

Brussels, 15<sup>th</sup> June 2018

## Subject

### Europacable contribution to the consultation on the study to support the review of the list of restricted substances and to assess a new exemption request under RoHS 2 (Pack 15): Diantimony trioxide ( $Sb_2O_3$ )

#### 1. Applications in which diantimony trioxide is in use

- a. Please provide information concerning products and applications in which the substance is in use.
  - i. In your answer please specify if the applications specified are relevant to EEE products and applications or not.

Diantimony trioxide is used by Europacable members in manufacturing of electric and optical cables. Europacable members produce electric cables including the substance for different voltages (low Voltage, Medium Voltage and High Voltage) and different markets (telecom, automation, construction, power networks, oil & gas, electrical appliances).

Some of those cables fall in the scope of RoHS, in particular LV cables for electrical appliances.

Even for products not in the scope of RoHS, customers might ask for RoHS compliancy, and thus addition of Diantimony trioxide on the list of RoHS banned substances could be impacting.

- ii. Please elaborate if substitution of the substance is already underway in some of these applications, for example in relation to the properties for which diantimony trioxide is used (for example synergist for halogenated flame-retardants) and/or in relation to specific applications in which it is used (for example in specific plastic materials, etc.) and where relevant elaborate which chemical or techno-logical alternatives may be relevant for this purpose.

As far as Europacable members are concerned, for most of the cable applications no substitution program is on-going. For some specific applications, where  $Sb_2O_3$  is used as fire retardant synergist in cable sheath, a substitution program has been launched.

- b. Please specify if you are aware, if aside from actual use of the substance, it may be re-introduced in to the material cycle through the use of secondary materials.
  - i. Please detail in this case what secondary materials may contain diantimony tri-oxide impurities and at what concentrations as well as in the production of what components/products such materials are used.

We are not informed on potential presence of diantimony trioxide in secondary raw materials. As long as the substance is not regulated within REACH or RoHS, the supplier will most probably not evaluate / communicate on the presence of the substance.

- ii. If possible please provide detail as to the changing trends of diantimony trioxide concentrations 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 diantimony trioxide is used as a material constituent, as an additive or as an intermediate and what concentration of diantimony trioxide remains in the final product in each of these cases (on the homogenous material level).

Diantimony trioxide is used in cables applications, in particular in sheath for its fire retardant property. The concentration in the homogeneous materials is higher than 0.1%; concentration, between 0.5 and 8% have been identified.

If diantimony trioxide is used as a synergist flame retardant, please specify the brominated flame retardant with which it is used and at what concentrations they are applied.

## 2. Quantities and ranges in which diantimony trioxide is in use

- a. Please detail in what applications your company/sector applies diantimony trioxide and give detail as to the annual amounts of use. If an exact volume cannot be specified, please provide a range of use (for example – 50-100 tonnes per annum).

Diantimony trioxide is used in electrical and optical cables applications for various markets : telecom, automation, construction, power networks, oil & gas, electrical appliances.

No exact volume have been consolidated at Europacable level.

- 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.  
Europacable estimates that quantities in the range of 100 to 1000 tonnes are used for the EU cable market.
- 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 diantimony trioxide are managed in the waste phase (with which waste is such EEE collected and what treatment routes are applied)?
- b. How are waste wire and cables containing diantimony trioxide managed in the waste phase and how is copper extracted from such waste to enable recycling?

The usual process for cables treatment at end of life is

- i. A sorting per cable type / materials (PVC or PE or rubber or...)
- ii. Per cable lot (for instance PVC based), a grinding of the cable and a plastic / metal separation thanks to vibrating tables

The cables specifically containing  $Sb_2O_3$ , for instance based on PVC, are not separated from the other PVC cables stream. They are all grinded together and the PVC obtained after treatment may most probably contain  $Sb_2O_3$  at variable concentration.

- c. How are waste glass and ceramics containing diantimony trioxide dealt with in the waste phase?
- d. 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 specify in this respect which alternatives are available on the substance level (substitution) and which are available on the technological level (elimination). For example, which alternatives can be applied instead of diantimony tri-oxide used in PVC cables or in plastic components and which alternative isolating materials can be applied instead of PVC in order to eliminate the need for diantimony trioxide in such applications?
  - iii. What constraints exist to the implementation of the named substitutes in a specific application area (provide details on costs, reliability, availability, roadmap for substitution, etc.). For example for what range of the diantimony trioxide applications can specific substitutes be used for?

#### 5. Socio economic impact of a possible restriction

Please provide information as to the socio-economic impacts of a scenario in which di-antimony trioxide were to be restricted under RoHS. Please specify your answers in relation to specific applications in which the substance is 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.

**Restriction of  $Sb_2O_3$  would have a big impact on cable industry for the following reasons**

- So far, no alternative solutions have been found for most of the applications.
- Restriction, without alternative available, would oblige manufacturer to stop producing some of the products on the market today, in particular for automation, construction, power distribution and electrical appliances.
- We would expect customers request for RoHS compliancy even for products NOT in the scope of RoHS. Such request could come from EU, but also from other worldwide customers (particularly US)

#### 6. Further information and comments

The information compiled on diantimony trioxide 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.