of raw materials and by reducing the primary energy demand in the extrusion process and thus aims to achieve low carbon manufacturing".
Please argue why or why not.
We can not support the above statement made by the applicant since it is not sufficiently verified in their application. Furthermore, the applicant has not taken into account that both lead and cadmium can harm human health via the environment. See our answer under section 2.

Is it possible to quantify any environmental impact?
It would be possible if the applicant can provide more information on specific volumes of lead and cadmium as well as the exposure of them to the environment. Examples can be found in REACH restriction dossiers for cadmium and lead compounds which are available at ECHA´s website.

https://echa.europa.eu/previous-consultations-on-restriction-proposals/-/substance-rev/1907/term

https://echa.europa.eu/previous-consultations-on-restriction-proposals/-/substance-rev/1905/term

https://echa.europa.eu/registry-of-current-restriction-proposal-intentions/-/substance-rev/13398/term

https://echa.europa.eu/registry-of-submitted-restriction-proposal-intentions/-/substance-rev/15539/term

3. Socio-economic impacts of substitution

Please provide comments regarding the socio-economic impact of substitution as applicable.

Do you support the following statement of the applicant regarding socio-economic benefits of recycled PVC: "The reuse of PVC waste, however, has a proven socio-economic benefit in particular with regard to decarbonisation, circular economy, competitiveness and raw material availability. For instance, the today´s ratio of around 16% recovered PVC used in PVC profiles reduce primary energy demand by approximately 8% (source: "Environmental Product Declaration for double-glazed PVC Windows, § 6.3 Sensivity concerning the use of recycled PVC (source: https://epd-online.com/PublishedEpd/Detail/9185)."
Can you support this statement with further relevant data?
The applicant has only presented the aspects that are positive in their recycling scenario, but has for example not taken into account that both lead and cadmium can harm human health via the environment and workers e.g. under the recycling process.

We have no further information on the last questions.