



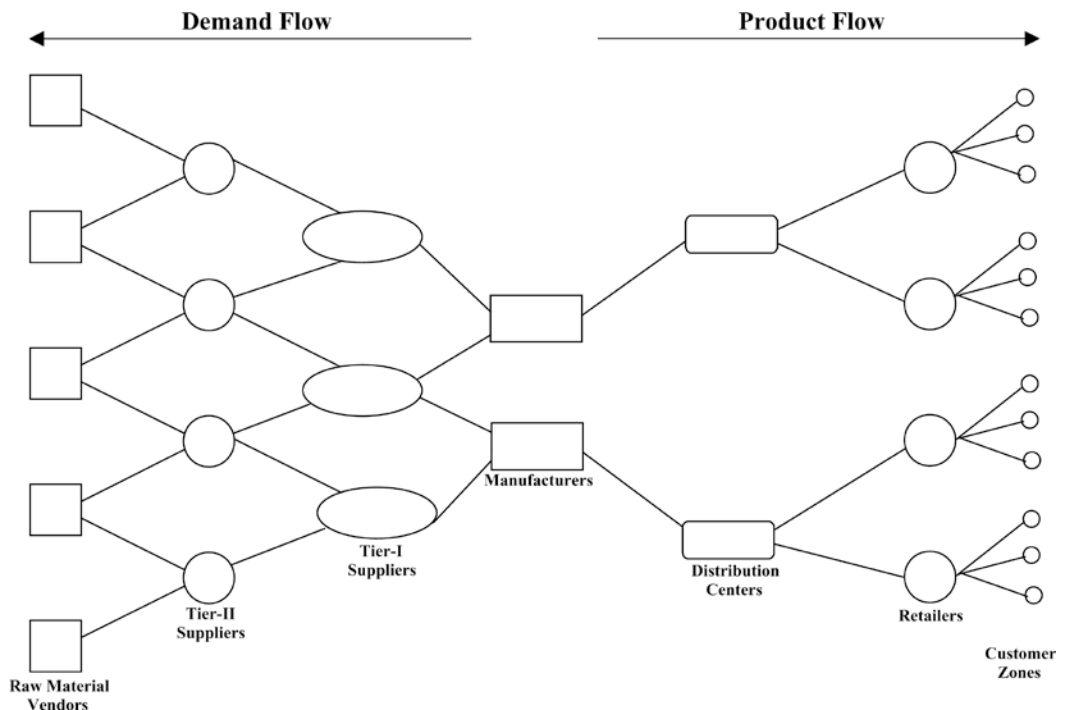
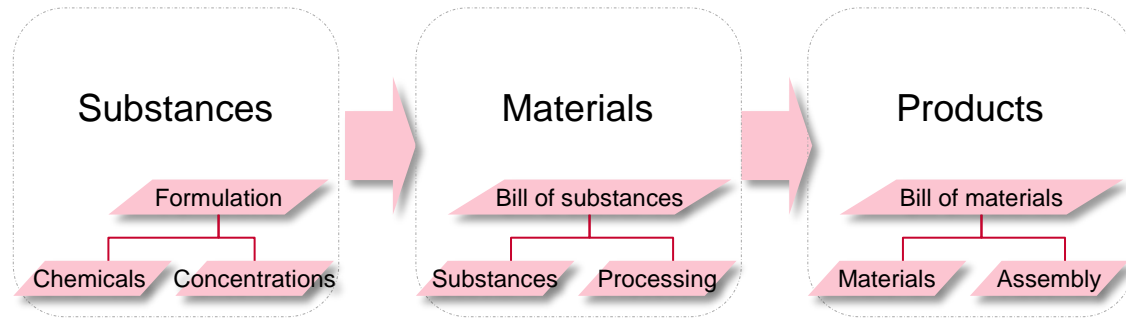
Measuring Progress: Tracking Chemical Use Through a Supply Chain

