COMMISSION PROPOSAL on an INFORMATIVE LIST OF QUESTIONS for the PARALLEL SOCIO-ECONOMIC PUBLIC CONSULTATION on the 6th PRIORITY LIST to AMEND ANNEX XIV of REACH

Uses and Alternatives

Q1. What is (are) the use(s) of the substance (sectors, types of uses, categories of products, etc.) in terms of volume/value/widespread use?

In general? *PbO / Pb3O4 is used for the production of PZT (Lead-Zirconate-Titanate, CAS # 12626-81-2) and PTC-ceramic*

a.

b. By your company? *(only for companies)*

PZT (Lead-Zirconate-Titanate, CAS # 12626-81-2)are used in various applications like sensors, actuators, see Annex 1 Electronic component and vehicle manufacturers position on ECHA launch of a public consultation on 54 potential substances of very high concern, 2012

Q2. Is the substance essential for certain uses (in terms of being indispensable for the product or process)? Which ones? *Lead(II) oxide is the main component of PZT and PTC and it is used in several applications, see position Paper (Annex 1: Electronic component and vehicle manufacturers position on ECHA launch of a public consultation on 54 potential substances of very high concern, 2012) for details.*

Q3. Is the substance present in a finished article? If yes, at what concentration? *The finished article contains PZT, PTC. PbO/Pb3O4 is not present any more. See position Paper Joint position of associations inside the electrical industries value chain, March 14th, 2013 for details.*

Q4. Do(es) the use(s) of the substance imply any risk for workers? *In our production of Bosch the legal restrictions are observed (e.g.. Arbeitsschutzgesetz..). The use of the mentioned PZT is safeguarded by measures defined on the base of risk analysis, emission limits, exposure conditions and other occupational safety regulations.*

Q5. Do(es) the use(s) of the substance imply any risk for consumers? *The finished product does not contain leadoxide but PZT which has a much lower solubility than PbO. The articles are solid parts and no dust or abrasion is present in the finished part. Exposure is therefore excluded (same difference as solid lead and lead powder).*

Q6. Do(es) the use(s) of the substance imply any risk for environment? *During production, the applicable regulations are observed (e.g. Wasserhaushaltsgesetz, Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen, Bundes-Immissionsschutzgesetz, Technische Anleitung zur Reinhaltung der Luft). The production does regularly check and maintain its equipment and the legal documents are on site. The leadoxide is no longer present in the finished product.*

Q7. Are you aware of any R&D work in attempt to substitute the substance?

In general? *A lot of work has been done, to replace PZT for Piezoelectric devices and lead compounds in PTC-ceramic by our supplier's. The state of*

the art is regularly reviewed under RoHS/ ELV and presently in the extension period. Currently, no substitute is able to replace PZT and lead compounds in PTC-ceramic.

a. By your company? *(only for companies)*

Bosch continuously reviews the possibility of alternative Lead-free piezoelectric materials and has done internal and external developments towards lead free materials in the last 10 years (e.g. funded BMBF-projects DELLEAD Germany, REALMAK Germany). None of the known Lead-free materials like for instance KNN- (alkali niobate) or BNT (bismuth sodium titanate)- based materials reached the properties level met by PZT which is the absolute necessary level for Bosch applications. A ban on lead oxid, which is necessary to produce PZT material, would also hinder technical developments towards safety applications, medical applications, to avoid batteries in some energy harvesting applications or to reduce fuel consumption in cars. Piezoceramic PZT actuators for example are used as well in diesel as in gasoline engines and reduce the consumption which will reduce the CO2 amount in the exhaust.

Are there alternatives currently available for the use(s) of the substance? *No, in PZT /PTC lead can simply not be replaced. Instead other materials-classes will need to be used, with the before mentioned problems.*

If yes:

a. What are these alternatives?
b. What is the expected cost of substitution?
c. Would the use of this (these) alternative(s) lead to a more sustainable production?
d. Would the use of this (these) alternative(s) lead to a more sustainable consumption?
e. Would the use of this (these) alternative(s) affect worker's health and safety?
f. Would the use of this (these) alternative(s) affect consumer's health and safety?
g. Would the use of this (these) alternative(s) affect consumer trust?

Market and Supply Chain

Q8. What is the volume/value of the substance that you place on the EU market/manufacture in the EU/ import into EU/ export from EU (per annum), or, if you are a user, that you use? *(for companies only)*

No substance is placed on the market; thousands of products like sensors, actuators (Annex 1: Electronic component and vehicle manufacturers position on ECHA launch of a public consultation on 54 potential substances of very high concern, 2012) are sold.

To your knowledge, what is the overall volume/value of the substance placed on the EU market/manufactured in the EU/imported into EU/ exported from EU (per annum)? *(for everyone)*

Q9.

