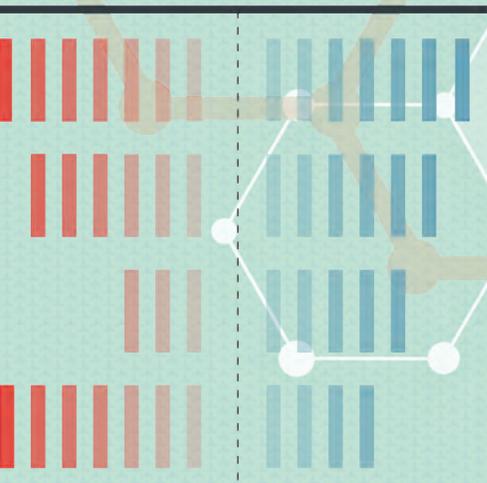


2



Key Findings from the 2016
Chemical Footprint Project Survey

CHAPTER 2

Key Findings from the 2016 CFP Survey

The results from the 2016 CFP Survey reveal how 24 companies manage chemicals in their products and supply chains. They provide a snapshot of chemicals management policies and practices beyond regulatory compliance across a diverse set of businesses. This chapter begins with a brief discussion of the companies that participated in the 2016 Survey, then summarizes and analyzes the results for the four CFP Pillars as a whole, and then for each of the four pillars of Management Strategy, Chemical Inventory, Footprint Measurement, and Disclosure & Verification.

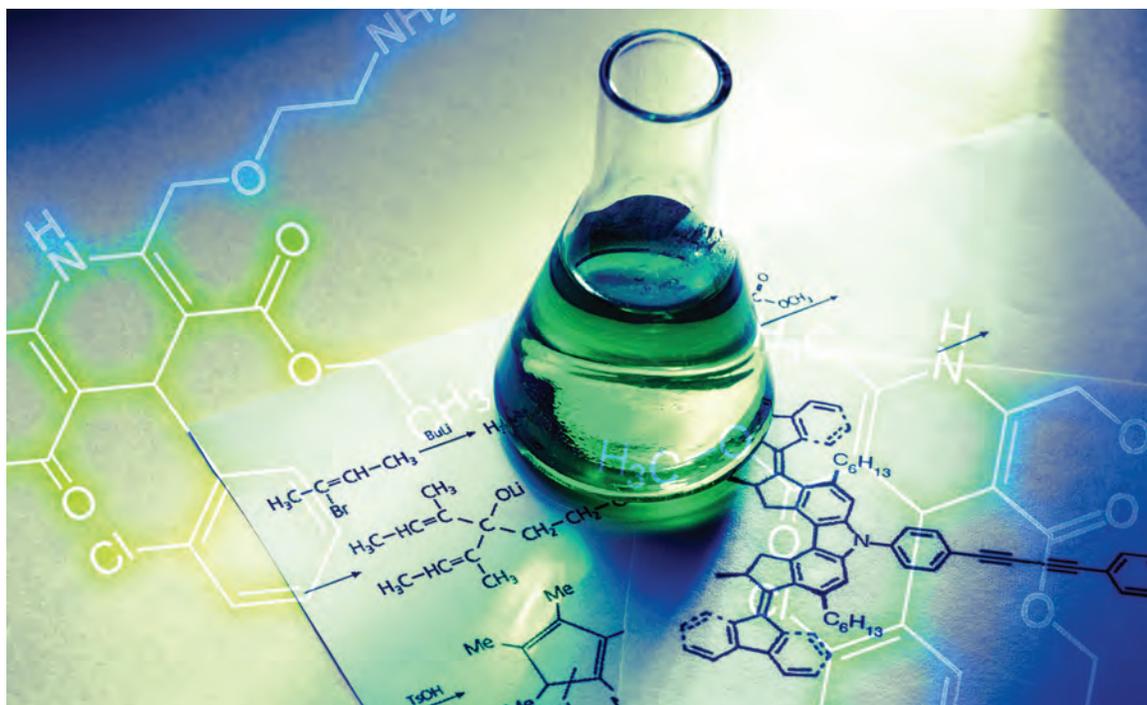
Companies Participating in the 2016 Survey