May 2013

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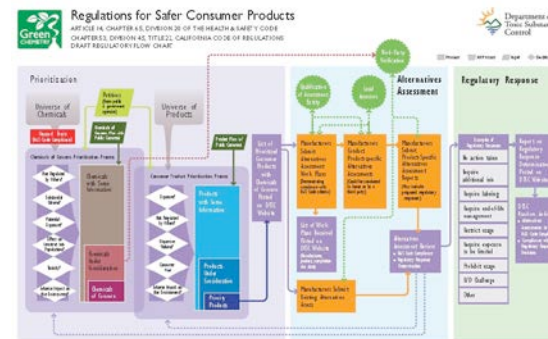
The Challenges – Tracking Use

- Acquiring and integrating chemical use data
 - Most products are composites of materials manufactured by multiple companies
 - Most supply chains are multi-layered networks
 - End users typically lack visibility or direct business relationships with the source of materials used in their products



The Challenges – Defining Benchmarks

- Global supply chains require global regulatory data management
- Safe use is defined differently across the phases in a product's life cycle
- Constantly changing requirements
- Regulatory compliance alone is insufficient to avoid chemical surprises that damage a brand's reputation



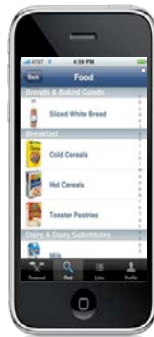
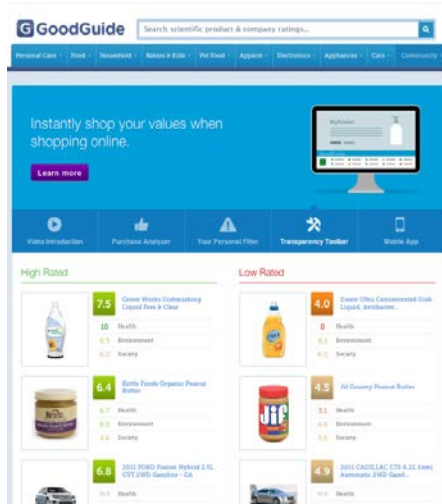
The Challenges – Ensuring Data Quality

- Most chemical use data is self-reported by suppliers without verification
- Data quality largely “controlled” by business trust
- Testing to verify reported chemical compositions occurs infrequently
- Limited reliance on trusted third-parties to certify compliance with product quality standards
- End users in some markets are demanding that inputs only come from qualified materials lists in order to control supply chain risks

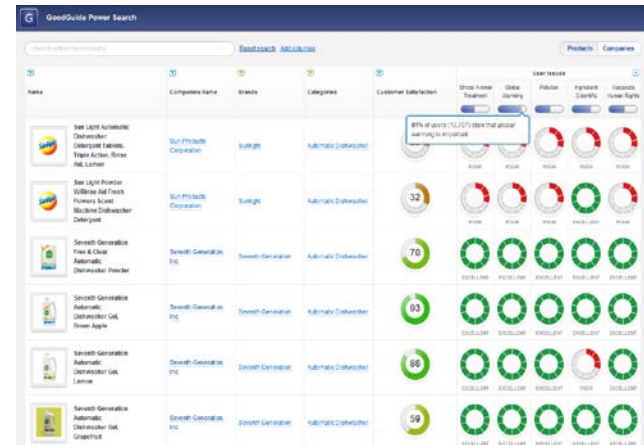


UL's Solution – The GoodGuide Supply Chain Transparency Platform

Consumer Services



Business-to-Business Services



Applications

APIs

Company, Product and Attribute Database

Informatics Tools: Entity Resolution & Data Acquisition

Science Tools: Evaluative Frameworks & Ratings Engine



Example: Public-Facing Scorecards

Do Specific Products Meet a Consumer's Preferences?

