

Evolution Towards More Sustainable Chemistries

BizNGO –
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HANES *Brands Inc*



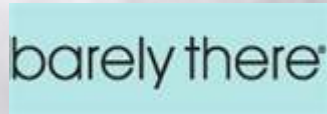
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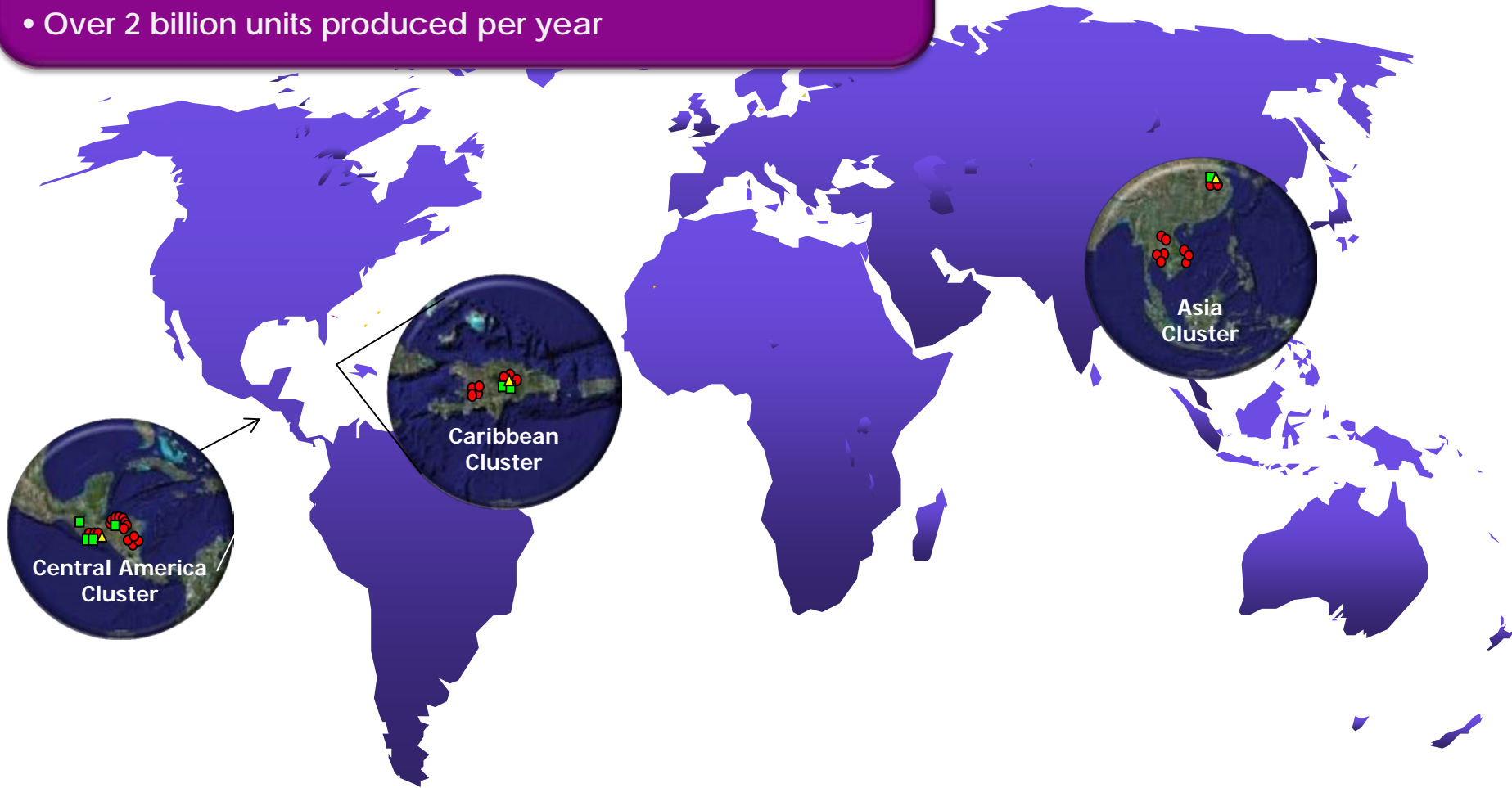




HANES Brands Inc



- 50,000+ employees
- Over 50 self-owned manufacturing & distribution centers around the world
- Products sold in over 75 countries
- Over 2 billion units produced per year



The Journey

Environmental Compliance Enforcement

Industrial Environmental Programs

- **1980's**
 - Environmental Compliance
 - Employee Safety
 - Consumer Protection
- **1991**
 - RSL
 - **Brand Equity**
- **2000's**
 - Sustainable Chemistries
 - **Corporate Social Responsibility**

Hanesbrands Inc Sustainability

- Quiet Leader
- 30% Renewable Fuels
- Reduction of Hazardous Waste Generation by 99%
- LEED Certified Manufacturing in Asia & Americas
- Mature Social Responsibility Program
- Green for Good
- Chemical Management



