

Contact: Meglena Mihova
2 place du Luxembourg
1050 Brussels
+ 32 505 60 20
Meglena.mihova@eppa.com

Test & Measurement Coalition

Contribution to the Stakeholder Consultation on a possible restriction of small brominated alkyl alcohols (SBAA)

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Introduction to T&M Coalition

The Test & Measurement Coalition represents an ad-hoc group of companies active in producing Category 9 industrial type products. The Coalition includes six leading companies in the sector including Agilent Technologies, Anritsu, Fluke Corporation, Keithley Instruments, National Instruments, and Tektronix. We estimate the coalition membership represents roughly 60% of the global production of industrial test and measurement products and other Category 9 industrial equipment including chemical analysers.

Since 2008, the Test & Measurement Coalition has been actively participating in the different studies on possible restrictions of new RoHS substances: Öko-Institut study prior to the RoHS recast (2008), Austrian Environmental Agency¹ study on substance methodology (2012) and the study conducted by Öko-Institut on the possible restriction of several new substances under RoHS 2 (2014). We are pleased to provide our comments and recommendations in the context of the current consultation on the possible restriction of small brominated alkyl alcohols (SBAA).

Summary

As per our previous submission, we would like to stress that:

- RoHS substance restrictions do not yet apply to products in Category 9 industrial. Because of the specificity of the design process and the high reliability requirements, our products have been given a transitional period till mid 2017 for compliance with the current RoHS substances.

¹ <http://www.umweltbundesamt.at/rohs2>

- As SBAA have not been subject to any regulatory requirement so far, information about the presence of SBAA in our products at the homogeneous material level is not yet available. The complexity of our products (EEE containing thousands of spare parts) and our supply chain (thousands of suppliers) makes it impossible to gather this information within the timeline of the current consultation.
- Our products are expected to become RoHS compliant through our ongoing efforts to eliminate uses of the current RoHS substances. Our member companies have been working on product conversion since 2005 to be able to ensure RoHS compliance by 2017.
- If the scope of the RoHS restriction is extended to include SBAA, Category 9 industrial should be granted sufficient transitional periods in order to limit negative impact of withdrawal of products on the economy and innovation.
- The earliest possibility for Category 9 industrial to comply with new substance restrictions is 7 years from the date when the new restrictions are introduced. This will be consistent with the approach taken so far for new RoHS restrictions (e.g. the restriction of the phthalates) and will respect the natural design cycles of our products. This will be also in line with the circular economy approach encouraging efficient use of resources and extended product lifetime.

Specificity of Category 9 industrial equipment

Our products include a wide range of sophisticated electronic instruments such as signal generators, logic analyzers, oscilloscopes, spectrum analyzers, digital multimeters, chemical and biological analyzers etc. The instruments are used by laboratories (for research and compliance evaluation), universities (for technical training, education, and research), manufacturers (for product development and manufacturing of their products), and governmental agencies (for conformance verification). They are essential to the good functioning of electronic communications networks, heavy industrial processes such as steel manufacturing, the testing of vehicles for compliance with emissions standards, and the monitoring of complex systems of all types.

Category 9 industrial EEE products are very different from consumer goods high volume products.

- Test & Measurement products have a long product life up to 30 years and 10 years on average. Frequent redesign is not common for the sector, further emphasizing the need for extended transition periods to achieve compliance with existing resources.
- Test & Measurement products are extremely complex and there are a limited number of highly qualified engineers available to work on redesign. This will divert significant resources from the development of new, innovative products.
- Redesign often presents significant technical challenges that take time to resolve – it can be 1-2 years before a new product can be released and 0.5-1 year for an enhancement. A significant amount of the time is required for environmental and safety testing of new designs.
- 25-30% of the components used in Test & Measurement products are custom designed for our instruments. As many of our members use around 100,000 different parts today this means redesign and testing of several thousand custom parts for each company.
- Where RoHS compliant components are available, they require extensive testing to verify their long-term reliability when used in Test & Measurements products.
- Material substitutes meeting our customers' reliability criteria are limited in some instances. For example a domestic household product with expected life of five years has more material options for anti-corrosion coating than a Test & Measurement product for outdoor use which customers expect to work reliably for ten years or more.
- Historically, material or component substitutions have been validated through a number of tests under extreme conditions. Testing programmes can last one or two years.

- Category 9 industrial products' contribution to the stream of waste electrical and electronic equipment (WEEE) is insignificant – Category 9 products represent only 0.25% by weight of the total WEEE in the waste stream. Category 9 industrial sector products represents an even smaller fraction.

The specific needs of Category 9 industrial taken into account in RoHS 1 and RoHS 2

Exclusion from the scope of RoHS 1

Category 9 was initially excluded from the scope of RoHS 1. At the time of the preparation of RoHS 1, the European Commission concluded that there was a lack of sufficient knowledge of the supply chain and waste flows of this category. In addition, it was noted from the very beginning that it would be difficult for this industry sector to comply with the directive's strict deadlines given the complexity of the products and the critical applications. This caution has been amply justified by the subsequent efforts required to identify and validate acceptable alternative materials suitable for long-lived, high reliability equipment and to transition large numbers of custom parts frequently sourced from SME suppliers – a task still in process of completion for RoHS 2.

Specific conditions foreseen for Category 9 industrial in RoHS 2

The Commission proposal brought Category 9 industrial into scope; but in the decision to do so did not suggest the extension of the substance scope at the time of the RoHS recast. The Commission proposed a long transitional period for Category 9 industrial products, extending to mid-2017. The Commission impact assessment² recognised that Category 9 industrial products are “produced in low numbers or have critical applications and hence increased testing and reliability requirements.” The Commission estimates that “the cost of RoHS compliance for some complex products could be as high as 7-10% of turnover (new product) or 1-10% (modification of existing product). A large part of this cost is attributable to the long development, testing and approval cycles of the more complex products. This is why a staged introduction for these products is proposed allowing the compliance conversion to take place in the framework of existing resources and product development cycles.”

