

Tools for Alternatives Assessment: Assessing Hazards & Selecting Safer Alternatives



BizNGO

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Agenda

- **Rating systems and indices**
- **The right tool for the right job (CHA, LCA, RA)**
- **Full Disclosure**
- **Policy Initiatives**

Building Products



- **Pharos database**
 - **Pharos is not a certification or label**
 - **Information for consumers and builders**
 - **Subscription basis**

Retailers/Manufacturers



- **GreenWERCS tool**
 - **Software platform to quickly and easily assess product formulations based on industry and/or user-defined “green” criteria**
 - **Supports buyers in retail organizations to find chemical intensive products – Wal-Mart as initial driver**

Consumer Products



- **Good Guide**
 - **Own load app at iTunes**
 - **Look for health, environmental and social scores**
 - **Select filters**

Comparative Chemical Hazard Assessment (CHA) – Focus on Chemical Hazard

- **Green Screen for Safer Chemicals**
 - **Program of Clean Production Action**
 - **Based on USEPA DfE Chemical Alternatives Assessment method**
 - **How it Works:**
 - ❖ **Classify the Hazards**
 - ❖ **Apply the Benchmarks (4)**
 - 1 = bad
 - 4 = good
 - ❖ **Make informed decisions about the chemical and its transformation products**



Green Screen for Alternatives Assessment: Championed by HP

- **Green Screen is the tool that HP is using for alternatives assessment when replacing a restricted substance**
- **Green Screen enables identification of better materials, not just minimum acceptable**
- **Green Screen results are only part of decision**
 - **Still must meet performance and cost targets**
- **Green Screen is well suited for electronics supply chain**
 - **Especially since results are easy to use**
- **HP will continue to use Risk Assessment, LCA, and Carbon Footprint tools as appropriate**



The Right Tool for the Right Job

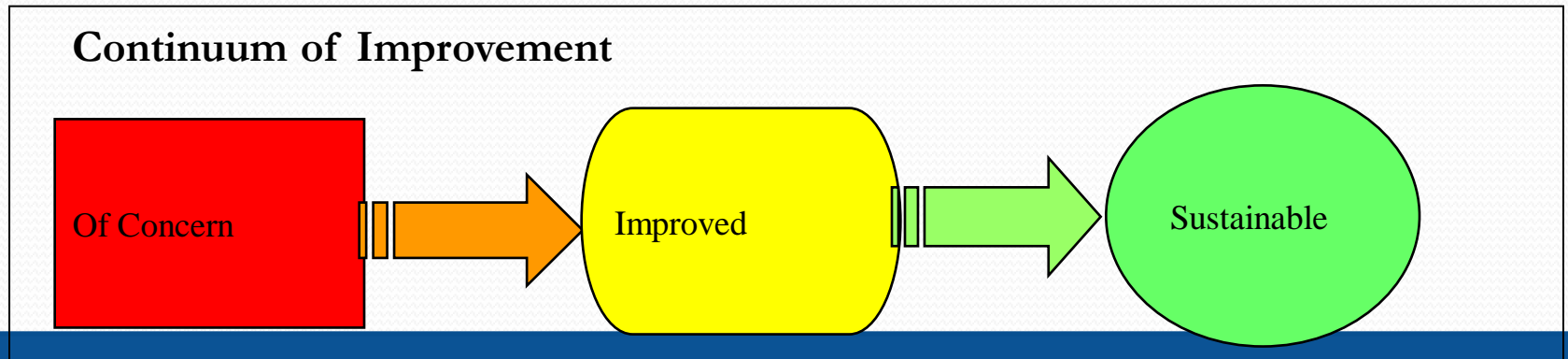
Uses of Risk Assessment

- **Environmental regulations**
 - Hazard assessment is necessary, but not sufficient for regulatory decisions
 - Volume, exposure potential, etc. are critical
- **Ensure Safety of Formulated Product**
 - Very valuable once a product has been formulated



Uses of Hazard Assessment

1. **Downstream users (e.g. retailers)**
2. **Designing Greener Products and Processes**
3. **Prioritizing chemicals for reduction or phase-out**
 - From any phase in product life cycle (e.g. manufacturing, product design)
 - From the whole supply chain
4. **Selecting safer alternatives for ...**
 - Chemicals that are banned or restricted by regulations
 - Chemicals that have a negative public perception
 - Chemicals that are restricted by downstream users



