

Questionnaire Exemption Request No. 14

Exemption for

“Lead in solders for the ignition module and other electronic engine controls mounted directly on or close to the cylinder of hand-held engines (classes SH: 1, SH: 2, SH: 3 of 2002/88/EC)” until 2025

Background

The Öko-Institut together with Fraunhofer IZM has been appointed within a framework contract for the evaluation of applications for granting, renewing or revoking an exemption to be included in or deleted from Annexes III and IV of the new RoHS Directive 2011/65/EU (RoHS 2) by the European Commission.¹

Andreas STIHL AG & Co KG (STIHL) has applied for an exemption of “Lead in solders for the ignition module and other electronic engine controls mounted directly on or close to the cylinder of hand-held engines (classes SH: 1, SH: 2, SH: 3 of 2002/88/EC)”

The applicant puts forward the following main arguments:

The ignition module for small spark ignition engines has to withstand high vibrations (> 80g) and must operate reliably in cold weather conditions up to the operating temperature of the engine (-30 °C to +110 °C). Especially the solder joints have to be suited for a high number of temperature cycles between ambient temperature and operating temperature. Research on the ignition module allowed reducing exhaust emissions and failure rates using lead-solders. The ignition module now has the same life-time as the product.

Today, not all electronic components used in the ignition module are available in a version that is suitable for lead-free soldering and STIHL has no reliable data on the use of lead-free solder in ignition modules for small engines. If lead-free solders cannot guarantee comparable product life of ignition modules, failing modules would have to be replaced more often during the life time of the product. Therefore more waste would be produced, which is difficult to recycle because of the necessary sealing with epoxy resin. As the products have an average life-time of over 10 years in the market, this poses a high risk for a decrease of durability.

A comprehensive study is needed for production and field testing to minimize the risk. Only if lead-free modules are proven to have a life-time comparable with today’s lead-containing

¹ Contract is implemented through Framework Contract No. ENV.C.2/FRA/2011/0020 led by Eunomia

modules, is a change for all modules feasible. If the tests are successful, mid 2025 is a realistic date for the availability of a lead-free substitute.

For details, please check the applicant's exemption request at <http://rohs.exemptions.oeko.info/index.php?id=157>. This exemption request has been subject to a first completeness and plausibility check. The applicant has been requested to answer additional questions and to provide additional information (c.f. link above).

The objective of this consultation and the review process is to collect and to evaluate information and evidence according to the criteria listed in Art. 5 (1) (a) of Directive 2011/65/EU (RoHS II), which you can download from here:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011L0065:EN:NOT>.

If you would like to contribute to the stakeholder consultation, please answer the following questions:

Questions

1. The wording suggested by the applicant for this exemption would be "Lead in solders for the ignition module and other electronic engine controls mounted directly on or close to the cylinder of hand-held engines (classes SH: 1, SH: 2, SH: 3 of 2002/88/EC)". The exemption is requested until 2025.
Do you agree with the scope and timing of the exemption as proposed by the applicant? Please suggest an alternative wording and explain your proposal, if you do not agree with the proposed exemption wording.
2. If you support or contradict the request based on STIHL's arguments, please provide detailed technical or environmental argumentation / evidence in line with the criteria in Art. 5 (1) (a) to support your statement.
3. Please provide information concerning possible substitutes or developments that may enable substitution or elimination at present or in the future

Finally, please do not forget to provide **your contact details** (Name, Organisation, e-mail and phone number) so that Öko-Institut/Fraunhofer IZM can contact you in case there are questions concerning your contribution.