

1st Stakeholder Consultation – Questionnaire for cobalt dichloride (CAS 7646-79-9, 7791-13-1; EC 231-589-4) and cobalt sulphate (CAS 10026-24-1, 10124-43-3; EC 233-334-2)

Abbreviations

EEE Electrical and Electronic Equipment

Background

The Oeko-Institut and Fraunhofer IZM have been appointed by the European Commission, within a framework contract¹, among others to support the review of the list of restricted substances and to assess seven substances with a view to their possible future restriction under Directive 2011/65/EU (RoHS 2).

Cobalt dichloride and cobalt sulphate were specified in the project terms of reference for a detailed assessment. Initial substance information for cobalt dichloride and sulphate are compiled and available on the substance specific webpage of the stakeholder consultation (<http://rohs.exemptions.oeko.info/index.php?id=296>).

The questions below outline the need for information.

Questions

1. Applications in which cobalt dichloride and cobalt sulphate are in use

- a. Please provide information concerning products and applications in which the substances are in use.
 - i. In your answer please specify if the applications specified are relevant to EEE products and applications or not.
 - ii. Please elaborate if substitution of the substance is already underway in some of these applications, and where relevant elaborate, which chemical or technological alternatives may be relevant for this purpose. For example, please specify possible alternatives to the use of these compounds in surface treatment (substance level substitution) or possible alternatives to the surface treatment that would eliminate the need to use these compounds (technological level substitution).
- b. Please specify if you are aware, if aside from actual use of the substances, it may be reintroduced in to the material cycle through the use of secondary materials.
 - i. Please detail in this case what secondary materials may contain impurities of cobalt dichloride and cobalt sulphate and at what concentrations as well as in the production of what components/products such materials are used.

¹ The contract is implemented through Framework Contract No. FWC ENV.A.2/FRA/2015/0008 of 27/03/2015, led by Oeko-Institut e.V.

- ii. If possible please provide detail as to the changing trends of concentrations of cobalt dichloride and cobalt sulphate in such secondary materials as well as the changing trend of use of the respective secondary material in EEE manufacture.
- c. Please specify in which applications cobalt dichloride and cobalt sulphate are used as a material constituent, as an additive, as an intermediate or a reactant, etc. and what concentration of cobalt dichloride and cobalt sulphate remains in the final product in each of these cases (on the homogenous material level).

If cobalt dichloride and cobalt sulphate is considered to be an intermediate, please explain the reaction processes and which substance remains in the final component/material.

2. Quantities and ranges in which cobalt dichloride and cobalt sulphate are in use

- a. Please detail in what applications your company/sector applies cobalt dichloride and cobalt sulphate and give detail as to the annual amounts of use (please specify which data is relevant for which compound). If an exact volume cannot be specified, please provide a range of use (for example – 50-100 tonnes per annum).
- b. Please provide information as to the ranges of quantities in which you estimate that the substance is applied in general and in the EEE sector.
- c. If substitution has begun or is expected to begin shortly, please estimate how the trend of use is expected to change over the coming years.

3. Potential emissions in the waste stream

- a. Please provide information on how EEE applications containing cobalt dichloride and cobalt sulphate are managed in the waste phase (with which waste is such EEE collected and what treatment routes are applied)? For example, how are the surface treated components managed in the waste phase?
- b. Please detail potentials for emissions in the relevant treatment processes.

4. Substitution

- a. For which applications is substitution underway?
 - i. For which applications is substitution scientifically or technically not practicable or reliable and why?
 - ii. Please provide detail of substitutes for specific applications (for example the cobalt compounds used in surface treatment).
 - iii. Please refer in your answers to available substitutes on the substance level (for cobalt in the specific surface treatment processes) and on the technological level (for example alternatives to surface treatment).
 - iv. Do certain constraints exist for the application of substitutes (provide details on costs, reliability, availability, roadmap for substitution, etc.)?

5. Socio economic impact of a possible restriction

Please provide information as to the socio-economic impacts of a scenario in which cobalt dichloride and/or cobalt sulphate are restricted under RoHS. Please specify your answers in relation to specific applications in which the substances are used and/or in relation to the phase-in of specific alternatives in related application areas. Please refer in your answer where possible to possible costs and benefits of various sectors, users, the environment, etc. Please support statements with quantified estimations.

6. Further information and comments

The information compiled on these substances for the stakeholder consultation has been prepared as a summary of the publicly available information reviewed so far. If relevant, please provide further information in this regard, that you believe to have additional relevance for this review, as well as references where relevant to support your statements.

In case parts of your contribution are confidential, please clearly mark relevant text excerpts or provide your contribution in two versions (public /confidential).

Finally, please do not forget to provide your contact details (Name, Organisation, e-mail and phone number) so that Oeko-Institut can contact you in case there are questions concerning your contribution.