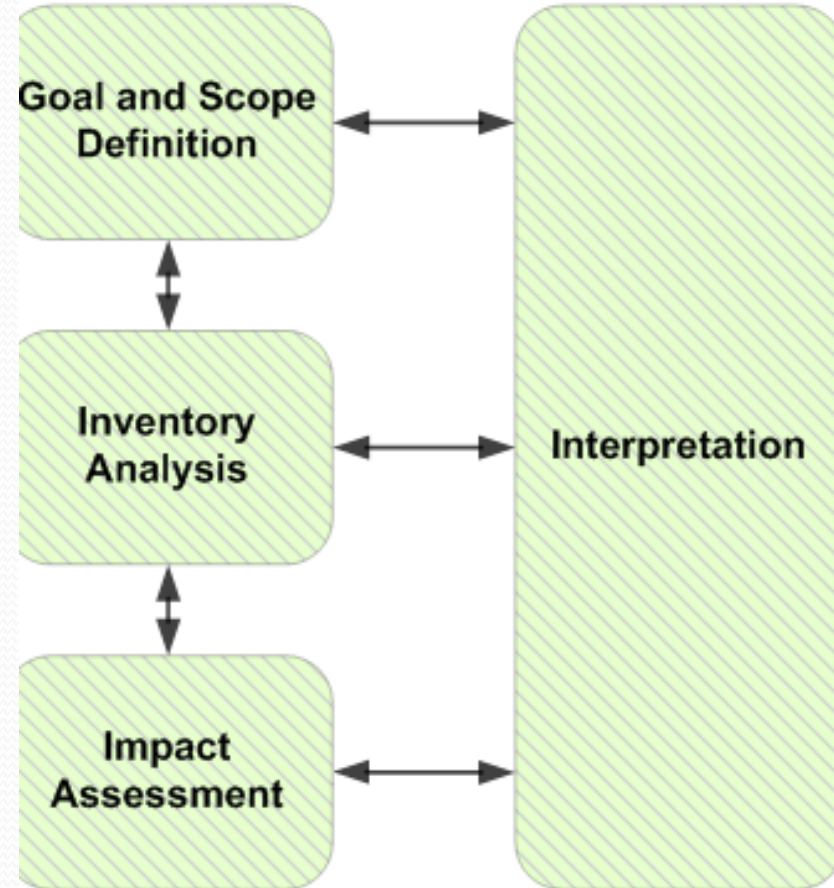
Uses of Life Cycle Assessment

- **Compares Range of Environmental Effects**

- Identify environmental burdens and “hot spots”
- Compare effects of system changes

- **Does not Ensure Safety of Formulated Product**

- Does not go deeply into toxicology of products
- Higher level view of inputs and outputs
- Not good with small quantities of chemicals or materials in a product