Q10. Which sectors would be, in your opinion, mostly dependent on the uses of this substance? *Automotive: fuel-consumption, safety; Medical: Analytical and tools, Ultrasonics; Industrial: Sensors: safety (e.g. level sensors), Ultrasonics cleaning: minimizing of detergents. Ultrasonics welding: process stability and safety etc. (Annex 1: Electronic component and vehicle manufacturers position on ECHA launch of a public consultation on 54 potential substances of very high concern, 2012)*

Please describe the actors of the supply chain. *Powder producers-component manufacturer-automotive industry/ equipment manufacturers etc.*

a. What are the sectors mostly affected in the supply chain? See above
b. Are these sectors concentrated in a single Member State or a region? No
c. Are there sectors affected outside the supply chain? *Yes, numerous industries and personals depend on the use of piezoceramics.(e.g. healthcare, end users comfort and safety).*
d. What is the relative weight of SMEs in the respective sectors? *Not predictable, because the implication to production and safety technologies are widespread and complex.*

Competitiveness

Q11. What is the significance of the substance with regard to the global competitive position of EU firms both for manufacturers and Downstream Users?

a. In general? *Europe is a strong base for piezoelectric devices and components (sensors, actuators, ultrasonic devices) compared to semiconductors or capacitor businesses. According to the ACMITE Market Intelligence Report on "World Piezoelectric Market" (2011), Europe is dominant in precision manufacturing and automotive industries. The annual "market demand on piezoelectric devices was estimated at US$ 3,96 billion in 2010"; For the automotive industry the goal of EURO 6 will be difficult to achieve.*
b. Of your company? *(only for companies) Some of the suppliers are located in Europe. Consequently a ban of this substance via Annex XIV would conduct the overall supply from outside Europe.*

Q12. What is the expected effect on cost and price competitiveness of the affected sectors? *N.a. because no substitute is available.*

a. Overall?
b. Of your company? *(only for companies)*

Q13. What is the profitability of each of the affected sector?

a. In general? n.a.
b. Of your company? *(only for companies)* *n.a.*

Q14. For uses, where substitution does not seem feasible (either technically not possible or too expensive), would it in your opinion cause closing down or relocation of economic activity outside the EU? Explain why? *As this law is only applicable to*

lead oxide, the production of PZT would be done outside the EU and the products made out of PZT imported to the EU.

Q15. To your knowledge, what is the expected effect on enterprises' capacity to innovate? (The capacity to produce more and/or higher quality products and services and the capacity to bring R&D to the market)

Q16. A lot of the innovations made in reducing fuel consumption are based on piezotechnology. For our company, a lot of innovative developments like sensors or actuators are driven by piezoelectric devices.

Q17. What is the EU industry's market share in the affected sectors?

a. In the EU market? *One of the important markets.*

b. In the global market / external markets?

Q18. What is the likely impact of including the substance in Annex XIV on the competitive position of EU firms with respect to non-EU competitors in the EU market and in the global market / external markets? (both for manufacturers and Downstream Users in terms of price, productivity, value added)

Q19. In general?

Q20. Of your company? *(only for companies)* *Buying PZT from outside Europe from other suppliers would increase cost for us, because less suppliers are then available. Additional cost would occur by the testing of the PZT from other supplier's und the approval by our customers for the change. No added value, loss of competitive in Europe.*

Q21. If the substance is included in Annex XIV, would it cause a loss or gain of business opportunities for the industry sector or entities you are aware of in the EU market and in export markets?

Q22. For your company? *(only for companies)* *Loss.*

Q23. To your knowledge, would the inclusion of the substance in Annex XIV trigger the investment in R&D (substitution efforts) in the industry sector or entities you are aware of?

a. In your company? *(only for companies)* *This would not trigger additional activities, in contrary some possible new applications for safety, security or other may be delayed or stopped.*

Application for authorisation – (only for industry actors)

Q24. Question for industry actors: If the substance is included in Annex XIV, would you consider applying for an authorisation? In case of negative answer, would your supplier/downstream user consider to apply? *No, because this substances are not in the PZT. Our suppliers will make the decisions, but we expect in total higher costs for the PZT and the loss of competition for European suppliers.*

Regulatory options

Q25. Do you consider that other regulatory options could better address the concerns for which the substance is recommended for inclusion in Annex XIV? What are these regulatory options? Explain why?

The use of lead oxide is already regulated in a very strict manner compared to competitors outside the EU (e.g. the work safety regulations are valid in the whole EU, Council directive 98/24/EC on the protection of health and safety of workers). More regulations and especially uncertainty of future legislation further increase cost and decrease competitive positions compared to producers outside the EU without substantially increasing safety inside the EU. See also Annex 1.

*****