A wide range of companies of varying sizes and sectors participated in the 2016 CFP Survey. The 24 participating companies included:

The results from the 2016 CFP Survey reveal how 24 companies manage chemicals in their products and supply chains. They provide a snapshot of chemicals management policies and practices beyond regulatory compliance across a diverse set of businesses.

Sectors (and the number of companies)

- capital goods used in construction (1)
- commercial and professional services (2)
- consumer durables and apparel (3)
- consumer services for hospitality (1)
- health care equipment and services (3)





Companies Disclosing Their Participation in the 2016 CFP Survey

adidas AG
 Alima Pure
 Angelica Corporation
 Beautycounter
 Becton Dickinson and Co. (BD)
 Case Medical, Inc.
 Construction Specialties, Inc.
 GOJO Industries, Inc.
 Herman Miller, Inc.
 HP Inc.
 Inpro Corporation
 Johnson & Johnson
 Kimball Hospitality Inc.
 Levi Strauss & Co.
 nora systems, Inc.
 Radio Flyer
 Replenish
 Seagate Technology PLC
 Sealed Air Corporation
 Seventh Generation
 Wal-Mart Stores, Inc.
 WaterWipes

- household and personal products (7)
- materials—includes packaging and office or medical supplies (5)
- technology hardware and equipment (2)

Product type (and the number of companies)

- only articles (13)
- only formulated products (7)
- both formulated products and articles (4)

Size (and the number of companies)

- large—greater than \$5 billion in revenue (8)
- medium—\$0.5 to \$5 billion (4)
- small (12)—less than \$0.5 billion (12)

Public or private (and the number of companies)

- publicly traded (11)
- privately held (13)

Companies participating in the 2016 Survey have annual revenues totaling over \$670 billion and market cap valuations totaling over \$730 billion. Of the 24 participating companies:

- 22 agreed to be listed publicly (see box, left),
- three agreed to list their responses and score on the CFP website (see www.chemicalfootprint.org),
- two agreed to list their responses on the CFP website, and
- 11 participated in both the 2015 and 2016 Surveys.

Note that two of the participating firms completed the Survey for a division of their company, rather than for the entire company.

The CFP Pillars & Big Picture Results from the 2016 Survey

The CFP Survey evaluates companies and their chemical management policies and practices based on the four pillars of:

- **Management Strategy (20 points):** This Pillar evaluates the scope of corporate chemicals policies and their integration into business strategy, accountability, and employees' incentives for safer chemical use, as well as the company's external advocacy for safer chemical use.
- **Chemical Inventory (30 points):** This Pillar evaluates the efforts a company makes to identify chemicals of high concern (CoHCs) in its products, the extent of chemical data collected from its suppliers, and its systems for managing chemical data and ensuring supplier compliance with its reporting requirements.
- **Footprint Measurement (30 points):** This Pillar evaluates the goals that a company sets to reduce chemicals of high concern, its efforts to establish a baseline chemical footprint and measure progress, and its process for assessing and implementing safer alternatives.
- **Disclosure and Verification (20 points):** This Pillar evaluates the extent to which a company publicly discloses the chemicals in its products beyond regulatory requirements, discloses its



score and its answers to the CFP Survey questions, and whether its CFP Survey answers have been independently verified by a third party.

The four CFP Pillars encompass 20 questions scored to a maximum total of 100 points. For common terms used in the report, see the Glossary of Terms in Appendix 1 and for methodology details, including changes from the 2015 to the 2016 Survey, see Appendix 2.