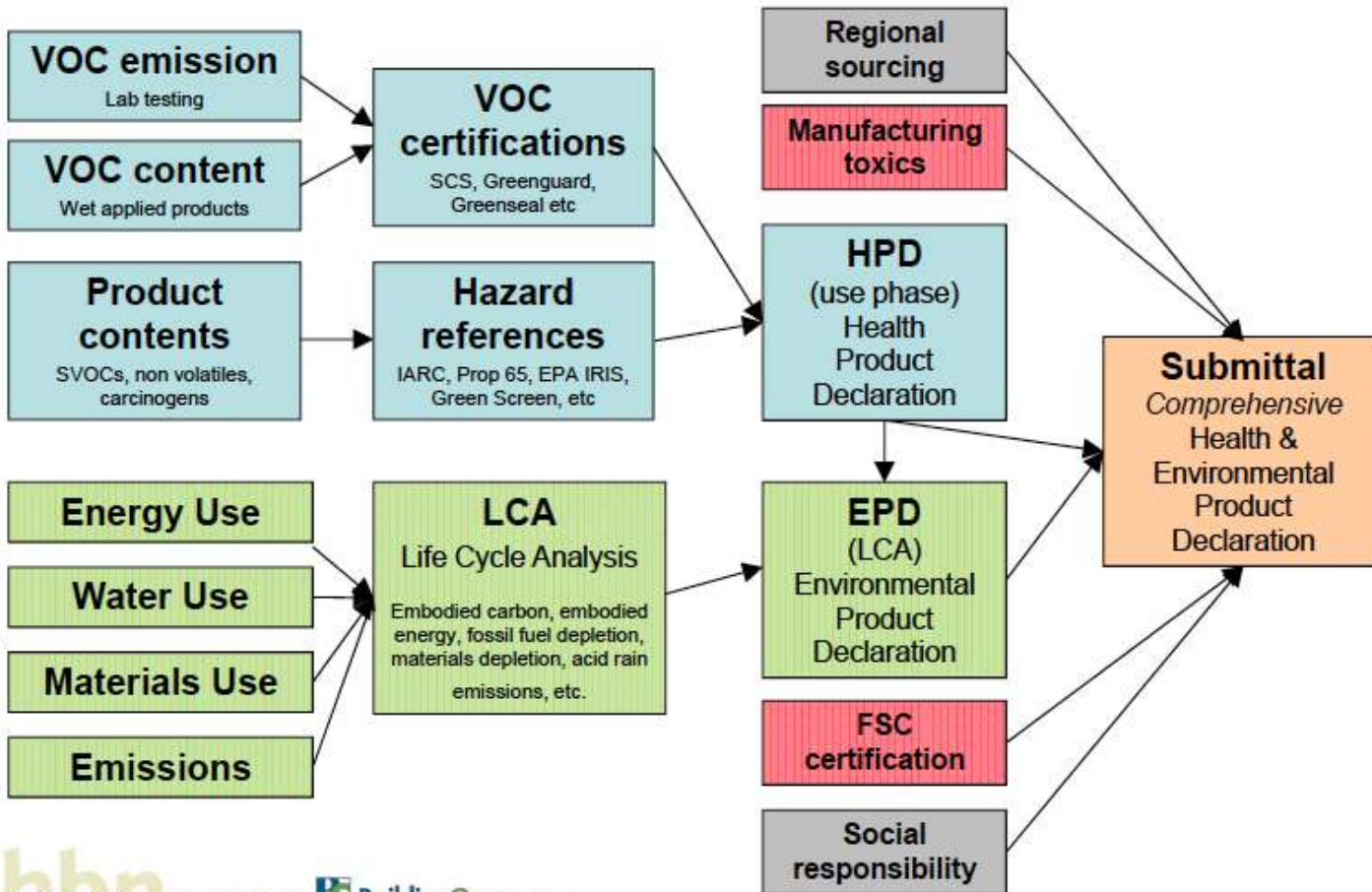
Health Product Declaration (HPD) Building Products Initiative

What's in an HPD?

1. Product Description
2. Contents Inventory & Health Warning
3. Testing & Certification
4. Accessory Materials
5. Certification of the Declaration
6. Notes

Supplementing the EPD

Comprehensive Health & Environmental Product Declaration



Technical Detail

What's in an HPD?

Sample Health Product Declaration - 9/26/2011 draft

1) Product Description

Name & IDs	Tuff Stuff X42, product SKU SB4353	MasterFormat	09 96 00 (MF10)
Manufacturer	Ajax Manufacturing	Declaration date	June 9, 2011
Description	High performance coating designed for painting bath stall walls and other wet surfaces.		

