Supplementary Information

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Title: Chemical Alternatives Assessment: Enabling Substitution to Safer Chemicals

Pages: 2

Figures: 0

Tables: 2

Table S1. A portion of Table 4-1 from the “Environmental Profiles of Chemical Flame-Retardant Alternatives for Low-Density Polyurethane Foam” as an example of the presentation of the information to inform selection of alternatives.

Company	Chemical	% in Formulation	Human Health Effects							Ecotox-icity		Environ-mental		Potential Routes of Exposure							Reactive or Additive?
			Cancer Hazard	Skin Sensitizer	Reproductive	Developmental	Neurological	Systemic	Genotoxicity	Acute	Chronic	Persistence	Bioaccumulation	Worker			General Population			Aquatic	
														Inhalation	Dermal	Ingestion	Inhalation	Dermal	Ingestion		
Supresta	AC003																				
	Proprietary I Organic phosphate ester	92-99%	L	L	L	L	L	M	L	H	H	H	L	P	Y	Y	N	Y	Y	Y	Additive
	Triphenyl Phosphate CAS # 115-86-6	1-8%	L	L	L	L	L	M	L	H	H	L	L	Y	Y	Y	Y	Y	Y	Y	Additive

“L”, “M” and “H” represent low, moderate and high concern for hazard, with color indicating that measured data were used to reach this determination, otherwise SAR were used. “N” and “Y” indicate no or yes, “P” indicates yes for the pure chemical. Bold colored letters indicate results from empirical data and black italic letters indicate results from estimates.

Table S2. Tools and Resources for Alternatives Assessments

Resource	Website
DfE Criteria for Hazard Evaluation	http://www.epa.gov/dfe/alternative_assessments.html
DfE Criteria for Safer Chemical Ingredients <ul style="list-style-type: none">• Functional Class Criteria<ul style="list-style-type: none">– Surfactants– Solvents– Chelating and Sequestering Agents– Fragrances• Direct Release Product Criteria	http://www.epa.gov/dfe/pubs/projects/gfcp/index.htm
Green Screen for Safer Chemicals	http://www.cleanproduction.org/Greenscreen.php
EPA Sustainable Futures Tools	http://www.epa.gov/oppt/sf/tools/methods.htm
CleanGredients	http://www.cleangredients.org/home
Lowell Alternatives Assessment Framework	http://www.sustainableproduction.org/downloads/FinalAltsAssess06_000.pdf
IC2 Safer Alternatives Wiki	http://www.ic2saferalternatives.org
California Green Chemistry Initiative Information including presentations from Alternatives Analysis Symposia	http://www.dtsc.ca.gov/pollutionprevention/greenchemistryinitiative/index.cfm
UK Chemical Stakeholders Forum. A Guide to Substitution. August 2010	http://www.defra.gov.uk/environment/quality/chemicals/csf/documents/forum-guide-substitution.pdf
Substitution Support Portal (EU)	http://www.subsport.eu/