Japan 4EE Input to **1st Stakeholder Consultation – Questionnaire for diantimony trioxide (CAS 1309-64-4; EC 215-175-0)**

15 June, 2018

Name of the associations which make this input :

The Japanese electric and electronic (E&E) industrial associations:

Japan Electronics and Information Technology Industries Association (JEITA);
Japan Electrical Manufacturers´ Association (JEMA);
Japan Business Machine and Information System Industries Association (JBMIA); and
Communications and Information network Association of Japan (CIAJ)

With cooperation of the following Medical and Monitoring & Control Equipment Industrial Associations:

JAIMA (The Japan Analytical Instruments Manufacturers' Association); and
JEMIMA (Japan Electric Measuring Instruments Manufacturers' Association)

Contact details of responsible person for this contribution

Organization: Japan Electronics and Information Technology Industries Association (JEITA)
Name: Emi Yamamoto Function: Secretariat
Address: Ote Center Bldg., 1-1-3, Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan
E-Mail: emi.yamamoto@jeita.or.jp
Tel.: +81 3 5218 1054

We would like to submit our input to 1st Stakeholder Consultation – Questionnaire for diantimony trioxide (CAS 1309-64-4; EC 215-175-0)
http://rohs.exemptions.oeko.info/fileadmin/user_upload/RoHS_Pack_15/Questionnaire/Diantimony_trioxide_Questionnaire_RoHS_Pack15_1st_Cons.pdf
as follows:

Please note: Following information is mostly based on Japanese industry's intelligence collected in previous studies and others. We have not gathered information on these substances from our suppliers yet, because they are currently not covered under SVHC or other legislations and we have no scheme to gather information for these substances.

Questions and Answers:

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.

Japanese industry recognizes that this substance may be used as assistant agent of flame-retardant, especially where high flame retardant grade is required. The reason of the use is because we recognize this substance has many advantages for example, it is comparatively safe and is able to give products flame-retardancy effectively at the necessary level of safety of the users.

The background document, “1st Stakeholder Consultation – Compilation of initial substance information for diantimony trioxide”, lists an application, “In the production of glass, enamels, functional ceramics and semi-conductors”, in “2. Uses and quantities”、however, the substances exist in an amorphous state in glass or ceramic, and diantimony trioxide does not exist as it is.

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.

We don’t have any information. When any kinds of brominated-retardant are used in components in which high flame retardant grade is required, diantimony trioxide needs to be used as assistant agent of flame-retardant.

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.

We don’t have any information.

i. Please detail in this case what secondary materials may contain diantimony trioxide impurities 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 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). 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.

We don’t have any information, because final products manufacturers do not use the substance by themselves.

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

We don’t have any information, because final products manufacturers do not use the substance by themselves.

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).

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

We don't have information on it, however, we wonder why this substance is listed as priority substance based on waste information. According to Annex 4 of "Study for the Review of the List of Restricted Substances under RoHS2 (Reference: ENV.C.2/ETU/2012/0021", information on "Evidence of waste relevance" was "n.i. (no information) for Article 6(a) and "n.d.i. (no detailed information) for Article 6(b) and (c). Description in Swedish document is not about Antimony trioxide but Sb element in general.

"Evidence of waste relevance" seems to be still too poor. In the priority list made by the Environment Agency of Austrian, there are many substances which are judged to be "red" (there is evidence), though even an "evidence of waste relevance" for each substance concerned is not shown. Only four references were listed, and for one of them, concrete referenced document is not identified. From the purpose of RoHS Directive, and according to the "Methodology", waste relevance issues become the turning point of the judgment on whether a substance should be regulated under the RoHS. Therefore, we believe that the prioritization should not dare to be done based only on the poor data, but should be considered after having collected the necessary data about each substance and inspected such data.

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 treat-ment 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?

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

We don't have own information, because final products manufacturers do not use substance by themselves but only require suppliers to supply parts/materials having necessary specifications. However, in general, to substitute parts/materials completely, each of material suppliers, parts manufacturers and manufacturers of finished products must have technical processes for reviewing and developing substitution, testing its quality and reliability, and acquiring certification on applicable standards such as on flame retardancy or on safety as necessary. To manage these technical processes, managing processes also occur.

