

COMMENTS ON THE ROHS RECAST DRAFT REPORT 2009 BY JILL EVANS

Reference:

DRAFT REPORT on the Proposal for a directive of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast) dated 22 October 2009

(COM(2008)0809 – C6-0471/2008 – 2008/0240(COD))
Committee on the Environment, Public Health and Food Safety
File name: PR\794155EN.doc, PE430.424v01

Rapporteur: Jill Evans

Supported by



Berlin, 8th March 2010

Executive Summary

The recast of RoHS, i.e. the revision of the EU directive Restriction of certain Hazardous Substances, has the general target to further reduce hazardous substances in waste streams from electric and electronic equipment (WEEE) for a better protection of health and environment. Optical glass, colored filter glass and special optical glass (generally called "optical glass" in the following) is subject to the directive since they are mostly used within optical devices using electronics like photographic cameras, microscopes, measurement equipment and so on.

The optical glasses are not in the main focus of the directive and their total amount is almost negligible to the total waste: The total amount of WEEE in 2005 in EU was about 9 million tons, the total world wide amount of optical glass produced in 2007 20 thousand tons, the share of hazardous substances in the glass again is a much smaller amount.

The proposed RoHS procedures are not suited to value the benefit to risk ratio of optical glasses in an adequate way. The target to adjust the RoHS substances list to newly found hazard potentials will put a significant number of chemical elements on the agenda for thorough analysis. Since in optical glasses usually 6 to 12 chemical elements are used out of a total set of 52 there is a high chance that optical glass will be subject to new applications for exemptions. Such applications last more than 2 years until decision is made, which is granted for 4 years. After that it has to be proven in detail, that the use of the element still has no alternatives. All this has to be done on a case-by-case basis, which will lead to the situation that in future permanently applications for exemptions or prolongation applications will be under way.

During these procedures varying parts of the total set of optical glass types up to almost all of them will be questionable with respect to long-term availability. This will withdraw all reliability in the supply of design materials for optical systems in permanence and hence destroy the basis of all related business. The optics and photonics industry has an extreme leverage to all technology. This means that the proposed recast of the EU RoHS endangers technology based civilization as a whole. So there must be found a way out of this danger. The best way would be to apply the de minimis principle, which is proposed in this report but at present not explicitly for optical glasses.

It is possible to estimate the total use of specific elements based on total production volumes and composition contents. So similar to the regulation of EU chemicals law REACH it might be accepted in future if the total world wide use of a single special element under observation lies below 1 ton as a first approach. This would be given e.g. for Cadmium used in filter glass types, where the amount of the element in the total world production of filter glass lies below 0.5 ton.

There will be a long way until such regulation will become effective in the EU-RoHS. The situation for optical glass is very unique but this is a well-known argument of all lobbyists. To convince EU politicians of the necessity of a special or even individual regulation for optical glass will be very difficult. But since the RoHS recast process is at present still open it is the right time now for action.

Comments in detail

The detailed comments on the amendments proposed by Ms Evans follow below. It has to be stated, that also the original text proposed by the EU commission has to be examined and commented. This is still pending. But the main dangers are already found in the report commented here.

Amendment 2: Exemptions if alternatives do not exist

"[...] That Resolution stresses that the use of cadmium should be limited to cases where such use is suitable and safer alternatives do not exist."

We welcome this approach. However, as can be seen in the following chapters, there are only regulations leading to time limited exemption. This is chosen to maintain innovation pressure on industry to exchange hazardous substances by less harmful ones. There is no regulation for such substance applications where it has been proven, that alternatives do not exist and will never exist since all possibilities are exhausted. There should be a procedure, which leads after careful examinations to infinite exemptions. Otherwise there will be significant danger that essential supplies will die out in the end leading to damages with high leverage.

Amendment 6: End-of-life scope directed to incineration plants

"[...] As a result, it is subjected to thermal treatment or disposal, which is likely to pose risks to human health or the environment, either directly through release of these substances to the environment, or indirectly through the formation of hazardous transformation products or secondary hazardous waste resulting from incineration."