The highest score received in the 2016 Survey was 92 out of 100 points, with an average score of 49 points. Overall average scores increased from 41 points in 2015 to 49 points in 2016, though a different set of companies participated in 2015 and 2016. The 11 companies that participated in both the 2015 and 2016 Surveys improved their overall scores by 20%.

Of the four CFP Pillars, companies scored the highest on average for Chemical Inventory, followed by Management Strategy, Footprint Measurement, and Disclosure & Verification (see Figure 3).

The higher scores for the Chemical Inventory Indicators highlight that companies in CFP are adopting Restricted Substances Lists (RSLs), collecting data on chemicals in products and their supply chains, and engaging their suppliers in these efforts. Integration of chemicals policies into Management Strategy continues to advance,

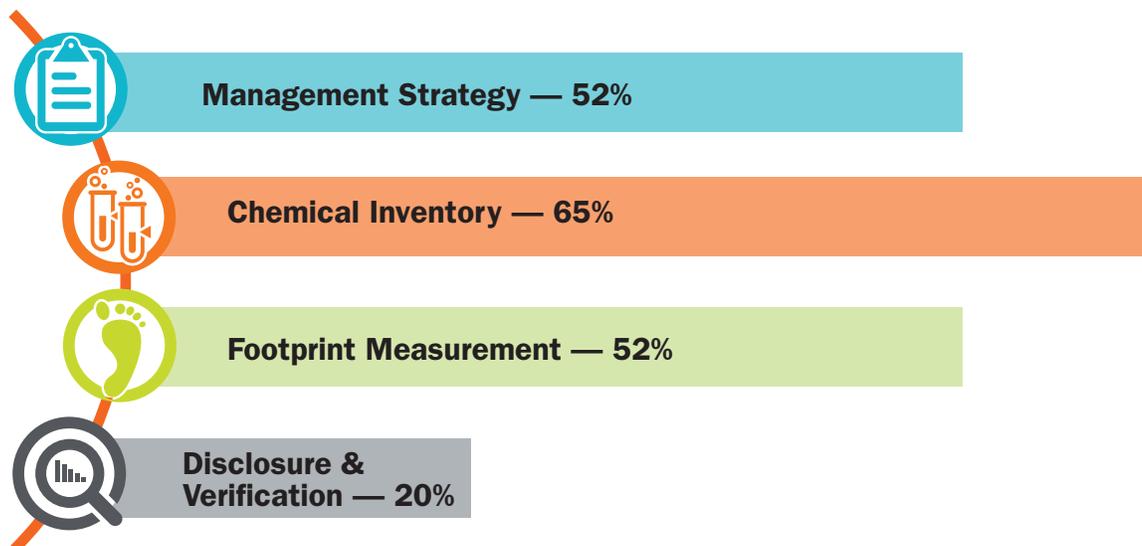
The higher scores for the Chemical Inventory Indicators highlight that companies participating in CFP overall are adopting Restricted Substances Lists (RSLs), collecting data on chemicals in products and their supply chains, and engaging their suppliers in these efforts.

with companies developing corporate-wide policies, embedding them into business strategy, and making them available to the public.

Companies are improving in the Footprint Measurement Pillar by collecting data that allow for measuring the reduction of CoHCs in products and continuing investments in identifying and implementing safer alternatives. Disclosure & Verification scores, which include public transparency of chemicals in products and CFP responses and scores, lag the other CFP Indicators as companies are slow to publicly share their progress to environmentally sound chemical management policies and practices.

The CFP Survey evaluated responses by product type (seller of formulated product

FIGURE 3. **All CFP Pillars** (average percent of points)



and/or article), company size (small, medium, and large), and the four CFP Pillars. This analysis, as highlighted below, enables the benchmarking of companies of similar sizes and product types (though note these benchmarks are indicative rather than definitive because they are based on a limited sample size).