Following are extracts from i2A's letter of 4 April 2014:

"There are NO SUITABLE ALTERNATIVES available for some uses in E&E
The use of Brominated Flame Retardants (BFRs) together with ATO as synergist is for certain applications indispensable. Some examples:

- *ABS and HIPS are today the preferred (technically and economically) polymers for E&E enclosures. ATO: BFR is still the most cost-effective FR system, as confirmed by our members and their customer base. They stress that alternatives often do not fulfil the same combination of functionalities as ATO: BFR. Only replacement into an alloy is possible but nearly twice the price and still up to 0,5% halogen PTFE is needed.*
- *The BFR: ATO system is often a material of choice for thermoplastic elastomers used in cabling for E&E."*

Thus, based on available information, we consider that the substitution would be very difficult for safety reasons and no or scarce substitution options. Following a 4EE's comment in previous study, but the situation has not been changed largely:

"Japanese industry recognizes that this substance is used as assistant agent of flame-retardant. The reason of the use is because we recognize this substance has many advantages for example, it is comparatively safe and is able to give products flame-retardancy effectively at the necessary level of safety of the users. We sincerely hope that effective policy option should be considered carefully, only after such advantages of the substance would be properly reviewed and the socio-economic impacts would be well considered."

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 (elimina-tion). For example, which alternatives can be applied instead of diantimony tri-oxide used in PVC cables or in plastic components and which alternative isolat-ing 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 ap-plications 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.

Especially when policy options would be considered for widely-used substances, advantages of such substance should be properly reviewed. For example, in considering advantages of flame retardants, product safety assessment report of power code would be useful as a reference.

In the socio-economic impact assessment, benefit and risk of presumed scenarios must be quantified, then compared and evaluated. Especially, following aspects would be important:
- benefit and risk of the use of the substance under review,
- detailed risk assessments of substitute substances in themselves,
- assessments of whether applications of the substance under review can really be replaced,
- reliability of parts/products using substitutes,
- necessary period to evaluate them, and
- influence on product safety.

We believe that such aspects having big socio-economic impact should be taken into consideration properly. Furthermore, we believe that the inspection of cost for substitution should be performed at each stage of supply chain. When parts/materials would be substituted, each of material suppliers, parts manufacturers (in general, there are far more parts manufacturers than manufacturers of finished products, and each supply-chain usually extends to the secondary, tertiary or more) and manufacturers of finished products must have technical processes for reviewing and developing substitution, testing its quality and reliability, and acquiring certification on applicable standards such as on flame retardancy or on safety as necessary. To manage these technical processes, managing processes and costs also occur. Such processes need not only the related costs but also considerable time for each of the related suppliers and manufacturers.

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.

(1) Risk assessment and resulting regulatory options for diantimony trioxide in other countries should be taken into consideration.

For example, result of screening assessment on antimony trioxide (CAS#1309-64-4), which is covered under Batch 9 of Challenge Program of Canada Environmental Protection Act (CEPA), was published on Canada Official Gazette in 20 March, 2010. It concluded that antimony trioxide does not meet the criteria set out in section 64 of CEPA 1999 therefore no further actions are needed.
Vol. 144, No. 12 March 20, 2010（P.170）
DEPARTMENT OF THE ENVIRONMENT, DEPARTMENT OF HEALTH
CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999
Publication after Screening Assessment of Substances Batch 9

Screening Assessment for the Challenge
http://gazette.gc.ca/rp-pr/p1/2010/2010-03-20/pdf/g1-14412.pdf
Antimony trioxide (Antimony oxide), Sept. 2010
https://www.ec.gc.ca/ese-ees/9889ABB5-3396-435B-8428-F270074EA2A7/batch9_1309-64-4_en.pdf

In other countries including Japan, no restriction on antimony trioxide in EEE has been proposed after their formal assessment processes, so far.

