



## ENVIRONMENTAL and HEALTH NGOs<sup>1</sup> COMMENTS ON THE INTERIM REPORT ON THE REVIEW OF DIRECTIVE 2002/95/EC (ROHS) CATEGORIES 8 & 9, MAINLY ON MERCURY

26<sup>th</sup> April 2006

The Environmental and Health NGOs believe that categories 8 and 9 should be included in the scope of the RoHS directive as soon as possible. Time limited exemptions should be granted if alternatives are not available.

Considering our focus on *mercury* – through the Zero Mercury Campaign Project - we would argue that especially the use of mercury should be restricted for category 8 and 9 products of the WEEE directive for the following reasons:

1. The main relevant uses of mercury are in switches, thermostats, level sensors, cadmium mercury telluride semiconductors, lighting and reference electrodes.
2. Mercury is not mentioned as material of concern related to reliability of substitute materials and safety implications (chapter 8, page 58) for virtually all of these uses.
3. In chapter 9.3 (page 122) in reference to the impact for manufacturers of thermostats, smoke detectors etc (where mercury is mainly used out of the 6 ROHS substances) if these were to be included in the ROHS directive, it is mentioned that ROHS compliant products are available now or as early as 2006; it is unclear therefore why it is proposed by the consultant that action should actually be taken by 2012(!). However, such delays are inconsistent with EU's mercury strategy to minimize mercury use as soon as possible.
4. In the analysis on impacts to manufacturers of specific products, no references are made on problems in replacing mercury but mainly with respect to lead in lead soldering and hexavalent chromium. (page 118-125);
5. The arguments used on costs and innovation (page 125), no specific references are made that eliminating mercury would actually create costs increases or prevent innovation. Especially for mercury and in view of the EU strategy on mercury, where it the EU objective to eliminate mercury use is declared, it is well expected, that manufacturers will try to find appropriate substitutes, therefore it cannot be said that innovation will be hampered from the restriction in the use of mercury.
6. As explained in our submitted comments, there can be no question regarding the practicability of marketing non-mercury thermostats/switches since there are many models manufactured and sold today. Moreover, the non-mercury thermostats generally are equal to or better than mercury thermostats in function and performance.
7. The information presented in our submitted comments is largely derived from reports and government actions in the United States of America. However, given similar experiences in the Nordic countries with mercury product bans, and the EU presence<sup>1</sup> of the leading US manufacturers, there is no reason to believe the situation in Europe is markedly different. Indeed, at least one prior EU report indicates European mercury consumption for electrical control equipment may be underestimated given comparable demand in the United States, suggesting the US and European markets are quite similar absent RoHS Directive or comparable mandates in the United States.<sup>2</sup>

With respect to all of the ROHS substances, despite our limited capacity, at least for the moment, to comment more specifically on each of the remaining substances covered by the directive, the following points should be considered, before decisions are taken.

<sup>1</sup> E.g. <http://europe.hbc.honeywell.com/> and <http://www.invensyscontrolseurope.com/lwwcm/connect/Invensys+Controls+Europe/Home>

<sup>2</sup> Maxson, Mercury Flows in Europe and the World: The Impact of Decommissioned Chlor-Alkali Plants, prepared for the European Commission, February 2004, p. 39.

## Scope

1. The fact that 'small' quantities of RoHS substances are used in these categories cannot be used as an argument- what is a 'relatively small' quantity when dealing with a hazardous substance?
2. From the analysis of the consultant it is clear that the scope of what is included under category 9 it is confusing and with many interpretations. Nevertheless we would like to point out that to our view a control or monitoring device such as a thermostat or heating regulator directed at ambient room temperature, fixed on a wall, should not be considered part of the building per se; the construction company would have to buy it from the market before installing it, therefore it could be considered that it is a finished product. Moreover, replacement thermostats are routinely purchased from Heating, Ventilation and Cooling wholesalers and contractors typically operating as independent contractors.
3. On the other hand, a thermostat which is part of a large industrial stationary tool is typically an integral part of that production equipment, which means that this thermostat was on the market and it should therefore fall under category 9. In either case, mercury thermostats no longer warrant an exclusion from RoHS, whether properly within Category 9 or not.
4. Reduction in the use of hazardous substances is not only restricted to products covered by RoHS. Confusion from grey areas of scope is not a reason to exclude entire categories; To the contrary, it is a reason to review the RoHS as soon as possible to resolve areas of uncertainties and narrow the existing exclusions where possible to do so.