Whether a company is privately held or publicly traded had no effect on its average overall CFP score, with both scores being essentially the same at 49.3% and 49.6%, respectively, of possible points. Among the 13 privately held companies: 12 were small and one was medium in size; and seven sold articles and six sold only formulated products or both formulated products and articles. Among the publicly held companies: three were medium and eight were large in size; and eight sold articles and three sold only formulated products or both formulated products and articles.

The 11 companies selling formulated products (only formulated products or both formulated products and articles) scored higher on average (59% of possible points) than the 13 companies selling only articles (41%). This is to be expected, as chemical ingredients are core to their business. They specify the chemicals in their products and governments often regulate the labeling of these ingredients.

In contrast, companies selling articles are usually not required to disclose the chemicals or materials used to make the product. Sellers of articles are less likely than sellers of formulated products to recognize they need to know the chemicals in their products and supply chains, and need to create and implement systems to collect and track those data. Because sellers of formulated products know more about chemicals in products than sellers of articles on average, this report aggregates sellers of only formulated products and both formulated products and articles into a single category, “sellers of formulated products.”

Scores also varied by company size. Large companies scored highest on average, followed by small and then medium companies (see Table 2). Company size alone, however, provides only part of the picture. As revealed below, analysis by both size and product type shows more relevant

TABLE 2. **All CFP Pillars: Small, Medium, and Large Size Companies** (average score)

Company Size: Sales (number of companies)	Average CFP Score (percent of total points)
Small: < \$500 Million (M) (12)	48%
Medium: \$500M – \$5 Billion (B) (4)	40%
Large: > \$5B (8)	56%

nuances between companies that sell similar types of products.

Figure 4 details CFP scores by product type and company size. The product types are formulated products (companies that sell only formulated products or both formulated products and articles) and articles. Some highlights embedded in Figure 2:

- Among companies selling formulated products there was essentially no difference in overall CFP scores between large and small companies, with large companies scoring only incrementally higher than small companies (no medium size companies selling formulated products participated in the 2016 Survey).
- Small companies selling formulated products scored higher than large companies selling only articles, demonstrating that advanced chemicals management policies and practices are not solely the domain of large companies.
- Among companies selling only articles a clear pattern emerged: large companies scored higher than medium companies, which in turn scored higher than small companies.

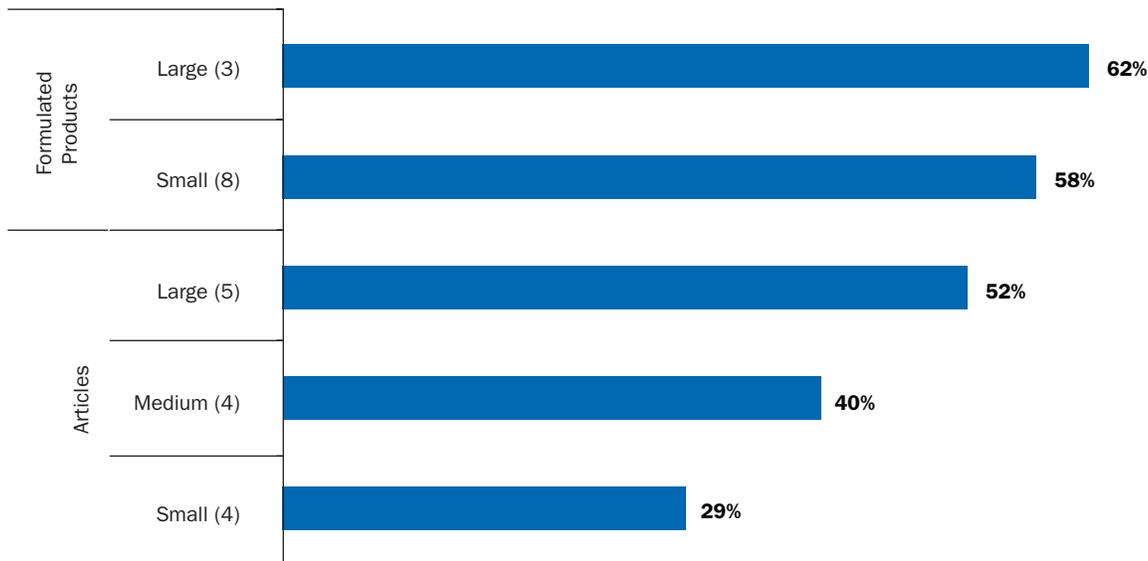
Benchmarking Formulated Product and Article Companies across the CFP Pillars

