17 May 2006

Deca-BDE – Summary Status Report on the Voluntary Emissions reduction and Control Action Programme (VECAP)

Introduction:

Since VECAP's official launch in 2004, industry actors have cooperated to develop and implement this emission reduction programme. Some of the initial findings from the UK pilot programme have been striking, for example, a 75% reduction in emissions to water in the first full VECAP cycle in the UK carried out in 2005 for textile plants. These results are an example of how VECAP-type initiatives can achieve significant progress in a time schedule far faster than would be achieved by proposing legislation on industrial emissions.

The partnership with an industrial supply chain involving largely Small and Medium-sized Enterprises (SMEs) is at the core of VECAP. The industry commitment to VECAP has demonstrated that SMEs are prepared to act voluntarily to reduce emissions even if no additional risk reduction measures have been deemed necessary by the EU authorities.

Given this supply chain partnership, which is starting to be supported by product specifiers such as retailers, VECAP is seen by some industry sectors and regulatory authorities as a tool from which lessons can be drawn from in terms of chemicals management under REACH.

Scope of the programme:

On 26 May 2004, the EU Competent Authorities (CAs) "called for pragmatic, precautionary and proportionate measures to be established and supported the industry's voluntary initiative to ensure emission reduction in the textile and plastics sectors".

Principles of VECAP:

- based on sharing best practice through the production process where Deca-BDE is used (handling, processing) modelled on the principles of ISO 14001 and EMAS
- involves industry specific Codes of Good Practice, specific toolkit documents and resources from the suppliers to help implementation
- a mass balance approach to be taken to determine emissions
- cycle of analysis auditable by an independent third party.

Timetable presented at May 2004 Competent Authorities' Meeting:

The projected timetable for the implementation of an emission reduction programme proposed by Industry and approved by the CAs was as follows:

- 2004-2005: United Kingdom (27.5% of EU use)

- 2005-2007: Belgium, France, Germany, Italy and the Netherlands (70% of EU use)

- 2008-2010: Rest of EU (2.5% of EU use)

The figures in brackets indicate the percentage of the total overall 2005 sales tonnage of Deca-BDE into the EU which will be covered by the programme in each stage.

The parameters for the operation of the VECAP programme were developed by the 'Deca Task Force' chaired by the UK Rapporteur and including representatives from the following Member States and organisations: UK, G, F, I, NL, Sw, No and WWF and EBFRIP and textile and plastics industry organisations, and were finalised in April 2005.

At the CA Meeting in Helsinki, June 2005, it was judged that the plastics industry had been slow in implementing VECAP and a significant acceleration of the programme was requested. The delay was due to two main reasons: a). priority attention was given by industry to textile applications because of higher emissions in that sector; and b) the structure of the plastics industry required a different approach from textiles and resolution of the resulting potential competition issues. Despite these delays, a robust VECAP programme has now been developed and the industry has been able to accelerate its introduction programme and is pleased to report on the progress achieved in the last year.

In order to assess progress in the development of VECAP, two measures are so far reported:

- commitment to the programme is defined as a Deca-BDE using company's formal signing-up to the principles of VECAP and/or the user company's completion of a comprehensive baseline assessment of Deca-BDE emissions from the production facility;
- completion of a baseline emissions survey where the user company applies obtained mass balance results to demonstrate the actual process emission performance and to determine future opportunities for emissions reduction.

In future reports, emission reductions achieved will also be reported, but at this stage these are only available for the UK textile industry.

VECAP Deca-BDE Programme Progress [as at 1 May 2006][1]:

