



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.

New Logo

We are very excited to unveil the new Logo for the IAOIA. It is first published in this issue of our newsletter. The logo includes the chemical symbol for antimony, Sb, prominently in red. The chemical symbol is set in the center of a cubic lattice structure, which is the desired crystal structure of antimony oxide.

EU Directives

EU Directive 91/155/EC, concerns Material Safety Data Sheets (MSDS) for hazardous substances and preparations. It defines the 16 chapters of the MSDS that provide all necessary information to protect health and safety of industrial users. This Commission Directive is now amended for the second time in 2001/58/EC. The use of the substance, detailed description of personal protection equipment and environmental hazards of the substance are stressed in this amendment.

EU Directive 67/548/EC defines the classification, packaging and labeling of substances regarded as dangerous to humans or the environment. Antimony Trioxide is classified with Xn, "harmful" and with R40, "Possible risks of irreversible effects".

The 28th adaptation of this Directive is the 2001/59/EC. Most important in this directive, is the change in description R 40 to the phrase "Limited evidence of a carcinogenic effect". Each package containing antimony trioxide must have the new R40 phrase on it. Norway and Sweden, who currently have their own classification of antimony oxide, will follow this new European Directive as well.

All carcinogen category 3 substances (like antimony oxide) will follow this new R40 phrase. Chemicals that are mutagens or have other irreversible effects, were also classified as R40, will now be classified as R68, "possible risk of irreversible effects". Then include the route of exposure.

We must be in compliance with both Directives by 30 July 2002.

Antimony

Antimony oxide is the common name for Antimony trioxide, Sb_2O_3 , which is the common commercial flame retardant synergist. Other chemicals based on antimony are:

		CAS Number
Antimony pentoxide,	Sb_2O_5	1314-60-9
Sodium antimonate	$NaSbO_3$	15432-85-6
Antimony trichloride	$SbCl_3$	10025-91-9
Antimony pentachloride	$SbCl_5$	7647-18-9
Antimony tribromide	$SbBr_3$	7789-61-9
Antimony triacetate	$Sb(OAc)_3$	6923-52-0
Antimony potassium Tartrate	$C_8H_{10}K_2O_{15}Sb_2$	28300-74-5
Antimony metal (stibium)	Sb	7440-36-0
Antimony selenide	Sb_2Se_3	1315-05-5
Antimony trifluoride	SbF_3	7783-56-4
Antimony pentafluoride	SbF_5	7783-70-2
Antimony triiodide	SbI_3	7790-44-5
Antimony pentaiodide	SbI_5	7790-44-5
Antimony trisulphide (stibnite)	Sb_2S_3	1345-04-6
Antimony pentasulphide	Sb_2S_5	1315-04-4
Antimony telluride	Sb_2Te_3	1327-50-0
bis(antimony trichloride) tricarbonyliron	$Fe(CO)_8(SbCl_3)_2$	65208-48-7

These are all chemicals based on antimony chemistry. These products have very different applications because of their different properties. This variation in chemical properties also results in having very different health and environment impacts. These impacts range widely.

By our providing antimony oxide specific information we can hopefully avoid information being extrapolated from a very different molecule.

Studies in Progress

The following is a list of studies currently in progress at the IAOIA. The results of these studies will provide the accurate quantified data needed by our regulatory agencies and our industry to scientifically based decisions.

Study Title	Purpose
Nitrogen transformation test	To determine long-term effect of antimony oxide on nitrogen transformation activity of soil organisms, after a single exposure. The results of this soil and sediments test will be used by agencies reviewing the toxicity and ecotoxicity associated with antimony oxide.
Enchytraeidae Reproduction (Worms)	Acute earthworm toxicity test in soil containing antimony oxide, to determine survival, weight and No Observed Effect Concentrations (NOEC). This data will be used to support all toxicity and ecotoxicity evaluations in general.
42-day sediment toxicity with <i>Hyalella azteca</i>	Measure the effect on survival, growth and reproduction of the <i>Hyalella azteca</i> worm in sediment containing antimony oxide. This data will be used to support all toxicity and ecotoxicity evaluations in general.
Chronic transformation/dissolution test	The acute chronic transformation/dissolution test and an acute algae test indicate that antimony trioxide is not an acute ecotoxin. Fish and daphnia are not sensitive in the acute test. We are in the process of completing the chronic tests and will compare with results of chronic algae, fish and daphnia tests. We are also in the process of determining with the rapporteur, Sweden KemI, exactly which species will be tested. This longer-term test data will be used in assisting with the determination of the ecotox classification. Threat of R53 chronic determination without this data.
Solubility over the pH range	To establish and document the solubility of antimony oxide in water at various pH levels. This data is fundamental to studying the effects of antimony oxide in environmental and biological systems.
Teratogenicity study	This is an inhalation developmental toxicity study in rats. The results will give us information on fetotoxicity, developmental delays and spontaneous abortions. This data will be extrapolated to establish effects on humans.
FR Consumer Exposure Study	This test will quantify the dermal, oral and inhalation exposure of consumers to antimony oxide when used as a flame-retardant synergist in furnishing fabrics. The study will include the "wearing" and aging over time of a room of furniture to simulate the exposures as closely as possible. This data will be used to determine the risk of flame retardants in furniture and used in furniture related regulations such as the Consumer Product Safety Council (CPSC).

The IAOIA Members

In the USA / Europe organization:

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

In the Japan Mining Industry Association:

Nihon Seiko Co., Ltd.
Mikuni Smelting & Refining Co.
Nissan Chemical Industry, Ltd.
Sumitomo Metal Mining Co., Ltd.
Tohko Industrial Corp.

The IAOIA Associate Members

Albemarle Corporation
Dead Sea Bromine Group (DSBG)

Durr Marketing Associates, Inc.
Umicore Precious Metals

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.

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JMIA, Japan Mining Industry Association, Antimony Committee Chairman, Osamu Iwayama 03(3235)0031