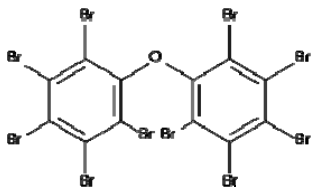


Restricted use of flame retardant DECA-BDE



Washington will become the first state in U.S. to phase out the use of Decabromodiphenyl ether (Deca) in consumer products beginning in 2008. The European Commission has twice proposed banning the use of Deca-BDE and Sweden has banned DECA-BDE since 2007.

Deca-BDE is the most commonly used as a flame retardant in textile products as well as in many electronic devices such as TV sets and computers. Research has shown that Deca-BDE is found in human breast milk and blood. The bioaccumulation of Deca-BDE in wildlife such as birds, fish and even polar bears has also been observed. Arguments against banning Deca-BDE seem to revolve around the theory that its molecules are too big to be absorbed into the human body. Similar products; pentabromodiphenyl ether (Penta) and octabromodiphenyl ether (Octa), which are known to be toxic, have already been restricted in the U.S and Europe (EU Directive 2003/11/EC).



Impacts on Health and Ecology

Possible Health Effects (Ref. to Environment California Research & Policy Center):



- ◆ Neurological damage (e.g. spatial learning impairment) or permanent memory loss
- ◆ Disrupt thyroid hormone level
- ◆ Reproductive effect
- ◆ Classified as possible human carcinogen by US EPA

Ecological Effects:

- ◆ Break down under sunlight and during metabolic processes into toxic Octa-BDE and Penta-BDE
- ◆ *In vivo* tests showed bioaccumulation of Deca-BDE which leads to harmful effects in animals



Action taken for Deca prohibition in U.S.

Europe	Legislation status for Deca-BDE	Proposed effective date
Sweden	Restricted Deca-BDE in textile, furniture and cables	January 1, 2007
U.S. states	Legislation status for Deca-BDE	Proposed effective date
Washington	In April 2007, mattresses containing Deca-BDE will be phased out, provided a safer fireproofing alternative is found.	Starting in 2008
	The use of Deca-BDE in the manufacture, sale and distribution of computers and televisions and upholstery will be phased out.	January 1, 2011
Maine	Propose banning Deca-BDE in television sets.	Starting in 2008
	Propose ban in sales of mattresses and upholstered furniture containing Deca-BDE.	January 1, 2008
Illinois	Propose banning Deca-BDE in home furnishing and electronic casings.	By 2011
Minnesota	Propose banning the manufacture, processing and distribution of Deca-BDE.	Starting in 2010

So far, some industries have voluntarily eliminated the use of Deca-BDE in manufacturing processes and are looking for alternatives to replace Deca-BDE. The initiated action to ban Deca-BDE in Washington is believed to inspire other states to take action.

Intense pressure may be also imposed on EU to revise their Directive on phasing out Deca-BDE in all aspects.

If you would like to know more information, please do not hesitate to contact us.

For enquiries:
Global Competences Support Centre, gcsc@sgs.com
HK – Ruth HON
☎ + 852 2774 7148 or ✉ ruth.hon@sgs.com

Asia – Hong Kong Tel: +852 2334 4481 Fax: +852 2144 7001 ✉ mktg.hk@sgs.com
Australasia – Perth Tel: +61 (0) 3 9790 3418 Fax: +61 (0) 3 9701 0988 ✉ au.cts@sgs.com
Europe – London, UK Tel: +44(0) 20 8991 3410 Fax: +44 (0) 20 8991 3417 ✉ gb.cts.sales@sgs.com
Africa & Middle East – Turkey. Tel: +90 212 225 0024 Fax: +90 212 296 47 82 ✉ sgs.turkey@sgs.com
Americas – USA. Tel: +1 973 575 5252 Fax: +1 973 575 1193 ✉ Marketing.CTS.US@sgs.com
Web: www.sgs.com Global Competences Support Centre: ✉ gcsc@sgs.com
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