Are you a small company selling articles or a large company selling both formulated products and articles? Where is your company or your supplier on the journey to sound chemicals management? The 2016 CFP Survey results provide metrics for benchmarking chemicals management performance based on size, type of product sold, and CFP pillar.

Among companies selling formulated products the overall pattern described above is that small and large companies scored comparably



FIGURE 4. **All CFP Pillars: Product Type and Company Size** (average percent of points)



in the 2016 CFP Survey. The four CFP Pillars in Figure 5, however, reveal different paths to how the companies selling formulated products achieved their scores:

- large companies scored significantly higher for Management Strategy and notably higher for Chemical Inventory; and
- small companies scored notably higher for the Footprint Measurement and Disclosure & Verification Pillars.

Large companies selling formulated products scored higher on CFP Indicators that require corporate-wide policies (Management Strategy Pillar) and systems for managing data and

suppliers (Chemical Inventory Pillar), while small companies selling formulated products scored higher on CFP Indicators that require in-depth analysis of chemical use across all products and the selection of safer chemicals (Footprint Measurement Pillar), and public transparency of the chemicals in their products and their participation in CFP (Disclosure & Verification Pillar).

The learning opportunity for small companies selling formulated products is how to integrate their practices into formal organizational policies and develop or adopt systems for managing data and engaging suppliers. The learning opportunity for large companies selling formulated products is how to track and report on

FIGURE 5. **All CFP Pillars: Small and Large Companies Selling Formulated Products** (average percent of points)

CFP Pillar	Small and Large Companies Selling Formulated Products (average percent points by CFP Pillar)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
Management Strategy	Small – 50%				
	Large – 86%				
Chemical Inventory	Small – 65%				
	Large – 82%				
Footprint Measurement	Small – 70%				
	Large – 56%				
Disclosure & Verification	Small – 37%				
	Large – 15%				

CoHCs, identify and use safer chemicals, and be more transparent about the chemicals in their products and participation in CFP. Interestingly there are outliers within both sizes of companies. Some small companies scored well on Management Strategy and Chemical Inventory and some large companies scored well on Footprint Measurement and Disclosure & Verification. This finding highlights that companies have multiple pathways for improving their chemicals management practices.

Among companies selling only articles the overall pattern noted above is that large companies scored highest followed by medium and then small companies. The four CFP Pillars detailed in Figure 6 reinforce that pattern:

- large companies selling articles scored highest for every CFP Pillar, though by just a fraction for Management Strategy;
- medium companies selling articles scored higher than small companies for every CFP Pillar except Disclosure & Verification; and
- small companies selling articles are on the learning curve for how to implement environmentally sound chemical management practices.

We attribute the higher scores for large companies selling articles to their greater awareness of hazardous chemicals in their products and

supply chains, greater resources to manage hazardous chemicals, including resources for supply chain engagement and creating/managing databases, and greater need to have corporate policies in place to develop and implement chemicals management systems. Small companies in particular are encouraged to tap into the technical knowledge of peers and leverage resources available from governments, universities, and NGOs to offset their resource disadvantages.

Transparency Lags Other CFP Indicators

The Disclosure & Verification Pillar presents the greatest opportunity for improvement among nearly every company that participated in the CFP Survey: transparency. Investors, institutional purchasers, consumers, and governments are all demanding greater transparency concerning sustainability and governance. Companies are slowly realizing that transparency in regard to chemicals management is increasingly sought and is unlikely to be curtailed in the foreseeable future. The question is not how to avoid transparency, but how to manage it.