		Commitment to VECAP			Baseline Values			
		VECAP Targets for June 2006 [2]	Today	VECAP Targets for Mid-2007	VECAP Targets for June 2006 [2]	Today	VECAP Targets for December 2006	
EU-6[3]	Textiles	50%	79%	90%	None	66%	75%	
	Plastics	80%	48%	85%	20%	11%	45%	
Belgium	Textiles	50%	71%	90%	None	65%	80%	
	Plastics	80%	89%	90%	20%	52%	70%	
France	Textiles	50%	34%	90%	None	34%	75%	
	Plastics	80%	29%	80%	20%	None	30%	
Germany	Textiles	50%	88%	90%	None	21%	60%	
	Plastics	80%	38%	80%	20%	None	40%	
Italy	Textiles	50%	None [4]	80%	None	None	No target	
	Plastics	80%	59%	80%	20%	5%	40%	
NL	Textiles	50%	No Deca Use	No Deca Use	None	No Deca Use	No Deca Use	
	Plastics	80%	100%	100%	20%	100%	100%	
UK	Textiles	50%	95%	95%	3rd mass bal	95%	3rd mass balance	– 75% emissions reduction compared to 1st mass bal.
	Plastics	80%	73%	80%	20%	73%	80%	

The Table above has been compiled by the industry association EBFRIP in the context of the environmental programme to reduce emissions endorsed by the EU risk assessment authorities in May 2004. It summarises the progress to date in the EU-6 [3] countries together with the targets that the EBFRIP VECAP Team has set for mid-2007. If these targets are met, then >80% of the total Deca-BDE used in the whole EU will be handled by companies committed to the VECAP principles. This will be fully in line with the initial commitment given to the CAs in May 2004.

A brief summary of the progress by sector and country is given below.

[1] Table compiled by EBFRIP in context of environmental programme to reduce emissions as requested by EU risk assessment authorities.
[2] Target requested by UK Rapporteur at CA Meeting, June 2005, Helsinki.
[3] Belgium, France, Germany, Italy, the Netherlands and the UK.
[4] Textiles account for not more than 5% of Italian Deca-BDE consumption.

Progress on Textiles:

Based on the UK pilot programme experience, emissions from the textiles sector were identified as the top priority in terms of reducing emissions. 79% of the Deca-BDE textile usage in the 6 priority Member States - Belgium, France, Germany, Italy and the UK - have committed to applying the VECAP principles. Baseline emission surveys have been completed for 66% of Deca-BDE's usage in this sector.

- **United Kingdom:**

The UK's Textile Finishers' Association (TFA) has carried out a baseline emissions survey in 2004 and a second survey in 2005. In 2004, emission reductions of 90% were recorded in some plants compared to pre-survey data. Preliminary reports from the subsequent 2005 VECAP Survey indicates an overall 75% reduction of emissions to water compared to the baseline established by the 2004 Survey, thus resulting in a significant overall reduction.

- **Belgium:**

71% of Deca-BDE's usage in the textiles industry is now covered by VECAP in the form of signed commitments to the Code of Practice principles. In addition, a baseline emissions survey was completed in Q1 of 2006 covering 65% of Deca-BDE's usage.

- **France:**

Work with textile users of Deca-BDE is progressing with a commitment of 34% based on given information to determine the baseline values.

- **Germany:**

German textile Deca-BDE users have strongly committed to the VECAP programme, with already 88% of the total usage signed up to the VECAP principles. A baseline emissions survey has been completed for 21% of the volume of Deca-BDE used.

- **Italy:**

Initial contacts have been made with Deca-BDE users and we expect to be able to report significant progress in terms of commitment and baseline surveys. We note that textiles usage account for no more than 5% of total Deca-BDE consumption in Italy and so the priority has been to work with the plastics industry.

- **The Netherlands:**

No usage of Deca-BDE has been identified for textiles in the Netherlands.

Progress on Plastics:

48% of the Deca-BDE's usage for plastics in Belgium, France, Germany, Italy, the Netherlands and the UK is now covered by user commitments to the VECAP principles. Work on baseline surveys is underway in each of the above Member States.

- **United Kingdom:**

In 2005, 73% of Deca-BDE usage in the plastics sector was covered by a baseline emissions survey. These baseline estimates indicate that emissions per tonne of Deca-BDE used are far lower (>10x) than those for the equivalent textile sector – see Annex I for UK Plastics Industry Emissions Report as agreed with the Rapporteur.

- **Belgium:**

89% of the Deca-BDE usage have signed up to the commitment to applying the VECAP principles and techniques. A baseline emissions survey has been completed for 52% of the volume of Deca-BDE used.