One of our arguments is that the hazardous substances in glass are bound firmly in the glass matrix and are not available to the environment. This does not necessarily hold when the glass is subjected to thermal treatment in an incineration plant. We should discuss the consequences with an expert of such plants in order to find out if the elements lead and cadmium may become hazardous in the end.

Amendment 9: Other hazardous substances

"To this end, the Commission should study the negative impacts of other hazardous substances and the feasibility of their substitution, in particular at the end of life of electrical and electronic equipment, with a view to making legislative proposals to strengthen the provisions of this Directive on a regular basis."

This is an approach which is fully consistent with the objectives of WEEE/RoHS but on the other hand very dangerous for optical industry and those who rely on their products, which is in the end most of present day total technology. If becoming fully effective on optical glass, this regulation will cause permanent uncertainty on the availability of special optical glass types or even optical glass as a whole. In optical glass colored glass and special optical glass in total 52 chemical elements are used, in one glass type usually 6 to 12 of them.

(Al, As, B, Ba, Bi, Ca, Cd, Ce, Cl, Co, Cr, Cs, Cu, Dy, Er, Eu, F, Fe, Gd, Ge, Ho, K, La, Li, Mg, Mn, Na, Nb, Nd, Ni, O, P, Pb, Pr, S, Sb, Se, Si, Sm, Sn, Sr, Ta, Tb, Te, Ti, Tm, V, W, Y, Yb, Zn, Zr. Blue – heavy metal, orange- priority substance of EU)

Two of these elements are already on the RoHS list: Pb and Cd. Two are proposed, see below: As and Sb, three others have been in discussion recently: Ni, Se, Co. Boron has been proposed several times. Tellurium is an element with hazard potential. Heavy metals are under general observation. There are many of them in the list above.

So there is much reason to expect a lot of applications for exemptions with all the efforts involved, time delays, and glass availability uncertainties as experienced in the past. Since the Evans report does not give a perspective on a really efficient and fast decision process for exemptions and restricts expiry periods to 4 years at maximum, we have to face permanent ongoing application processes in different stages occupying valuable bottleneck resources and never ending uncertainty for material availability. This will exert high damages to the optical industry as a whole since they need at least one year guarantee for consumer products and more than ten years for industrial optics products.

There is a desperate need for all optical, optical colored and special optical glass types to be exempted from that total procedure. Many glass types are produced in amounts so small, that it will be not economical for the glass manufacturers to apply for exemptions. So at minimum whole families of special optical glass types will die out with serious consequences.

Amendment 10: Conditions for exemptions

“Exemptions from the substitution requirement should be permitted if substitution is not possible from the scientific and technical point of view, taking specific account of the situation of SMEs or if the negative environmental and health impacts caused by substitution are likely to outweigh the health and environmental benefits of the substitution. Substitution of the hazardous substances in electrical and electronic equipment should also be carried out in a way so as to be compatible with the health and safety of users of electrical and electronic equipment. Socio-economic considerations should be taken into account when deciding on the duration of an exemption. It should be possible to grant a grace period after expiry of an exemption to allow for regulatory certification or for the supply of safer substitutes to be scaled up to the necessary requirements. The placing on the market of medical devices requires a conformity assessment procedure, according to Directives 93/42/EC and 98/79/EC, which could require the involvement of a notified body designated by Competent Authorities of Member States. If such a notified body certifies that the safety of the potential substitute for the intended use in medical devices or in vitro medical devices is not demonstrated, this will be viewed as a clear negative socio-economic, health and consumer safety impact. It should be possible to apply for exemptions of equipment coming under the scope of this Directive from the date of its entry into force, even when that is before the actual inclusion in the scope of that equipment.”

There must be a process introduced ending in a permanent exemption. With optical glass exchange possibilities are not given anymore. Four years is much too short. The reviewing process for the prolongation of an exemption is inefficient. The present process for exemption # 13 for optical glass lasts now longer than the initial process, more than 2 years and an end cannot be seen up to now. This is totally unacceptable. There is no evidence for a better process in the future. Even if one takes into consideration that part of the delay is due to the present recast of RoHS as a whole, similar recasts or revisions of RoHS are to be expected also in the future.