(2) **Coordination with other EU policies, scheme of laws and regulations should be reconsidered including Critical Raw Materials initiative based on circular economy policy.**

Antimony is still regarded as "critical" for EU industry and listed in the latest CRM list[1] based on "Methodology for establishing the EU list of critical raw materials"[2] refined in 2017. It is the results of new calculating formula to judge Economic importance, and antimony is judged as important. European Commission publishes "Report on Critical Raw Materials and the Circular Economy"[3] in 2018, thus the examination and discussion on the CRM policy is continued lively.

On the other hand, we cannot know why the explanation about the cooperation or coordination with other policies including CRM is completely lacked in the recent studies on RoHS after the choice of previous list of priority substances. Especially about CRMs, they should be discussed under wider framework covering overall circular economy policy at first before starting studies under RoHS, in view of the industrial and economic importance.

(3) Consultation period is too short for comments.

Only in 60 days as the period for contribution, all we can do is to reply to the consultation solely based on the materials at our hand and our knowledge.
We industry would like to request to set at least 180 days (same as the period set for the consultation of draft dossiers by RAC/SEAC under REACH) as the period for comments on draft dossiers in the future consultation so that we may give more useful input to the consultation after more-detailed review. We believe full consideration among all the stakeholders would make the RoHS Directive contribute to European sustained development.

[1] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the 2017 list of Critical Raw Materials for the EU (COM(2017) 490 final)
Brussels, 13.9.2017
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52017DC0490
[2] https://publications.europa.eu/en/publication-detail/-/publication/2d43b7e2-66ac-11e7-b2f2-01aa75ed71a1/language-en
[3] Brussels, 16.1.2018
COMMISSION STAFF WORKING DOCUMENT Report on Critical Raw Materials and the Circular Economy
SWD(2018) 36 final (Brussels, 16.1.2018)
https://ec.europa.eu/docsroom/documents/27327

About Japanese electric and electronic (E&E) industrial associations:

About JEITA

The objective of the Japan Electronics and Information Technology Industries Association (JEITA) is to promote the healthy manufacturing, international trade and consumption of electronics products and components in order to contribute to the overall development of the electronics and information technology (IT) industries, and thereby further Japan's economic development and cultural prosperity.

About CIAJ

Mission of Communications and Information network Association of Japan (CIAJ). With the cooperation of member companies, CIAJ is committed to the healthy development of info-communication network industries through the promotion of info-communication technologies (ICT), and contributes to the realization of more enriched lives in Japan as well as the global community by supporting widespread and advanced uses of information in socio-economic and cultural activities.

About JBMIA

Japan Business Machine and Information System Industries Association (JBMIA) is the industry organization which aims to contribute the development of the Japanese economy and the improvement of the office environment through the comprehensive development of the Japanese business machine and information system industries and rationalization thereof.

About JEMA

The Japan Electrical Manufacturers' Association (JEMA) The Japan Electrical Manufacturers' Association (JEMA) consists of major Japanese companies in the electrical industry including: power & industrial systems, home appliances and related industries. The products handled by JEMA cover a wide spectrum; from boilers and turbines for power generation to home electrical appliances. Membership of 291 companies, http://www.jemanet.or.jp/English/

About Medical and Monitoring & Control Equipment industrial associations:

About JAIMA

The Japan Analytical Instruments Manufacturers' Association (JAIMA) is a sole industry association of Analytical Instruments in Japan, which established under the Japanese law. Member of JAIMA are more than 200 leading companies in Japan. JAIMA is to contribute to the development of the Japanese economy and the cultural lives of citizens in Japan through efforts to improve and advance technologies related to analytical instruments and the analytical instruments industry for the purpose of the advancement of science & technology.

About JEMIMA

Japan Electric Measuring Instruments Manufacturers' Association (JEMIMA) has been an active forum for measuring instruments manufacturers since its establishment in 1948. It has 85 companies as regular members and 29 companies & 7 organizations as supporting members. JEMIMA members contribute to a wide variety of industries by supplying products as "Mother Tools of the industry" for R&D design, and manufacturing. JEMIMA activities are becoming more and more global, since most of

the issues our industry is facing are also global. By actively working on these issues, we help our members to meet the challenge and promote the development of the industry worldwide. To achieve these goals, JEMIMA take “Globalization & promotion of International activities” to be one of the focal activities.