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Dr. David Harrison

Dear Jiannis,

Thank you for giving us the opportunity to respond to your draft report regarding derogations in the EU Ecolabel for Imaging Equipment from September 2011. In particular, we would like to comment on Section 1.1 regarding the recommendation not to derogate the flame retardant bisphenol A bis(biphenylphosphate) (BDP) and clarify some concerns regarding the properties of this substance, alternative flame retardants and bisphenol A.

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**Properties of BDP (sections 1.1.1 -1.1.4)**

BDP is subject to harmonised classification, and the current classification is H413 only. It is only on the basis of the current H413 classification that derogation is even necessary. Therefore it is only appropriate to assess the **environmental** properties and exposure to determine whether a risk is present.

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In fact, the UK has submitted a dossier to ECHA on 2<sup>nd</sup> February 2011 to remove the current H413 classification (see ECHA website/submitted dossiers/Harmonised Classification and Labelling), leaving BDP as unclassified. Therefore evidence has already been submitted (to ECHA) by a member state to demonstrate that the H413 classification is not justified, and therefore no hazard is posed.

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Whilst the EU Ecolabel should not necessarily pre-empt the ECHA decision on removing the classification, there is none-the-less no environmental risk from flame retarded plastics in imaging equipment, since during production, use and disposal they do not come into contact with the aquatic environment (no exposure). In addition, as EFRA points out in its position from 8<sup>th</sup> September 2011, it would seem inconsistent for

the EU Flower to grant derogation for H400 labelled surfactants up to 25 wt. % in all-purpose cleaners in direct contact to the aquatic environment, yet not grant them for H413 flame retardants without contact to the aquatic environment.

**Suitability of Flame Retardants for PC and PC/ABS and PC/PET (Section 1.1.5 and Table 8)**

As described in our position from 30<sup>th</sup> June, polycarbonate and its blends (PC/ABS and PC/PET) are extensively used for housing materials for TV, computer/laptop and imaging equipment. Indeed, EuP Lot 4 “Imaging Equipment” (Task 7; Section 7.1.3) specifically recommends using polycarbonate blends in Imaging Equipment.

In order to be suitable for thin-walled, external housings parts, polycarbonate and its blends need to combine excellent melt-flow and mechanical properties with the highest standard for flame retardancy: such parts then have a superior carbon balance compared with metal alternatives (see position from 30<sup>th</sup> June 2011).

However, melt-flow, mechanical properties and flame retardancy are all impacted by the choice of flame retardant used. In addition, the commercial availability of flame retardants must be considered, otherwise a market penetration of ecolabelled products of 10-20% would not be possible. The balance of properties for the flame retardant options for PC, PC/ABS and PC/PET proposed in Table 8 of the draft report is compared in the table below:

	Flame Retardancy	Mechanical /melt-flow properties	Ecological considerations	Commercial availability
BDP	++	++	(Dossier submitted to remove H413 )	++
Boehmite	-	-		+
Calcium hypophosphite	+	-		--
RDP	++	+		-
TPP	+	+	H410	++

Thus, balancing all the options, only BDP and RDP are feasible flame retardant options, of which only BDP is available in sufficient commercial quantities to fulfil demand; Boehmite is not suitable due to poor flame retardancy and poor mechanical/melt-flow properties; calcium hypophosphite has poor mechanical/melt-flow properties and is not

sufficiently commercially available; and, TPP is classified H410 and would therefore also need derogation.

**Bisphenol A: Endocrine activity (see section 1.1.6)**

Like many naturally-occurring substances and everyday foodstuffs, BPA shows very weak, estrogen-like activity. This has been known since the 1930ies. However, the endocrine-active potential of BPA is very low: Only at very high doses to which a consumer can never be exposed does BPA show very weak, oestrogen-like effects. These effects are similar to the effects of substances occurring naturally in vegetables such as soy beans or carrots. But most importantly, the potential effects of BPA cannot be compared with the naturally-occurring oestrogen, oestradiol, because its potency is 10,000 – 100,000 times weaker. Robust multigenerational studies have shown that human reproduction and development are not affected by every-day exposure to realistic dose levels of bisphenol A. In addition, according to the "Weybridge definition"\* agreed by EU Member State scientists 1996, BPA is not an endocrine disruptor, because it does not show any reproducible evidence of adverse effects through the endocrine mechanism and it is not a selective reproductive toxicant.

\* [http://ec.europa.eu/environment/endocrine/documents/reports\\_en.htm](http://ec.europa.eu/environment/endocrine/documents/reports_en.htm)

In 2010, the German BfR stated on the topic of endocrine activity of BPA: *"Bisphenol A binds to estrogen receptors ER $\alpha$  and ER $\beta$ . In comparison to 17 $\beta$ -estradiol the binding affinity of bisphenol A is 10,000-fold lower for both ER subtypes and the estrogenic activity in various in vitro tests, such as e.g. proliferation assays, gene-reporter assays and prolactin release assays, is generally 3-5 orders of magnitude lower. Also, in in vivo screening tests for estrogenic activity, such as the uterotrophic assay, estrogenicity of bisphenol A was much weaker when compared to ethinyl estradiol (Gould et al. (1998), Kuiper et al. (1998), EU (2003), Kanno et al (2003))"*

[http://www.bfr.bund.de/cm/349/bisphenol\\_a\\_studys\\_by\\_stump\\_et\\_al\\_2010\\_and\\_ryan\\_et\\_al\\_2010.pdf](http://www.bfr.bund.de/cm/349/bisphenol_a_studys_by_stump_et_al_2010_and_ryan_et_al_2010.pdf)

**Conclusion**

BDP is the only flame retardant for polycarbonate and its blends (PC/ABS and PC/PET) which fulfils all the technical requirements for thin-walled housing materials and is commercially available in the

necessary volumes. In doing so, it enable housing solutions that have a lower life-cycle impact than the metal alternatives. Additionally, the use of BDP in these applications has no exposure to the aquatic environment, and therefore no risk. Therefore we believe that all the criteria of article 6.7 of Ecolabel Regulation 66/2010 are fulfilled to allow derogation, i.e.:

- No environmental risk
- Life-cycle benefit compared to alternative
- No technically feasible substitute

On this basis, we urge you to reconsider your draft report and recommend a derogation for BDP.

Yours sincerely,

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