

FACT sheet

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Brominated Flame Retardant

HBCD

Hexabromocyclododecane

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Bromine Science and Environmental Forum

> Introduction

HBCD is used as a flame retardant in thermal insulation foam and in textile coatings preventing deaths and injuries from fire. The substance is marketed without any legislative restrictions. Total consumption worldwide of HBCD was 16,700 tons in 2001.

> Applications and fire safety

HBCD's main use is in Expanded and Extruded Polystyrene (EPS and XPS) for thermal insulation foams, in building and construction in order to meet required high fire safety standards. HBCD has no technically suitable alternative in EPS and XPS. It is unique in that it combines high effectiveness with very low levels used thus helping to maintain EPS and XPS' insulation properties.



HBCD is also applied in the backcoating of textiles, mainly for upholstery furniture, and is one of the flame retardant technologies used to meet the highest levels of fire safety as required by legislation in the

UK, Ireland and California. Statistics for the UK alone estimate that over 3,000 lives have been saved since 1988 as a result of the legislation mandating that upholstered furniture respect a high level of fire resistance¹.

A very small application of HBCD is in HIPS (High Impact Polystyrene), which is used for electrical and electronic appliances, for example in audio visual equipment.

> Health and Environmental Profile

The latest studies indicate that HBCD is not persistent. However, the substance has a relatively high bioaccumulation potential and is found in increasing concentrations levels in the environment and in biota. Such environmental findings can be linked to emissions from industrial manufacturing sites, emissions which can and should be controlled - for further information see the "BSEF Emissions Reduction Program". The EU Risk Assessment on HBCD carried out by Sweden has analysed the

potential risk to consumers from exposure to HBCD using very conservative estimates ("reasonable worst case assumptions"). The draft conclusions of this evaluation are that there is no risk expected to consumers from the use of HBCD.

In line with the EU risk assessment, the majority of emissions are understood to come from water-based textile manufacturing facilities. The textiles industry in the UK has implemented a voluntary programme of emis-



sions reduction (VECAP) in response to the EU risk assessment of Deca-BDE which encouraged such industry action. The textiles industry has recently extended VECAP to include HBCD as well.