## Competitiveness

5. Table 63 outlines one of the main concerns over providing continued exemptions for category 8 and 9 i.e. that many manufacturers have already moved towards RoHS production and it would be unfair to reward those who have not with an exemption.
6. Many SME's are also involved with the manufacture of products currently within the scope of RoHS. No exemption is provided for them and consideration of this fact in category 8 and 9 would be discriminatory.
7. SME's are involved in ALL sectors of the electronics industry and in ALL cases need assistance in implementing changes required by RoHS. Assistance is available from MS expert networks, projects and EU part-funded projects such as 'LEADOUT'<sup>3</sup>

## International Aspects

8. It is claimed that EU manufacturers would be disadvantaged since competitors outside of the EU have not been forced to modify products. RoHS equivalent regulation is being introduced in other significant markets (California, China, Korea) and it is well known that the Japanese market has been moving away from the use of hazardous substances in all electronic equipment for many years and been extremely sensitive to standards coming out of Europe of the US
9. Page 52 discusses the US restrictions of mercury that have already affected the electronics business. This is in contradiction to the reports earlier claims that only the EU market is affected by RoHS type regulation. Similarly in section 9.1.3 it is stated that Japanese customers nonetheless expect use of hazardous substances to be reduced. Therefore it cannot be claimed that the EU market will be disadvantaged since no other regions are demanding RoHS products.

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<sup>3</sup> LEADOUT: Low Cost Lead-Free Soldering Technology to Improve Competitiveness of European SMEs, has as its objective to: Provide support to European SMEs to implement a Soldering Technology objectives: Developing low cost lead free soldering processes to enable SMEs to meet the requirements of new EU directives (WEEE and RoHS); Establishment of process quality standards to assist SMEs to rapidly convert to lead-free soldering, reducing defect rates, improving product reliability and increase European Competitiveness; Improve Health and Safety awareness and Pollution Prevention [http://www.dvs-hg.de/fv/neu/Leadout/Documents/20051223Project\\_Presentation.pdf](http://www.dvs-hg.de/fv/neu/Leadout/Documents/20051223Project_Presentation.pdf)

## **Innovation**

10. Pressure from legislation and peers in the market has already driven many manufacturers to change technologies avoiding the 6 ROHS substances even though their products are not until now in the scope of the directive. (page 114)
11. Section 9.6 states that 'researchers do not normally restrict their choice of materials for new development'. This is questionable – researchers would rather assess the availability of potential materials that may be included in new developments. It would be surprising to imagine that any responsible researcher would go ahead with the development of a product dependant on a substance which cannot be used in the market.

## **Costs**

12. It is claimed that re-design costs would accelerate product withdrawal from the market. The situation could be interpreted in alternative ways, for example, it could offer an opportunity for increased profit from RoHS compliant product and/or stimulation of innovation which would also encourage other developments in e.g. energy use reduction.
13. Comments on potential costs are mentioned in the report; however, there is also evidence to suggest that moving to environmentally friendly 'green' products provides a cost saving. The report does not make any consideration of such cost benefits.

## On the potential exemption for the use of Mercury Cadmium Telluride

To our knowledge it seems that such IR sensors are not the preferred choice of many scientific laboratories. It has been pointed out that germanium and other mercury free alternatives exist, like amorphous chalcogenides. We would also like to point out that the catalogue of the leaders in the IR Spectroscopy field, as well as other Analytical, Life Science and Optics process related questions – such as, Brukers Optics, [www.brukeroptics.com](http://www.brukeroptics.com), should be checked. In the Expert Guide for Infrared Spectroscopy, p.6. "Detectors" it is shown that even commercial detectors exist to replace all MCT detectivity range. The alternatives mentioned as commercial are InGaAs D424, Te InAs 423, SiB D320.

Alternatives to MCT need to further be discussed as well as its need for most of the actual uses.

## Note

The Environmental and Health NGOs, submitted comments to the consultant carrying out the report on the 13<sup>th</sup> January 2006, mainly referring to mercury and concerning the inclusion of thermostats in the scope of the RoHS directive<sup>4</sup>.

Further to these comments, and considering the links between tilt-mercury switches and thermostats, the Environmental and Health NGOs response to the 3rd Stakeholder consultation on Adaptation to scientific and technical progress under Directive 2002/95/EC for the purpose of a possible amendment of the annex, should also be considered, including references related to the non-need of mercury use in thermostats.