For the examination of consequences to environment and health, they should take into account not only the direct consequences of the presence or absence of substances themselves but also on the indirect consequences, when medical devices or environment surveillance equipment cannot be built anymore due to the non-availability of needed special materials containing these substances. Also the other high ranked targets of the EC should not be neglected: Scientific research, technological competitiveness and safety. High damages to these fields cannot be ignored.

Amendment 11: Limitations for exemptions

“Exemptions from the prohibition for certain specific materials or components should be limited in their scope and time, in order to achieve a gradual phase-out of hazardous substances in electrical and electronic equipment, given that the use of those substances in such applications should become avoidable.”

There must be a way out of the prolongation decision loops, may it be a permanent exemption or a exclusion from the scope. Otherwise this bureaucratic mill will crunch optical materials, optical industry and industry in general kicking the EU back to medieval times.

Amendment 12: Comitology process for decisions

“In particular the Commission should be empowered to adapt Annexes V, VI and VIa to technical and scientific progress and to adopt other necessary implementing measures. Since those measures are of general scope and are designed to amend non-essential elements of Directive 2002/95/EC, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.”

Justification

The Commission should only be empowered to decide about exemptions in comitology (Annexes V, VI and VIa). Annex II (“binding list of products that fall under the categories listed in Annex I”) is proposed to be deleted as such, so it also needs to be deleted here. Annexes III and IV should only be modified by co-decision.

The prescription of the comitology process will not contribute to the acceleration of decision processes. If applied to the exemption reviews this will lead to the delays as experienced at present.

Amendment 22: Homogeneous material

““homogeneous material” means either: - a material that consists of only one material throughout; - a combination of multiple materials that can not be mechanically disjointed into different materials, excluding surface coatings; or - a surface coating.”

This excludes finished coated optical elements to be regarded as one material and may cause optical coating to be exempted from RoHS explicitly. Optical companies coating their elements should check this amendment for the necessity to taking action.

Amendment 38: Heavy metals

Justification

“It is established EC policy to phase out heavy metals wherever possible, accepting related costs and efforts.”

This is further evidence to the arguments given for amendment 9 see above.

Amendment 41: Exemptions, 4 years validity periods, Case-by-Case decisions, explicit expiry dates

“Measures adopted in accordance with point b of paragraph 1 shall have a validity period of up to four years, to be decided on a case-by-case basis, and may be renewed. The Commission shall take into account socio-economic impacts when deciding on the duration of an exemption. The Commission shall decide no later than six months before an exemption expires on any application for renewal that is submitted no later than 18 months before an exemption expires. Where the Commission considers that more than the time until expiry of the exemption is necessary for regulatory certification procedures or to ensure adequate availability of substitutes, it shall grant a grace period after expiry of the exemption. The duration of the grace period shall be decided on a case-by-case basis and shall not exceed 18 months after expiry of the exemption. Those measures, designed to amend nonessential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(2).”

This clearly shows the bureaucracy tsunami that is going to swallow optical materials. Validity of 4 years, case-by-case decisions in comitology processes and this for more than 10 elements to be expected within the next 5 years to appear on prohibition proposal lists. This will continuously preclude any reliable material availability perspective for optical companies and thus destroy their business basis. All application, decision and grace periods will not help.

Amendment 45: Conditions for Exemption applications

“Applications for the exemption including a format and types of verifiable information to be provided and comprehensive guidance when introducing those applications, including analysis of the alternatives on a life-cycle basis and, if suitable alternatives are available, substitution plans as referred to in Regulation (EC) 1907/2006, including transition times necessary for regulatory certification and sufficient supply of suitable alternatives.”

This regulation causes high effort for each exemption application, which will lead to waiving applications for many materials with small turn-over but probably important applications. This also holds for prolongations since it has to be demonstrated in detail that the situation did not change. When the consulting company changes as experienced in the past, the total argumentation has to be explained once again.

