



## REGULATORY BACKGROUND

Antimony trioxide (CAS 1309-64-4; 'ATO') is used as flame retardant synergist in brominated flame-retardant formulations that are added to polymers used in electric and electronic equipment (EEE) and in PVC parts of EEE.

Chemicals used in EEE are regulated, among others, under the EU Directive 2011/65/EU on the Restriction of the use of certain Hazardous Substances (RoHS) in EEE (available in <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0065&from=EN>).

Because of its 'metalloid' nature, the fact that it is used as a synergist with various halogenated flame-retardant compounds, and its classification as suspected carcinogen (GHS category 2), ATO is subject to regular reviews under RoHS.

## WHY SHOULD ATO NOT BE RESTRICTED UNDER ROHS?

The most recent evidence review was performed by the Oeko Institut and Fraunhofer for the EU Commission in 2019. This report concluded that ATO should **NOT** be restricted under RoHS, but that it may be reconsidered for restriction in a future review. i2a disagrees with the second part of this conclusion, as the risk of using ATO in EEE has not been demonstrated, and none of the four conditions in Article 6 of RoHS to be restricted are met by ATO:

- a) **ATO does not have a negative impact during EEE waste management operations**, including on the possibilities for preparing for the reuse of waste EEE or for recycling of materials from waste EEE; the consultants actually recognize the ATO brings an advantage!
- b) **ATO does not give rise to uncontrolled or diffuse release into the environment** of the substance, or could give rise to hazardous residues, or transformation or degradation products through the preparation for reuse, recycling or other treatment of materials from waste EEE under current operational conditions;
- c) **ATO does NOT lead to unacceptable exposure of workers** involved in the waste EEE collection or treatment processes. Appropriate OEL values are in place: these apply in producing, converting and recycling facilities. OEL values and workplace legislation are the most efficient measure to control and protect the health of the workers. RoHS restriction is therefore NOT the appropriate tool to manage workplace exposures.
- d) **ATO cannot be fully replaced by substitutes or alternative technologies** which have less negative impacts in all applications.

## WHAT IS THE ROHS STATUS OF ATO?

ATO is **NOT** restricted under RoHS.

It remains however on the inventory of chemicals with a hazard classification and present in EEE which can be regularly reviewed. The next review should not take place before the review of the RoHS Directive has been finalized (after 2022).

ATO continues to be one of the best synergists to be used in order to achieve the highest fire retardancy and safety of EEE parts. As such, ATO can be used in EEE, provided it is supplied by responsible sources, with updated SDS, and it is used according to the recommended risk management measures provided in the SDS.

In particular, those handling ATO when producing or recycling EEE parts, are recommended to monitor their workers' personal air levels of Sb/ATO, following the guidelines developed by i2a (available upon request to [info@antimony.com](mailto:info@antimony.com)).

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