The Best Baby Shampoo Products

Search this category

Popular Brands
Johnson's (20)
California Baby (11)
Burt's Bees (7)
Baby Magic (6)
[See all brands](#)

Related Categories
Baby Soap & Bath (277)
Diapers (273)
Baby Lotion (208)
Baby Wipes (204)
Baby Soap (172)
Baby Sunscreen (167)
[See more categories](#)


Most Avoided
Suave Baby Care Conditioning Shampoo
Natures Paradise Baby Organice Unscented Condit...
Kozy Kids Lavender Chamomile Baby Wash & Shampoo


Top Products | **Buying Guide** | How Our Ratings Work

The healthiest, greenest baby shampoos

Most recommended by parents like you

The best prices






Aveeno Baby Gentle Conditioning Shampoo

Top-rated by scientists
7.6 of 10 Overall / 10 of 10 Health / 6.6 of 10 Environment / 6.2 of 10 Society

Most recommended by users
23 Users Recommend / 0 Users Avoid / 0 Users Neutral

The best price **amazon.com**
\$4.15 from Amazon.com

[See full product details »](#)



Huggies Tear Free Baby Shampoo, Extra Sensitive

Top-rated by scientists
6.5 of 10 Overall / 7.0 of 10 Health / 6.3 of 10 Environment / 6.3 of 10 Society

Most recommended by users
4 Users Recommend / 0 Users Avoid / 0 Users Neutral

The best price **amazon.com**
\$18.80 from Amazon.com

Example: Private Scorecards

























Do Specific Products Meet a Retailer's Quality Standards?

GoodGuide Platform CPG Retail Buyer Bill ▾

CPG RETAIL BUYER Search

Filter Import / Export ▾

PRODUCTS INGREDIENTS

IMAGE	NAME	OVERALL	BRAND	VENDOR	RED INGREDIENTS	GRAY INGREDIENTS	YELLOW INGREDIENTS	HEALTH	PACKAGING	NO ANIMAL TESTING	INGREDIENTS
	Method Dish Soap, Cucumber		Method	Method Products, Inc.	0	1	0				Sodium Lauryl Sulfate, fragrance oil blend, alkyl polyglucoside, lauramine oxide, alcohol, vegetable glycerin, citric ac... 
	Up & Up Biodegradable Dish Soap, Lavender Scent		Up & Up	Target Corporation	0	2	0				Sodium Lauryl Sulfate, Methylisothiazolinone, Fragrance, Sodium Xylenesulfonate, Lauramidopropylamine Oxide, Alcohol Den... 
	Method Lemon Mint Dish Soap 18-oz.		Method	Method Products, Inc.	0	1	0				Sodium Lauryl Sulfate, fragrance oil blend, alkyl polyglucoside, lauramine oxide, alcohol, vegetable glycerin, citric ac... 
	Ajax Antibacterial Orange Dish Liquid 34-oz		Ajax	Colgate-Palmolive Company	0	1	0				Fragrance, Ammonium C12-C15 Pareth Sulfate, Lauramidopropylamine Oxide, SD Alcohol 3-A, Sodium Chloride, Dyes, Water, Pr... 

Example: Supply Chain Materials Management

Controlling Whether Suppliers Introduce Chemical Risks

- Platform utilized to gather, analyze, and present chemical-related attributes of products in a decision-support interface
 - Does a product contain chemicals that trigger regulatory or consumer notification requirements?
 - Does the composition of a product comply with a manufacturer's or retailer's Restricted Substances list?
- Support client-customizable screening/rating systems for comparing the chemical / materials performance of products and vendors to inform buying decisions
- Establish a supply chain hub
 - Suppliers contribute data on their products to support evaluation by purchasers
 - Purchaser conveys its materials management policies down into its supply chain



Suppliers Provide Data on Material Composition of a Product

GoodGuide Platform CONFIDENTIAL - Toy Product Screen Support daniel@goodguide.com (GoodGuide)

