



STAKEHOLDER CONSULTATION ON THE EXEMPTION OF DECA-BDE FROM THE ROHS DIRECTIVE

The comments below from Great Lakes Chemical Corporation supplement those of the European Brominated Flame Retardant Industry Panel, a CEFIC sector group, of which the company is a member. Great Lakes Chemical Corporation manufacture Deca-BDE as well as a range of other brominated, phosphorus, antimony and zinc based flame retardants.

Since the initiation of the Stakeholder Consultation the European Risk Assessment on Deca-BDE has been completed and accepted by the meeting of the Competent Authorities in Dublin on May 26th 2004. The conclusion was that no risk was identified for this product and that no risk reduction was necessary. Deca-BDE is not bioaccumulative or toxic but is persistent and found in the environment at low levels, albeit at levels well below that which action would be required. The Deca-BDE manufacturers and user industries had already responded to this finding by initiating an aggressive voluntary initiative to reduce emissions into the environment through the production supply chain. This has been welcomed by the Rapporteurs and Member States. The actions proposed by the Rapporteurs are to complete one final study and to institute an environmental monitoring programme over six years with a possible extension to ten years to which the industry has agreed.

In addition, the global Bromine Science and Environmental Forum (BSEF), of which Great Lakes Chemical Corporation is a member, commissioned the Institute of Occupational Medicine to review independently all references and concerns related to Deca-BDE in the RoHS Directive and compare them to the corresponding conclusions from the EU Risk Assessment reports. This reportⁱ concludes that the issues motivating the inclusion of Deca-BDE in the RoHS Directive have all been addressed by the EU Risk Assessment Report.

Great Lakes Chemical Corporation therefore submits that, as a result of this risk assessment finding, Deca-BDE has now met the requirements to be excluded from any restriction under the RoHS Directive.

1: Do feasible substitutes exist in an industrial and/or commercial scale?

Great Lakes Chemicals manufactures a number of different flame retardants which can be substituted for Deca-BDE in certain polymers and applications. However none are as universally applicable, as cost effective or available on the same production scale as Deca-BDE. In addition none of these products have yet been through a full risk assessment process and been proven to be as safe and free of risk as Deca-BDE.

2: Do any restrictions apply to such substitutes

No.

3. What are the costs and benefits and advantages and disadvantages of such substitutes?

This is a difficult question to answer without considering individual polymers and applications because none of the potential substitutes have as wide an applicability as Deca-BDE. In certain polymers such as HIPS, ABS and PBT, there are currently no cost-effective alternative flame retardants which can provide good flame retardancy combined with good physical properties.

A key benefit of Deca-BDE is its good thermal and chemical stability. This means that it can be readily recycled, as many studies have demonstrated and will not degrade in service, which is important in many applications where a long and reliable service life is expected from the finished product. Unfortunately this good process and performance stability also means that it is persistent in the environment, a property that is likely to be shared by any effective alternative.

In Conclusion

The advantages of Deca-BDE:

- ✓ It has undergone a full European risk assessment without any risks being identified thus demonstrating scientifically its safety for the environment and human health
- ✓ A product stewardship programme exists which commits to reduce emissions to the environment across Europe
- ✓ It has a good track record in processing, performance and recycling

The above advantages are not matched by any alternative product.

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ⁱ Specific references to Deca-BDE in the explanatory memorandum of the EU RoHS Directive proposal and Corresponding conclusions from Deca-BDE EU Risk Assessment. Institute of Occupational Medicine (IOM), June 2004.