

1st Stakeholder Consultation – Questionnaire for nickel sulphate (CAS 7786-81-4; EC 232-104-9) and nickel sulfamate (CAS 13770-89-3; EC 237-396-1)

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).

Diantimony trioxide was specified in the project terms of reference for a detailed assessment. Initial substance information for nickel sulphate and nickel sulfamate are compiled and available on the substance specific webpage of the stakeholder consultation (<http://rohs.exemptions.oeko.info/index.php?id=295>).

The questions below outline the need for information.

Questions

1. Applications in which nickel sulphate and nickel sulfamate 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 nickel plating (substance level substitution) or possible alternatives to nickel plating 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 nickel sulphate and nickel sulfamate and at what concentrations as well as in the production of what components/products such materials are used.
 - ii. If possible please provide detail as to the changing trends of concentrations of nickel sulphate and nickel sulfamate in such secondary materials as well as the

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.

changing trend of use of the respective secondary material in EEE manufacture.

- c. Please specify in which applications nickel sulphate and nickel sulfamate are used as a material constituent, as an additive or as an intermediate and what concentration of nickel sulphate and nickel sulfamate remains in the final product in each of these cases (on the homogenous material level).
- d. If nickel sulphate and nickel sulfamate are considered to be intermediates, please explain the reaction processes and which substances remain in the final product/material?

2. Quantities and ranges in which nickel sulphate and nickel sulfamate are in use

- a. Please detail in what applications your company/sector applies nickel sulphate and nickel sulfamate 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 nickel sulphate and nickel sulfamate are managed in the waste phase (with which waste is such EEE collected and what treatment routes are applied)? For example, how are nickel plated 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. Please provide information in relation to specific applications on the substance level (for example substitutes for the nickel compounds in the nickel plating process) as well as for alternatives on the technological level (for example alternatives to the nickel plating process).
 - ii. For which applications is substitution scientifically or technically not practicable or reliable and why.
 - iii. Do certain constraints exist (provide details on costs, reliability, availability, roadmap for substitution, etc.) for the application of substitutes?
 - iv. Please specify in this respect which alternatives are available on the substance level (substitution) and which are understood to be available on the technological level (elimination).

5. Socio economic impact of a possible restriction

Please provide information as to the socio-economic impacts of a scenario in which nickel sulphate and sulfamate 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 to possible costs and benefits of various sectors, users, the environment, etc. where possible; 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.