- **Italy:**

59% of Italian plastics usage of Deca-BDE is signed up to the principles of the VECAP programme. Work is under way for completion of a Deca-BDE plastics baseline emissions survey. Cooperation is already in progress with the Italian plastics federation (PlasticsEurope Italia) to increase the percentage of Deca-BDE usage covered by the VECAP commitment.

- **France:**

Discussions with Deca-BDE plastic users have recently started in France with 29% of Deca-BDE usage signed up to VECAP. We expect to be able to report a first baseline survey figure after the summer 2006.

- **Germany:**

Discussions with Deca-BDE plastic users have recently started in Germany. 38% of German plastics usage has signed up to the principles of the VECAP programme. Work is under way for completion of a Deca-BDE plastics baseline emissions survey.

- **The Netherlands**

There is limited usage of Deca-BDE in the plastics sector. 100% of Deca-BDE's plastics usage is signed up to the VECAP principles and techniques. All of the Deca-BDE usage in plastics in The Netherlands has completed a baseline emissions survey.

Comments on the VECAP Process:

An essential component of the VECAP process is the internal self-audit based on ISO 14001 principles where the Company examines every stage of its production process flow sheet to identify and quantify potential emissions and close the mass balance. This has proved to be an enlightening exercise for participating companies which has often led them to be able to make improvements to the environmental behaviour of their production processes in order to reduce emissions. This in turn has resulted in a wide range of individual modifications being adopted by companies ranging from simple procedural changes to re-engineering processes to re-use 'wash water' rather than discharging it to sewer. The 'Mass Balance' approach has proved to be a more reliable measure of potential emissions because it is neither time nor dilution dependent unlike periodic sampling methods. It also provides a worst-case scenario by assuming that any levels unaccounted for are considered as emitted to the environment.

Reducing emissions VECAP can lead to benefits both from more effective Deca-BDE use and at the same time by reducing of waste charges. Deca-BDE going to sewer is being increasingly recognised as 'money going down the drain'. A further benefit to the Companies is that tracking and reducing the potential losses of just one chemical substance in their processes actually leads to reduced loss of other components used in the same process. For example, reducing emissions of Deca-BDE automatically leads to reduced emissions of antimony trioxide which is used as a synergist in both plastics and textiles applications.

VECAP 2006-2007:

We project individual Deca-BDE user commitments to cover 90% of textiles usage and 85% of plastics usage across the 6 prioritised Member States by mid-2007. By December 2006, we plan for 75% of textiles usage and 45% of plastics usage to be subject to baseline emission surveys.

VECAP Developments beyond the scope of the producer commitments to the CAs:

Based upon experience gained in developing and implementing VECAP, the brominated flame retardant manufacturers in EBFRIP and BSEF are looking to further VECAP related activities. These include:

1. Creating a "Pull" for VECAP: Currently the impetus for VECAP compliance comes from the flame retardant suppliers. In addition a few selected retailers and final product manufacturers have indicated that there is an interest in ensuring that their suppliers are working to high environmental standards. A number have already made, or are currently seriously considering VECAP-type compliance in their purchasing specifications. This can only help further ensure VECAP's long term sustainability.

2. An independent, third party, VECAP audit procedure, using ISO 9001/14001 principles, is under development.

3. The Deca-BDE VECAP process is being extended to other global regions. It will start to be implemented in North America in 2006.

4. The VECAP principles are being voluntarily applied by EBFRIP member companies to other brominated flame retardants where emission reduction has been identified as desirable.

Overall conclusions:

The expansion of the VECAP programme from the United Kingdom, where it was initiated as a pilot project in 2004, to the other major EU Member States for Deca-BDE (Belgium, France, Germany, Italy and the Netherlands) is progressing. A significant volume of Deca-BDE usage is already committed to the VECAP programme in both the plastic and textile industries. Baseline emissions surveys have been or will be carried out in 2006 in all the above mentioned Member States.

The implementation of VECAP for Deca-BDE by companies varying down to the smallest SME (7 employees) has demonstrated that as a process it is credible, reasonable, logical and practical and does lead to emission identification and reductions. Although VECAP was developed specifically for a persistent flame retardant, its principles could be applied more widely. Consideration could be given as to whether it should be developed into a formal tool for use within REACH.

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