The CFP Survey emphasizes transparency in the Disclosure & Verification Pillar, which is discussed in-depth in Section 2.4. In addition, the CFP Survey integrates questions of corporate transparency across the Pillars. For example,

FIGURE 6. All CFP Pillars: Small, Medium, and Large Companies Selling Only Articles (percent of points by CFP Pillar)

CFP Pillar	Small, Medium, and Large Companies Selling Only Articles (percent of points by CFP Pillar)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
Management Strategy	Small – 33%				
	Medium – 49%				
	Large – 50%				
Chemical Inventory	Small – 39%				
	Medium – 63%				
	Large – 76%				
Footprint Measurement	Small – 28%				
	Medium – 38%				
	Large – 52%				
Disclosure & Verification	Small – 13%				
	Medium – 0%				
	Large – 18%				



in the Management Strategy Indicator—M1, companies are asked if they have a chemicals of high concern (CoHCs) policy, and if yes, whether they make it public. This question is asked of other Indicators, including: M2—safer alternatives policy; I1—restricted substances list (RSL); and F1—goals for reducing CoHCs. Figure 7 details the answers to these questions. For each Indicator in Figure 7, the first question is, “Do you have a policy, RSL, or goal to reduce CoHCs?” For example, 92% of the companies have a CoHCs policy. Yet of that 92%, only half made their policy available to the public. That pattern is consistent across all the Indicators listed in Figure 7; companies are actually doing more than they reveal to the public. It is the philosophy of CFP Signatories that companies and the public will be better served by greater transparency, as these actions will accelerate the learning and knowledge transfers necessary to advance the development and use of safer chemicals.

In summary, the 2016 CFP data highlight the leadership of the companies participating in CFP and the many opportunities that remain for companies to implement more comprehensive chemicals management policies and practices.

FIGURE 7. **Across CFP Pillars: Transparency-Related Questions** (percent of companies)



The next sections detail the findings from each of the four CFP Pillars: Management Strategy, Chemical Inventory, Footprint Measurement, and Disclosure & Verification.



2.1 MANAGEMENT STRATEGY

Policies & Strategies for Effective Organizations

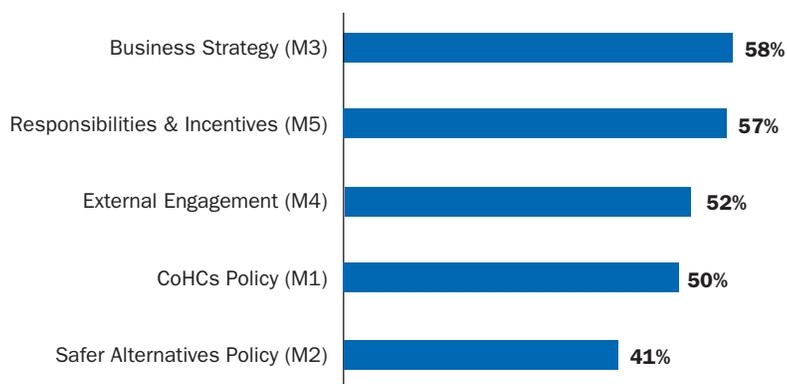


Management Strategy Indicators (20 points)

- M1 – Chemicals of High Concern (CoHCs) Policy (4 points)
- M2 – Safer Alternatives Policy (4 points)
- M3 – Business Strategy (4 points)
- M4 – External Engagement (4 points)
- M5 – Responsibilities & Incentives (4 points)

The five Management Strategy Indicators (see box, above) include the policies and strategies that companies implement to effectively manage chemicals. Leading companies in chemicals management: have a comprehensive chemicals policy that includes avoiding chemicals of high concern (CoHCs) and preferring safer alternatives to hazardous chemicals; integrate these policies into their business strategy; have internal accountability for implementing these policies; and engage externally with NGOs, governments, and educational institutions to promote safer alternatives to chemicals of concern.

