

ChemSec position paper regarding standard IEC 62368

– Open flame fire resistance

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Currently a new standard (IEC 62368) for all electronic equipment (including consumer electronics) is under development by IEC (International Electrotechnical Commission). This standard introduces a new criterion for fire safety, namely "Accidentally caused candle flame ignition". In order to comply with this new criterion a large amount of potentially hazardous flame retardants must be added to the outer shell of all affected products. If adopted, this standard will in part be realized by

adding brominated flame retardants (BFRs) and chlorinated flame retardants (CRFs) which pose a serious threat to human health and the environment.

ChemSec's position in this issue is that IEC 62368 is unnecessary and it is irrelevant for fire safety to introduce such criteria which in fact will cause much more damage to human health and the environment than the few fires that possibly could be prevented.

CHEMSEC'S MAIN CONCERNS ABOUT THIS STANDARD ARE:

1. Standard will be in conflict with current EU environmental legislation
 - a. RoHS-directive bans brominated flame retardants (PBB, PBDE), *See A*
 - b. WEEE-directive by making it harder to recycle the remains, *See B*
 - c. REACH, European Union's new chemical law. Many of the flame retardants in use today are substances potentially very hazardous for human health and the environment hence will they be candidates as Substances of Very High Concern (SVHC) and require authorisation prior to use, *See C*
2. According to the Stockholm Convention, a global convention banning POPs (Persistent Organic Polluters) several brominated flame retardants (BFRs) are in the review for inclusion. *See D*
3. The globally acknowledged TCO standard for computer screens, laptops, keyboards and system units which bans BFRs in the outer shells of these products, *See E*
4. Costly for businesses
 - a. Manufacturers will need more expensive material since flame retardants are considerably more expensive than the raw material otherwise used.
 - b. Recycle costs at end-of-life for the products will be more expensive, *See F*
 - c. The use of many flame retardants classified as SVHCs will require a granted authorisation from the European Commission, each authorisation request will cost approximately € 50'000, *See G*
 - d. According to REACH, consumers have the right to know whether there are any SVHCs in the products they are buying. Companies with such chemicals in their products will face seriously concerned consumers and a damaged environmental reputation.
5. Many flame retardants are very hazardous substances with serious adverse affects to the human health and the environment, especially BFRs. Some of the properties from frequently used flame retardants are: Endocrine disruptors, neurological effects, suspected carcinogenicity and Persistent, Bio-accumulating and Toxic (PBTs).

MOTIVATION FOR OUR CONCERNS:

A. In order to fulfil the criteria in this new suggested standard IEC 62368, manufacturers will probably need to add brominated flame retardants to the outer shell of their products. Doing so will bring them in conflict with the RoHS directive banning PBBs and PBDEs. Right now there is a general exemption for DECA-BDE but this exemption is challenged by both Denmark and the European Parliament.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:037:0024:0038:EN:PDF>

B. WEEE requires that electric and electronic equipment must be re-used or recycled to an extent of minimum 65%. Adding flame retardants (no matter the kind) makes this goal considerable harder to achieve since the more substances that are blended into the plastic the harder it will be to recycle it properly.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:037:0024:0038:EN:PDF>

C. The REACH text states in article 1(3) that *“This Regulation is based on the principle that it is for manufacturers, importers and downstream users to ensure that they manufacture, place on the market or use such substances that do not adversely affect human health*

or the environment. Its provisions are underpinned by the precautionary principle.”

Many flame retardants used today have a considerable negative effect on human health and the environment hence putting them in direct conflict to the objective of REACH. Being so hazardous, makes them potential candidates for being considered as SVHCs. Once listed as SVHCs, they can not be used unless authorised by the European Commission.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001:0849:EN:PDF>

D. http://www.pops.int/documents/meetings/poprc/chem_review.htm

E. http://www.tcodevelopment.se/tcodevelopment1200/Datorer/TCO99/99Ecology_report_5_ed_4_o.pdf

F. Recycle costs will increase when adding large quantities of flame retardants. When inserting other extraneous substances, recycling and re-use will be considerably harder since mixed material streams are harder to separate and it will not be possible to use as pristine raw material for new products.

G. <http://www.hse.gov.uk/reach/resources/regfeescharges.pdf>

Fire safety is a very important issue in the use of electric equipment since there are often high voltages, hot surfaces and strong electrical currents involved in for instance a TV-set. Manufacturers have been aware of these concerns for a long time and they have been taking action accordingly by adding flame retardants. As awareness was raised about the obvious hazards of using flame retardants, the use of chemicals has to a large extent been replaced by constructional solutions eliminating these hazardous substances. The hazard posed by the product itself are hence already properly controlled by technical means and supervised by current standards.

All what has been achieved so far reducing the amount of flame retardants could now be overthrown by IEC 62368 by demanding that all outer shells of electronic equipment should be fire proof to an open flame.

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