The Phase Out of Decabromodiphenyl Oxide

- Company Background
- Our Position
- Our Concerns
- Our Questions

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Polymer Products Background

- Largest supplier of FR masterbatches and IRHIPS compounds in North America
- Strong array of FR PP compounds
- Standard and custom FR masterbatches for most polymers
- Well-equipped, responsive development facilities
- A leading in the move away from decabromodiphenyl oxide ("deca")

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Standard FR Masterbatches

Product	Carrier Resin	% Active	Typical Use Level	Film and Sheet	Fiber and Textile	Compounding	Profile Extrusion	Injection Molding	UL 94 V-0	UL 94 V-2	UL 94 5V-A	CPAI-84	NFPA 701/702	NFPA 253	MVSS 302	FM 4996, UL2335	Bos/Cal Fire Marsh.	Good dispersion	Non-blooming	Low Letdowns	Non-DBDPO	Good UV Stability
ACRYLONITRILE-BUTADIENE-STYRENE (ABS)																						
ABS-150	ABS	60%	35 - 40%			•		•	•	•	•							•				
FR-6776-1	ABS	90%	30 - 40%			•	•	•	•	•	•							•			•	
EPDM AND THERMOPLASTIC RUBBERS																						
TPR-100	EPDM	80%	3 - 30%	•		•	•							•				•	•	•		
ETHLENE VINYL ACETATE (EVA) AND COMPATIBLE RESINS																						
EVA-100	EVA	80%	5 - 30 %			•						•						•		•		
POLYAMIDES (PA)																						
NY-100	PA 6	60%	10 - 15%		•							•	•		•			•				
NY-300	PA 6	65%	25 - 35%			•	•		•	•								•			•	
THERMOPLASTIC POLYESTER (PBT / PET)																						
PBT-101	EVA	73%	10 - 25%		•	•		•	•	•		•	•		•			•	•		•	•
FR-5084-2	PBT	88%	5 - 15%		•	•		•	•	•		•	•		•			•				
POLYETHYLENE																						
PE-101	LDPE	60%	5 - 40 %	•	•	•	•		•	•		•	•		•		•	•				
PE-102	LDPE	80%	5 - 40 %	•	•	•	•	•	•	•		•	•		•	•	•	•		•		
PE-302	LDPE	80%	7 - 30 %	•	•	•	•	•	•	•		•	•		•	•	•	•		•	•	•
PE-402	LDPE	80%	7 - 30 %	•	•	•	•	•	•	•		•	•		•	•	•	•	•	•	•	•
PE-200	HDPE	64%	5 - 40 %	•	•	•	•	•	•	•		•	•		•			•	•		•	•
PE-203	LDPE	64%	5 - 40 %	•	•	•	•	•	•	•		•	•		•		•	•	•		•	•
POLYPROPYLENE																						
PP-101	PP	70%	6 - 30%	•	•	•		•	•	•								•		•	•	
PP-300	PP	54%	6 - 20%	•	•		•			•								•	•		•	
FR-6535	PP	80%	6 - 45%	•		•	•	•	•	•						•		•	•	•	•	
FR-6732	PP	80%	6 - 45%	•		.	•	.	.	•						•		•	•	•	•	
FR-6653	PP	63%	6 - 20%		.	•		•		•								•	•	•	•	
POLYSTRYENE																						
PS-100	HIPS	70%	15 - 30 %	•		•	•	•	•	•	•							•				
PS-130	HIPS	70%	15 - 30 %	•		•	•	•	•	•	•							•			•	

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Our Non-deca Promotion

What's Wrong with Deca

- Toxicological data:
  - Evidence of neurobehavioral effects
  - Suggestive evidence of carcinogenic potential
- Migrates to the surface
- Regulatory authorities have concluded that it may bioaccumulate.
- State regulations make deca impractical

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Deca Replacement Options

- Decabromodiphenyl Ethane
- Brominated polymeric compounds
- Metal Oxides
- Phosphorous, nitrogen and intumescent additives

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Summary

- There are commercially viable alternatives to deca.
- Phasing out deca is the right thing to do.
- Polymer Products Company is taking a leadership role in encouraging and facilitating the switch to alternatives:
  - Educating our customers
  - Technical support to help them reformulate

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Our Concern

- The 3 major producers of deca suppliers are committed to cease supplying the US market by YE 2012
- Chinese imports are growing and present a real threat

  (2010 < 1 MM lbs, 2011 ~2.6 MM lbs, 2012 ???)
- Without strict and timely controls this will undermine the switch to safer alternatives.
  - Hurting the environment
  - Moving business offshore for both the US flame retardant suppliers and their customers
  - Jeopardizing US jobs

Our Questions

- What is the current timetable for the deca SNUR? Can it be in place by the end of 2012?
- Will it restrict all deca imports?
- Will it restrict articles containing deca?
- How will it be policed?
- Is there anything that we & the flame retardant suppliers can do to help?

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