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March 2025

RoHS and REACH Position Statement

Altronic LLC

RoHS III and RoHS II are the EU Directives that restrict the use of certain hazardous substances in electrical and electronic products (EEE products). They are "open scope" directives. As of July 22, 2019, they apply to all EEE products that are "dependent on electric and electromagnetic fields for at least one intended function." The current list of restricted substances is found in Annex II of the directive and currently includes lead.

The RoHS III and RoHS II directives are formally titled:

DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL & DIRECTIVE 2015/863/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the restriction and the use of certain hazardous substances in electrical and electronic equipment

Full text and information can be obtained at:

http://2016.export.gov/europeanunion/weeerohs/rohsinformation/

Discussion

Article 2(4) – SCOPE, of the RoHS III document and Article 4(1) – SCOPE, of the RoHS II document, provides a list of exemptions and exclusions:

Exemptions

RoHS III and RoHS II exempts certain applications from the substance restrictions. The exemptions are temporary and reviewed at least every four years. The current list of exemptions is contained in Annex III of the RoHS document.

Exclusions

Permanent exclusions from RoHS include the following: military equipment, space equipment, equipment designed to be part of another piece of equipment falling outside of the scope of RoHS, large scale industry tools, large scale fixed installations, means of transport for person or goods, non-road mobile machinery, active implantable medical devices, photovoltaic panels, equipment for research and development only available business to business. The European Commission adopts a very narrow interpretation of the categories of products to which these exclusions apply.

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For the purposes of this document, RoHS III and RoHS II provide the following definitions in Article 3 - DEFINITIONS:

'Large-scale stationary industrial tools' means a large-scale assembly of machines, equipment, and/or components, functioning together for a specific application, permanently installed and de-installed by professionals at a given place, and used and maintained by professionals in an industrial manufacturing facility or research and development facility;

'Large-scale fixed installation' means a large-scale combination of several types of apparatus and, where applicable, other devices, which are assembled and installed by professionals, intended to be used permanently in a pre-defined and dedicated location, and de-installed by professionals;

Altronic RoHS Position

It is Altronic's position that, where its products are installed on stationary industrial engines, where the installation conforms with the definitions of large-scale industrial tools, and large-scale fixed installations (above), its parts and systems, along with the engines on which they are installed, are part of the RoHS II permanent exclusion, and are therefore in full compliance with the RoHS III and RoHS II directives.

In light of this and the permanent exclusions outlined above, Altronic uses tin-lead solder in its manufacturing processes, as this produces a superior quality product, for ensuring high-reliability as required in the harsh and demanding environments and applications of stationary industrial engines and large scale fixed installations.

For large OEM customers wishing for custom assemblies using lead free solder, Altronic can produce such parts. However, the customer needs to be aware of the following:

- 1. The production of electronic circuit boards using lead free solder may result in increased costs, which will result in increased prices of final assemblies.
- 2. The use of lead-free solder brings the associated risk of product service life. These involve risks which impact the service life of the product required to operate as desired in the defined environmental applications. The impact is primarily premature failure of the solder joint interface and functional failures caused by tin whiskers, a phenomenon which is due to many environmental sensitivities of method of soldering application that compromises the overall lattice structure of the final solder joint, which is well documented. For all High Reliability applications, Altronic strongly recommends the use of lead-tin solder.

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Altronic REACH Position

Altronic understands its obligations and the applicability of EC Regulation No. 1907/2006 with respect to the Registration, Evaluation, Authorization and Restriction of Chemicals ("REACH") to its products.

Altronic continuously monitors the changes in legislation to meet those obligations for the products Altronic manufactures in or imports directly into the EU.

Substances used in the articles supplied by Altronic are not subject to REACH registration process because these are integral to the functioning of the part and are not intended to be released during normal or reasonably foreseeable conditions.

Just as our customers rely upon us, Altronic relies upon its suppliers in gathering this information. Therefore, the accuracy and completeness of our information depends on the reporting of our suppliers, and the many cascading tiers of components and material manufacturers that constitute the supply chain.

Altronic is aware of the obligation to communicate specific data on substances contained in products it supplies (Article 33).

Having regard to the verdict of EU Court of Justice on the "Once an Article Always an Article" rule, the complexity of our articles (products) and the recent additions to the SVHC list, Altronic hereby informs you that our articles may contain components (articles) which in turn have been reported to us as potentially containing the following substances:

Substance	CAS No.	EC No.	Intended Use
Lead	7439-92-1	231-100-4	Alloying element in steels, copper alloys, aluminum alloys,
			Pb/Sn solders in electronics subassemblies.

Altronic reserves the right to offer any product produced with lead-free solder under reduced or limited warranty terms. These will be addressed on an individual basis based on the product and application. If you have any comments or questions concerning this communication or related to a particular product on the applicability of the statement, please do not hesitate to contact Altronic.

Technical Article Links:

- 1. <u>Reliability issues of lead-free solder joints in electronic devices PMC (nih.gov)</u>
- 2. P.Snugovsky Whisker for Wed. call.doc (nasa.gov)
- 3. Whiskers from Tin-Silver-Copper (SAC) Alloy Systems (nasa.gov)
- 4. SMT Magazine, March 2014 (magazines007.com)