Numerous amendments to the Commission text were proposed by the Parliament and the Council during the RoHS recast. Even so, the date of compliance for Category 9 industrial and the specific exemptions have not been put in to question. Moreover, the specificity of Category 9 was recognised by the Greens. In her report of December 2009, the rapporteur MEP Jill Evans, Greens, proposed an amendment³ introducing new substance restrictions. Her amendment explicitly excluded Category 9 while foreseeing transitional periods for the other categories.

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2008:2930:FIN:EN:PDF>

³ Jill Evans report, Amendment 31: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-430.424+03+DOC+PDF+V0//EN&language=EN>

Long transitional periods granted for Category 9 industrial for the new RoHS restrictions: DEHP, BBP, DBP and DIBP

The longer innovation cycles for monitoring and control instruments have been taken into account by the European Commission while introducing the restriction of the use of DEHP, BBP, DBP and DIBP. To avoid negative economic impact and allow smooth transitioning of Category 9 industrial to RoHS, the Commission decided on longer transitional periods. The restriction will start applying to our category as of 22 July 2021⁴.

Information about the presence of SBAA in our products at the homogeneous material level is not yet available

Gathering information about the presence of the SBAA in Category 9 products would require at a minimum a complete resurvey of the supply chain and, for SME custom part suppliers, the development of new processes and data management resources that have not been required for the current list of substances.

Due to the nature of the current list of restricted substances, Category 9 industrial companies have been able to assume some of this burden on behalf of suppliers as simple screening methods (e.g. XRF) have been available to cross-check compliance in house, but this would not be the case for the proposed priority substances.

Our products contain thousands of compounds provided by thousands of suppliers. If we are to start conducting a detailed investigation of the supply chains, it will take several years before we will be in a position to establish with a reasonable degree of certainty the presence of the substances in the large number of custom parts utilized.

The lack of sufficient information in the supply chain was sufficient reason to exclude Category 9 from the scope of RoHS 1. We believe it is a serious reason to grant a sufficient transitional period of a minimum of 7 years to Category 9 from the date the new substance restrictions are implemented .

Long term reliability of alternatives should be evaluated for Category 9 Industrial

If SBAA are confirmed to be eligible for RoHS restriction, the availability of alternatives should be evaluated prior to regulatory decision. The research into alternatives for these substances, testing and evaluation of available substitutes and defining of transition programmes has not been done as SBAA are not part of the current RoHS scope while our companies are focusing all efforts on the implementation and verification of substitutes for the existing RoHS substances. In the preparatory phase of the RoHS recast we submitted substantial amount of information to the Commission, including very detailed company specific confidential information about internal substitution programmes, status of research, results and prospects, costs and investments, and human resources dedicated to RoHS conversion activities.

⁴ <http://ec.europa.eu/transparency/regdoc/rep/3/2015/EN/3-2015-2067-EN-F1-1.PDF>

Our products have long life times of 10 years on average with many remaining in service for up to 30 years. Substitutes need to be tested to meet customers' expectations of long term reliability of products capable of consistently meeting published specifications. These requirements go substantially beyond those of consumer goods applications. Accelerated life testing can only result in a compression factor of 7 – hence 30 year reliability requires at least 4 years of testing. Furthermore unlike consumer goods manufacturers Test and Measurement companies have thousands of products and yet relatively small but expert engineering staffs. This places human limitations on the ability to transition that are not felt by other companies. The design cycle in consumer goods is between 6 months to a year whereas in Test & Measurement it can be as long as 3 to 5 years, or even longer if specific regulatory regimes require additional verification testing.

The Test and Measurement sector has invested millions of Euros in systems and data to support the development of RoHS compliant products with a view to meeting the intended compliance dates. Many products have already been introduced which have been designed to meet the substance restrictions. The investment in these product developments, the material compliance systems and supporting component data is all thrown into question if the new substance restrictions are to be added. 25-30% of parts used in T&M products are of non-generic design – this compares to less than 1% in consumer products – and not infrequently the substitution of one new RoHS compliant part can force additional substitutions and redesigns when a sub-component is not a true 'drop-in' replacement for the non-RoHS version. In the context of further substance restrictions, the introduction of adequate transitional periods for is therefore essential for Category 9 industrial.

The consequence of premature inclusion of Category 9 industrial in new substance restrictions will cause massive disruptions in the production and use of T&M equipment across Europe. This will be also contrary to the circular economy approach as it will force the obsolescence of products with very long life time that have just been redesigned.

If it is decided that SBAA are RoHS relevant and restriction is introduced for all RoHS Categories, then Category 9 industrial monitoring and control equipment will require a transitional period of a minimum of 7 years from the date of the implementation of the restriction. This will be in line with the regulatory approach taken so far for our Category:

- When RoHS II was discussed and adopted by the EU institutions in 2010/2011, the 7 year horizon was taken into consideration when deciding on the deadline of 22 July 2017 for transitioning to RoHS compliant products;
- This transitional period assumes the need for exemptions utilizing the standard 7 year validity period for Category 9 industrial EEE;
- It is consistent with the longer design cycles typical for our category;
- The latest restriction decision granted long transitional periods till 22 July 2021 for Category 9 industrial.

We hope this paper provides useful information about the challenges category 9 industrial would face will potential new RoHS restrictions and sufficient justification

for the need of adequate transitional periods. We remain at your disposal for further clarifications and information in this respect.