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<sup>4</sup> [http://www.zeromercury.org/EU\\_developments/060113\\_ENV&H\\_NGOsEUTHERMOSTATinRoHS.pdf](http://www.zeromercury.org/EU_developments/060113_ENV&H_NGOsEUTHERMOSTATinRoHS.pdf) and [http://www.zeromercury.org/EU\\_developments/060113\\_ANNEX\\_1\\_%20MAINE\\_DEP\\_DENIALOFEXEMPTIONREQUEST.pdf](http://www.zeromercury.org/EU_developments/060113_ANNEX_1_%20MAINE_DEP_DENIALOFEXEMPTIONREQUEST.pdf) [http://www.zeromercury.org/EU\\_developments/060113\\_ANNEX\\_2\\_MAINE\\_BEP\\_DENIALOFEXEMPTIONREQUEST.pdf](http://www.zeromercury.org/EU_developments/060113_ANNEX_2_MAINE_BEP_DENIALOFEXEMPTIONREQUEST.pdf) [http://www.zeromercury.org/EU\\_developments/060113\\_ANNEX\\_3\\_051027FINALNGOResponse3rdConsultationROHS.pdf](http://www.zeromercury.org/EU_developments/060113_ANNEX_3_051027FINALNGOResponse3rdConsultationROHS.pdf)

**For more information please contact:**

Elena Lymberidi, EEB, [www.eeb.org](http://www.eeb.org), [mercury@eeb.org](mailto:mercury@eeb.org), T: +32 2 2891301

Linda Greer, NRDC, [www.nrdc.org](http://www.nrdc.org), [lgreer@nrdc.org](mailto:lgreer@nrdc.org), T: +1 202 289 6868

Michael Bender, Ban Mercury Working Group, [www.ban.org/Ban-Hg-Wg/](http://www.ban.org/Ban-Hg-Wg/) , [www.mercurypolicy.org](http://www.mercurypolicy.org), [Mercurypolicy@aol.com](mailto:Mercurypolicy@aol.com), T: +1 802 2239000

Genon K. Jensen, EPHA Environment Network (EEN), [www.env-health.org](http://www.env-health.org), [genon@env-health.org](mailto:genon@env-health.org), T: +32 2 2333875;

Karolina Ruzickova, Health Care Without Harm Europe, [www.noharm.org](http://www.noharm.org), [europe@hcwh.org](mailto:europe@hcwh.org), T: +420 222 78 28 08

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<sup>i</sup> Environmental NGOS include

The **European Environmental Bureau, (EEB)**, [www.eeb.org](http://www.eeb.org), is a federation of more than 140 environmental citizens' organisations based in all EU Member States and most Accession Countries, as well as in a few neighbouring countries. These organisations range from local and national, to European and international. The aim of the EEB is to protect and improve the environment of Europe and to enable the citizens of Europe to play their part in achieving that goal.

The **Ban Mercury Working Group**, [www.ban.org/Ban-Hg-Wg/](http://www.ban.org/Ban-Hg-Wg/), is an international coalition of 28 public interest non-governmental organisations from around the world formed initially in 2002 by 2 US based NGOs, the Basel Action Network ([www.ban.org](http://www.ban.org)) and the Mercury Policy Project ([www.Mercurypolicy.org](http://www.Mercurypolicy.org)). working to end pollution from the toxic metal -- Mercury.

**The Natural Resources Defense Council** is a private, U.S. not-for-profit environmental organization that uses science, law, and the support of more than 1 million members and activists nationwide to protect the planet's wildlife and wild places, and to ensure a safe and healthy environment for all living things.

**European Public Health Alliance Environment Network (EEN)**, <http://www.env-health.org/> is an international non-governmental organisation advocating environmental protection as a means to improving health and well-being. Member groups and organisations represent health, environment, women, health professionals and others. The group has a diverse membership of 41 member groups (6 international organisations, 11 European networks and 24 national/local organizations) including non-governmental organisations, professional bodies representative of doctors, nurses and other healthcare workers, academic institutions and other not-for-profit organisations.

**Health Care Without Harm Europe (HCWH)**, [www.noharm.org](http://www.noharm.org), is an international coalition of hospitals and health care systems, medical and nursing professionals, community groups, health-affected constituencies, labour unions, environmental and religious organisations. HCWH is dedicated to transforming the health care industry worldwide, without compromising patient safety or care, so that it is ecologically sustainable and no longer a source of harm to public health and the environment.