The Apparel Universe

Most companies have limited chemical expertise on staff

Few facilities have trained environmental professionals

Many chemical suppliers are blending houses with limited technical resources

Many factories rely on chemical supplier expertise

Published technical chemical data is limited

Chemical data sheets are grossly ineffective

Industry economics

Basic Challenges

1. **Chemical Knowledge at All Levels of the Industry**
2. **Global Supply Chains**
3. **Language Barriers, Cultural and Legal Differences**
4. **Chemical Supplier Expertise**
5. **Unknown Feed Stocks**
6. **Chemical Confidentiality**
7. **Regulatory Explosion**
8. **Product Analy\$i\$**
9. **Data Integrity**
10. **Product Certifications**
11. **Green Washing**

WHAT IS OUR DESTINATION?

Eco-Labels?

Consumer Disclosure

Life Cycle Analyses

Preferred Chemical Lists

EPA Design for the Environment

Alternative Sustainable Chemicals

12 Principles of Green Chemistry

Hazard Assessments

OIA Chemical Management Framework

Challenges to Proprietary Information

VPEP

Detailed Chemical Disclosure

Exponential Increase in Regulations

AAFA RSL

Restricted Substances Lists

Brand Chemical Certifications

Voluntary Chemical Management Programs

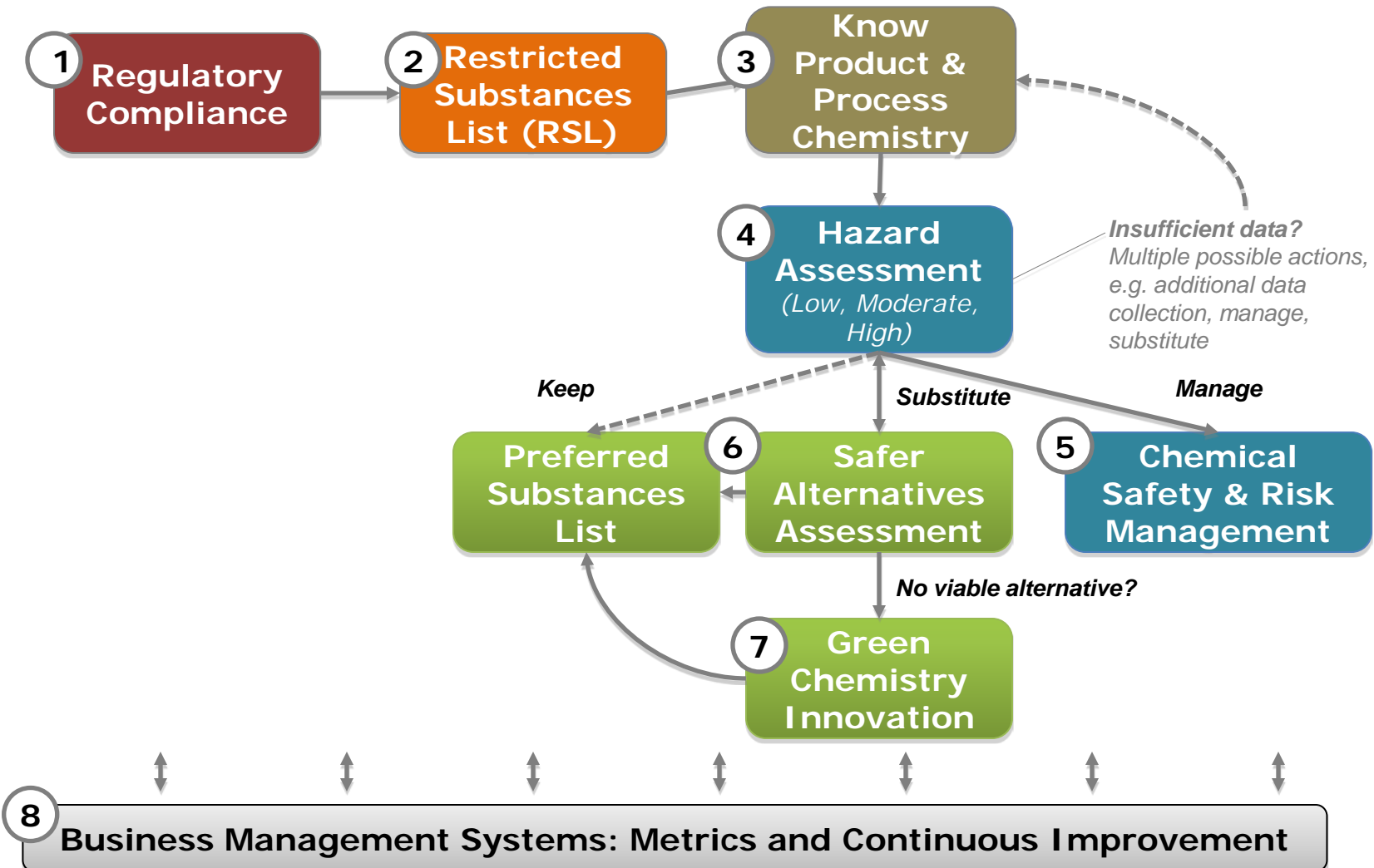
Tools Towards Success The Basics



American Apparel & Footwear Association (AAFA)
Restricted Substance List (RSL)
September 2012
Release 11

OIA CM Framework: *Primary Objectives*

The decision-making logic:



CM Framework:

Foundational Indicators

**CM
1.0**

Regulatory Awareness & Compliance

Know and ensure compliance with all chemicals management-related environmental, health and safety regulations for chemicals used in processing and residing in final products.

