International ANTIMONY OXIDE Industry Association

IAOIA

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IAOIA Mission

The Mission of the International Antimony Oxide Industry Association is to serve the common interests of antimony producers, users and other stake holders world-wide concerning the environmental, health and safety regulatory affairs concerning antimony substances and their uses. The activities of the IAOIA will be determined by its members, and may include the conducting studies, dissemination of information pertaining to the safety and benefits of antimony substances, and the development of scientific information for the submission to governmental agencies.

Ongoing studies in Japan

JMIA is sponsoring a study of the Graduate School of Medical Sciences, KYUSHU University. A toxic evaluation of antimony compounds, namely antimony trioxide and antimony potassium tartrate in rats and mice via oral route of exposure was performed. Antimony potassium tartrate is the more soluble form. The study reconfirmed that water solubility of the antimony compound is critically important for its toxicity. More recently, a subchronic toxicity study of antimony trioxide and antimony potassium tartrate in rats via drinking water exposure resulted in no apparent systemic or reproductive toxicity at the 5 ppm level.

A more detailed summary of the results is available at the website.

Upcoming events

April 1-3; 2003
Addplast Europe 2003 in Cologne, Germany
IAOIA information will be available at the Helm and GLCC stand.
April 10-11; 2003
IAOIA meeting in San Francisco

Flame Retardants for Electrical Applications: 5-6 March 2003

Facts and figures were given by Campine on the EU's Risk Assessment of antimony trioxide and the role of the IAOIA. The entire presentation is available in pdf format at www.iaoia.org.

Meeting with DG Environment

On Feburary 12, 2003 the IAOIA went to see M. Robert Donkers from DG Environment on the free riders issue. M.Donkers sees a clear need to write to the main importing EU Member States in order to raise concern that, by allowing imports of antimony trioxide without having requested the required data, these Member States are not applying the EU existing Substances Regulation. Action will be taken before April 9. If Member States contacted do not respond adequately to the Commission's letter, the Chemicals Unit of DG Environment will explore with the European Commission legal services whether there is a case for launching formal legal proceedings against those Member States for not complying with the Regulation.
More information is available on the IAOIA website.

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Genotoxicity Update

A recent study by Cavallo *et al.* (Genotoxic Risk and Oxidative Damage in Workers Exposed to Antimony Trioxide, Env. Mol. Mut.40:184-189, 2002) assessed the genotoxicity potential of antimony trioxide (ATO) in occupationally exposed workers. In this study, three experimental assay methods were used to determine if workers who had been exposed to ATO displayed positive results when cells obtained from blood samples were assessed for genotoxic effects. Two of the three assays, sister chromatid exchange and micronucleus assay, yielded negative results. These methods have been scientifically validated by the OECD and are used routinely to evaluate the genotoxic potential of chemicals. These results are in agreement with findings in similar studies by Elliott *et al.* (An assessment of the genetic toxicology of antimony trioxide, Mutation Research:415, 109-117, 1998) who concluded that antimony trioxide **does not** pose a genotoxic hazard to humans.

The third assay utilized in the research by Cavallo *et al.* indicated there were more workers with "moderate" levels of DNA oxidative damage. However, this assay is experimental in nature, is not routinely used to assess genotoxicity, and has not been scientifically validated. Furthermore, it may not necessarily reflect genotoxic damage, as the assay is sensitive for a variety of insults on the cell and on cellular DNA. For example, a positive result from this assay could be indicative of an increase in programmed cell death, or similar normal cellular process. In addition, the statistical methods used to evaluate increased risk leave doubt as to the biological relevance of these findings.

In conclusion, the IAOIA believes that the current "state of the science" weight of evidence still supports the conclusion that there is minimal potential for genotoxicity as a health hazard from exposure to ATO in the workplace.

KemI First Draft Risk Assessment Report

The First Draft Report from Kemi is expected by Technical Meeting II in June. It will most likely be discussed in detail at Technical Meeting III in September.

IAOIA recently submitted three completed studies to KemI:

- Sb_2O_3 Exposure assessment compilation and review of local exposure data.
- Analysis of the results of a 42-day soil toxicity test with Enchytraeus Albidus, using $SbCl_3$ as test substance
- Analysis of the results of a 42-day chronic sediment test with Hyalella Azteca, using $SbCl_3$ as test substance

Massachusetts Toxic Use Reduction Program

A voluntary program that is reviewing if antimony trioxide should be on the current list for use reduction. Selection was initially based on PBT criteria (Persistent, Bioaccumulative, Toxic) but as antimony trioxide is not a PBT, it is being considered for removal from the list.

Antimony Trioxide FAQ:

Q: Is antimony trioxide banned in the EU via the furniture eco-label if supplied in pellet-form?

A: The latest revision of the EU furniture eco-label states clearly that "FR that have the R40 phrase at the time of application will not be allowed". Antimony trioxide only requires the R40 phrase when supplied in powder form. Once the antimony trioxide is encapsulated in a resin, the labeling is no longer applicable.

The IAOIA Members

In the USA / Europe organization Members:

Campine
Great Lakes Chemical Company
Laurel Industries, Inc. (OxyChem)
Produits Chimiques de Lucette
Sica
Penarroya Oxide Group

Associate Members

Albemarle Corporation
Dead Sea Bromine Group (DSBG)
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Durr Marketing Associates, Inc.
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Mikuni Smelting & Refining Co.
Nissan Chemical Industry, Ltd.
Sumitomo Metal Mining Co., Ltd.
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Suzuhiro Chemical Co., Ltd
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These are the responsible companies that are working very hard to ensure the antimony products are protected in the market place through proper response to all our government agencies and development and distribution of reliable data. These organization are sharing the costs, both financial and through employee time. By choosing to conduct your business with one of these companies you are supporting our industry.

If you are a producer, distributor or consumer of antimony products and would like to contribute to these efforts, contact an IAOIA, JMIA office or one of our member companies.