Search for products or ingredients

Products Ingredients

Add Product Manage Fields Import / Export

Name	Program Name	Agency	Factory	Washington Tier	Process Chemicals	Ingredients	Washington State
Pretend Toy Edit	2013 Pretend Toy	XYZ Agency	Pretend Factory	3 & Over	NO	PVC 9002-86-2 ✓ Diisooctyl Terephthalate 6422-86-2 ✓ Copper-Phthalocyanine Pigment 147-14-8 ✓ Toggle (56 total)	2
Imaginary Toy Edit	2011 Imaginary Toy	Pretendorama Agency	Fantasy Factory	Tire 1 / 2012	NO	PVC 9002-86-2 ✓ Diisooctyl Terephthalate 6422-86-2 ✓ Copper-Phthalocyanine Pigment 147-14-8 ✓ Toggle (28 total)	0
Fictional Super Hero Edit	2013 Fictional Super Hero	XYZ Agency	Fictional Factory	Tier 3/2012	NO	PVC 9002-86-2 ✓ Diisooctyl Terephthalate 6422-86-2 ✓ Carbon black 1333-86-4 ✓ Toggle (29 total)	1



End User Checks Product's Full Ingredient List Against Applicable Chemical Standards

GoodGuide Platform Paint Material Screen Support daniel@goodguide.com (GoodGuide)

Search for products or ingredients

Products **Ingredients**

[Add Ingredient](#) [Manage attributes](#) [Import / Export](#)

Name	CAS Number	Washington State	Maine	Persistent, Bioaccumulative, Toxic: EPA TRI List	Persistent, Bioaccumulative, Toxic: POP List	Ingredients Toxic to Aquatic Ecosystems List	Made From Renewable Resources List	Prop 65 List	Lancet List	Revision 3 List	Date Last Performed
Mineral Oil Edit	148-62-9	✓	✓	!	✓	✓	!	✓	✓	✓	1/25/2013
Methyl methacrylate polymer Edit	1234-01-4	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013
Amorphous silica Edit	715-22-6	✓	✓	✓	✓	✓	!	✓	✓	!	1/25/2013
Methyl methacrylate-ABS copolymer Edit	987-09-6	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013
Methanol Edit	123-4-2	✓	✓	✓	✓	!	!	✓	✓	✓	1/25/2013
n-Butanol Edit	130-20-7	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013
Butylated hydroxy resin Edit	631-6-6	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013
Carbon Black Edit	133-86-4	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013
Acetone Edit	10-94-1	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013
Tert-butyl acetate Edit	105-46-4	✓	✓	✓	✓	✓	!	✓	✓	✓	1/25/2013



Chemicals Are Only One Dimension of Sustainable Production Platform Is Easily Extensible to Any Product Attribute

PAINT MATERIAL SCREEN

Search

Filter Import / Export

PRODUCTS INGREDIENTS

NAME	MATERIAL SUPPLIER	MATERIAL PART NUMBER	REPORTING RULE CHEMICALS	ENVIRONMENTAL RATING	SUSTAINABILITY RATING	TOXICOLOGY SAFETY RATING	RESTRICTED SUBSTANCES LIST MATCHES	QUALIFICATION TESTING	OVERALL SCORE	INGREDIENTS
Fictional Paint	Paint World	12345					1	Pass (3/5/2012)		12 Ingredients DETAILS
Imaginary Paint	Paint World	56789					0	Pass (3/5/2012)		8 Ingredients DETAILS



The Future of Materials Management and Implications for Green Chemistry

- Emergence of transparency hubs capable of collecting detailed chemical composition data for materials and products along entire supply chain
- Deployment of software systems capable of enforcing purchaser chemical disclosure and use policies on suppliers
- These developments create an infrastructure that enables pursuit of the following opportunities:
 - Eliminating bad actor chemicals down through a supply chain – without needing to rely on regulatory compliance as the driver
 - Integrating preferred chemical/approved materials selection capabilities into the initial phases of a product's life cycle and to the lowest tiers of supply chains





THANK YOU!

Anne Bonhoff, Ph.D.
anne.bonhoff@ul.com

Bill Pease, Ph.D.
bill@goodguide.com