<i>Retailer</i>	<i>Brand</i>	<i>Supplier</i>
<p>CM-RET-1.1: Retailer systematically monitors applicable regulations on a regular basis for each country in which Retailer operates or sells its final products to ensure compliance and to identify new or changing compliance requirements.</p>	<p>CM-B-1.1: Brand systematically monitors applicable regulations on a regular basis for the “most stringent” country’s regulation in which the Brand operates or sells its final products to ensure compliance and to identify new or changing compliance requirements.</p>	<p>CM-S-1.1: Supplier systematically monitors applicable regulations on a regular basis for each country in which Supplier operates or sells intermediate and/or final products to ensure compliance and to identify new or changing compliance requirements.</p>
<p>CM-RET-1.2: Retailer requires as a contractual obligation with brands and/or suppliers compliance with the “most stringent” country’s regulatory requirements in countries where the retailer operates and sells final products.</p>	<p>CM-B-1.2: Brand requires as a contractual obligation with suppliers compliance with the “most stringent” country’s regulatory requirements in countries where the brand operates and sells final products.</p>	<p>CM-S-1.2: Supplier verifies that all chemicals used to make final product meet regulatory compliance requirements in all countries where the final product is manufactured and sold.</p>

Voluntary Product Environmental Profile

I. PRODUCT/ SUPPLIER GENERAL INFORMATION

(1) Product: _____

(2) Supplier: _____

(3) Supplier Product Number: _____ (4) Supplier MSDS Number: _____

(5) Manufacturer: _____

(6) Chemical Family: _____

(7) Product Use: _____

(8) Technical Information Phone Number: _____

Email: _____ Location (country): _____

(9) Emergency Phone Number: _____

Email: _____ Location (country): _____

(10) Are all components of this product listed in the TSCA Inventory or exempt from listing? No: __ Yes: __

If components of this product are exempt from listing on the TSCA Inventory, please describe the exemption type(s) (R&D, FIFRA, polymer, etc.):

(11) What is the status of the components of this product under REACH (more than one may apply):

Registered: ____ Preregistered: ____ Other (not registered, exempt, etc.): ____

If other, describe:

The HBI Management System

Management Systems

HBI Program – Initiated in 1991

Chemical Approval System

Chemical Database

Restricted Substance List (RSL)

R & D/PD Involvement

Marketing Awareness

Top Down Support



Management Systems – Sourcing (HBI Program)

Restricted Substance List (RSL)

Finished Goods Agreement with RSL

Training for Sourcing Managers

Training for Supply Chain Facilities

Dyes and Chemicals Supplier Partnerships

Supply Chain Compliance Audits

Product Testing Minimized



The Chemical Approval Process

Challenge – Blended Chemistries with Inadequate Ingredient Disclosure

Screening Tools – Pure Chemicals

The Process

- RSL
- Chemical Risk Assessment
- Chemical Hazard Assessment
- **Chemical Alternatives Assessment**
- Product Quality
- Economics

Certification Programs

Electronic Management Systems

Chemical Analyzer Tools

Chemical Management Program

2015? – Tier II Chemical Audits

+97% Supply Chain Audited – 2011

2008 – Chemical Audits of Sourced Textile Mills

2012 – 90% Owned Factories
10% Sourced Product

Accessories, Fabrics Agreement (2007)

Finished Goods Agreement (2005)

HBI Chemical Environmental Data Form (2002)

Third Party Global Chemical Regulatory Reference Tool (2002)

Initiated Audits of Textile Mills in Supply Chain (1995)

ALL Chemicals and Ingredients Populated (1992)

Partnered with Chemical Suppliers (1991)

Chemical Approval Requirement for Corporation (1991)

Company RSL Developed (1991)

Electronic Database with US Regulatory Applicability Embedded (1990)

Internal Tracking of Applicable Global Regulations (1990)

+95% Owned Manufacturing

Executive Champion- 1990

Support Needs

- Training on Chemical Management (OIA Framework)
- Vibrant and Consistent Hazardous Assessment Tool
- Chemical Sustainability Collaboration
- Data Integrity Especially in Developing Nations
- Tool to Evaluate Sustainability Alternatives for Chemical Mixtures
- Reliability of Chemical Certification Programs