Amendment 46: De minimis principle

“Complying with the maximum concentration values of Article (4)(2), inter alia by defining a de minimis volume, and specific rules for surface coatings. Verification procedures for the prohibition of chlorinated and brominated substances shall be based on existing international industry standards referring to bromine and/or chlorine content.”

The idea of defining a de minimis volume could be an effective way to avoid all the problems outlined above on regular exemptions for many elements used only in small amounts. A de minimis volume provides a volume limit, below which a substance will not be taken into account for the RoHS regulations. This is according to the 1 tonne limit in REACH.

Many of the elements listed under amendment 9 are used only in small amounts, i.e. their share of the composition lies just above the accepted limit values (for most substances 0.1 %) and not higher than 2 %. In our presentations about Cadmium put on the total world market as coloring agent of filter glasses the total amount adds up to less than 0.5 ton. If such limits in the order of magnitude of 1 ton as world-wide total amount of the specific element put on the market would be introduced most problems would be solved completely.

Amendment 47: 4 years term for substance list extension

“Before [...], the Commission shall review the measures provided for in this Directive to take into account, as necessary, new scientific evidence. In particular the Commission shall, by that date, present proposals for subjecting equipment which falls under categories 8, 9 and 11 to Article 4(1a). The Commission shall also study, by that date, and every four years thereafter, the need to extend the list of substances or groups of substances in Annex IV, in particular with regard to the substances listed in Annex III, on the basis of scientific facts and taking the precautionary principle into account. Particular attention shall be paid during that review to the following impacts of such substances or materials: - the feasibility and profitability of reuse and recycling; - the cumulative exposure of workers involved in the collection, reuse, recycling and treatment; - the potential for release of those substances and materials or their hazardous transformation products or secondary wastes to the environment during recovery or disposal, including during sub-standard operations in the EU and in third countries, in particular thermal treatment processes. The Commission shall examine the feasibility of replacing such substances and materials with safer substitutes and shall present proposals to the European Parliament and to the Council by that date, and every four years thereafter, in order to extend the scope of Annex IV, as appropriate. * insert date four years after entry into force of the Directive.”*

This regulation proposal again might be the source of the big problems as explained above. If optical glasses are not to be totally excluded from the review process, it would be helpful to treat them as one material group, since the behavior of the different glass types during disposal has much in common, like when they are components of waste, which is not thermally treated they are not hazardous at all.

Amendment 55: Declaration of conformity

“Keep the EC declaration of conformity and the technical documentation at the disposal of national surveillance authorities for ten years after the EEE has last been made available on the market by the manufacturer or importer.”

This amendment indicates that the recast draft of the EC commission contains a requirement for a declaration of conformity. This is new to the RoHS and must be commented on the original draft text.

Amendment 69: New substances on the list As, Sb

“Substances referred to in Article 6a

- 1. Arsenic compounds*
- 2. Beryllium and its compounds*
- 3. Antimony trioxide*
- 4. Dinickeltrioxide”*

The newly proposed additional substances for the hazardous substances list contains now two elements, which are essential for optical glass manufacturing: As and Sb. Be is not used in optical glasses at all, nickel is used only in form of Nickeloxide NiO.

As has been widely replaced by Sb as refining agent in the last 20 years. However, there has to be such refining agents. Otherwise optical glass will not fulfill its specifications anymore and the performance of optical systems will degrade.

Amendment 71: Definite exemption date

*“Unless stated differently, the applications in this Annex shall expire on [...] * insert date 48 months after entry into force.”*

Such statement will be welcome, since the present regulation does not provide clear information on how long an exemption is really granted. It says that every 4 years a review has to be performed, but gives no explicit regulations on decisions to be derived from the revision.

Berlin, 8th March 2010

Contact

Birgit Ladwig

Manager Photonics + Precision Technologies

Fon: +49 (0)30 41 40 21 – 31

Fax: +49 (0)30 41 40 21 – 33

E-Mail: ladwig@spectaris.de

SPECTARIS. German Industrial Association for Optical,
Medical and Mechatronical Technologies
Saarbrücker Straße 38, D-10405 Berlin, Germany