2) Product Contents Disclosure

Disclosure level	94	percent of intentionally added content s fully disclosed (100 percent is ideal)				
Name	CAS RN	%	Health Hazard Warnings	RC	Nano	
1 Phenyl Glycidyl Ether	122-80-1	55%	Cancer and Male reproductive toxicity (CA Prop 65) R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic environment (EC Risk)	N	N	
2 Alkyl (C12, C14) Glycidyl Ether	68609-97-2	21%	Irritating to skin and May cause sensitization by skin contact. (EC Risk) Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2011. Report is at www.ChemService.com/GS54345	N	N	
3 Bis(2-(dimethylamino)ethyl) ether	3033-62-3	8%	No warnings found	N	N	
4 Polyethylene	9002-88-4	7%	No warnings found	PC	N	
5 Trade secret	Not disclosed	3%	Category 1 Evidence of endocrine disruption activity (EC Endocrine) Very toxic to aquatic organisms and possible risk of impaired fertility (EC Risk)	N	N	
6 Acme Zap-It Antimicrobial	Content not disclosed	3%	Not available	N	N	
7 Silver	7440-22-4	2%	No warnings found	N	Y	
8 Distillate Fuel Oils, Light	13463-41-7	1%	No warnings found	N	N	
All known residuals disclosed to	Lowest requirements (ideal)	X	100 ppm	1000 ppm	As required on MSDS	Not disclosed
9 Formaldehyde	50-00-0	<1000 ppm	Group 1: Agent is carcinogenic to humans (IARC) and other cancer warnings (see notes) Generally accepted asthmagen (ADEC) R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and R34: Causes burns and R43: May cause sensitization by skin contact (EC Risk)	N	N	
The manufacturer affirms that all known material contents were screened for chemicals of concern and health warning listings using:			Pharos Chemical and Material Library from the Healthy Building Network	Screening date:	June 6, 2011	
Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists .						
RC = Recycled Content; PC=Post Consumer; PI= Post industrial; Nano = comprised of nanoscale particles or nanotechnology						
Total Volatile Organic Compound Content (TVOC)	Material VOC	50 g/l	Regulatory VOC	30 g/l	Total VOC incl. EPA exempt compounds	60 g/l

3) Product Testing & Certifications

Type	Standard or certification	Certifier / laboratory	Certify party	Test Date	Expires	Certificate URL	Applicable Facilities	CA DPH V1.1 Std
VOC emissions (interior product only)	Indoor Advantage Gold	Scientific Certifications Systems / Berkeley Analytic Associates	3rd	5/12/2010	6/1/2012	http://www.scs-certified.com/products/cert_pdfs/Ajax010611.pdf	Smithville TX, Jonesville OK	Yes
VOC content (wet applied only)	SCAQMD Rule 1113	Manufacturer self-certified claim	1st	4/11/2009	N/A	N/A	All	
Recycled content	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Other								
Certifying party: Manufacturer is 1st party, Trade association or other interested party is 2nd party, Independent certifier is 3rd party, (3rd party is ideal) Applicable facilities: Manufacturing sites to which the testing applies								

4) Accessory Materials Additional products required for installation (such as adhesives, fasteners, or factory coatings) or for maintenance, cleaning or operations.

Required or recommended products	Condition when required/recommended	Health Product Declaration URL
Tuff Stuff Precoat Sealer	When applying to highly absorbent surfaces	www.Ajax.com/pdfs/TuffStuffDecl103
Refer to the listed Health Product Declarations for Accessory Materials to get a complete view of those products.		

5) Certification of the Declaration

Certification party	1st	Manufacturer contact	John Doe, Director of Product Quality	Address
Certificate number	N/A	Phone	800-777-1111	Product Quality Department Ajax Manufacturing 100 Smith Street Somewhere, TX 19999
Certificate URL	www.Ajax.com/pdfs/TuffStuffDecl102	Email	info@AjaxMfr.com	
Certifier	Self-certified	Product website	www.ajaxmfr.com/HPCs	
Certification date	June 9, 2011			
Expiration	June 9, 2014			
Certification party: 1st Party: Manufacturer's self-certification; 2nd Party: Verification by trade association or other interested party; 3rd Party: Verification by independent certifier (ideal).				

6) Notes

Section	Note		
2.4	Polyethylene recycled content is from post-consumer milk bottles.		
2.9	Formaldehyde is also listed for carcinogenicity by IRIS, CA Prop 65, and NTP-RoC		
2.9	Formaldehyde emission levels are below the requirements of the Indoor Advantage certification program		
References for Health Hazard Warnings			
Abbreviation	List title	Issuing Agency	URL
AOEC	AOEC Exposure Code List	Association of Occupational and Environmental Clinics	http://www.aoec.org/tools.htm

Public Policy



- **EU REACH, RoHS, Cosmetics Directive**
- **NY Environmental Conservation Law (Sec. 35-0107)**
- **Proposed Legislation from 2010 -**
 - **Safe Cosmetics Act (HR 5786)**
 - **Toxic Chemicals Safety Act (HR 5820)**
 - **Household Product Labeling Act (S 1697)**
 - **California Consumer Right to Know Act (SB 928)**
 - **California Green Chemistry Initiative (AB 1879)**
 - **WA State Children's Safe Products Act**

-- More responsibility for knowing chemical content (especially knowing what's not in the product)

-- More responsibility for end-of-life management