FIGURE 8. **Management Strategy: Each Indicator** (average percent of point)



Management Strategy Indicators

Overall, companies scored 52% of possible points for Management Strategy. They scored highest for the Business Strategy Indicator (58% of possible points) and lowest for the Safer Alternatives Policy Indicator (41% of possible points) (see Figure 8). The development of corporate-wide policies for CoHCs and Safer Alternatives were the most challenging indicators for participating companies.

CoHCs POLICY (M1) AND SAFER ALTERNATIVES POLICY (M2)

Companies typically develop corporate chemicals and/or materials policies that address multiple issues across the organization (see HP's "Chemicals and Materials Policy" cited in this section). For example, 92% of the participating companies in the 2016 CFP Survey have a chemicals policy that addresses CoHCs in products and 75% have a chemicals policy that encourages the use of safer alternatives in products. Figure 9 highlights the scope of chemicals policies in terms of whether they cover products, manufacturing, supply chains, and/or packaging for both M1 and M2. Consistently companies are more likely to have a chemicals policy that focuses on M1 than M2, and that policy is most likely to address products and least likely to address packaging. Figure 9 highlights that the greatest improvement opportunities are in extending product policies on chemicals to supply chains, manufacturing, and packaging.

HP Inc.'s "Chemicals and Materials Policy" (cited in this section) exemplifies a chemicals policy that addresses both CoHCs and safer alternatives by emphasizing the commitment to "proactively evaluate materials and chemicals;" "prioritize them for restriction based on published lists of chemicals of concern, customer preferences, and sound scientific analysis;" and "using a precautionary approach, reduce hazard by replacing a chemical of concern with a less hazardous alternative."



Overall, companies scored highest in the Management Strategy Pillar for the **Business Strategy (M3)**, which assesses how a company integrates its chemicals policy into its business strategy. Seventy-five percent of participating companies have a process for integrating chemical goals into business strategy.

The **External Engagement (M4)** measures companies on their external engagement with NGOs, governments, and other entities such as educational institutions. External engagement includes initiatives that: prioritize chemicals based on their inherent hazards, aim to reduce the use of CoHCs, promote safer alternatives, and/or support the public disclosure of CoHCs or other chemical ingredients. Sixty-two percent of companies engage in a least one of these types of initiatives (see Figure 10), including:

- **Sectoral initiatives** such as the Apparel & Footwear International Restricted Substances Management Working Group (AFIRM); Beauty and Personal Care Sustainability

FIGURE 9. **Management Strategy: Chemicals of High Concern (CoHCs) (M1) and Safer Alternatives (M2) Indicators** (percent of companies)

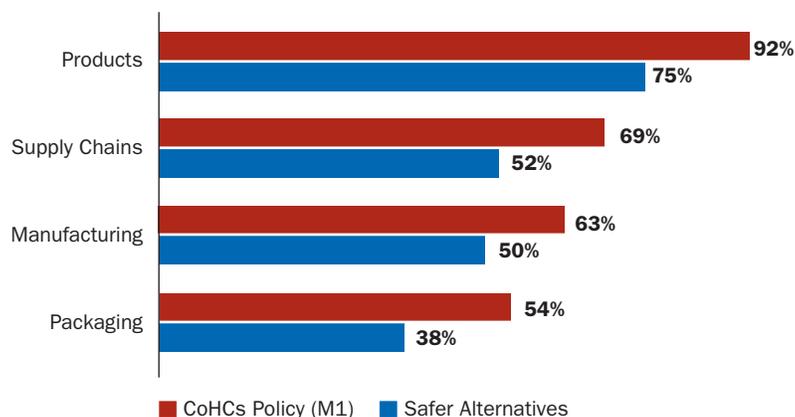
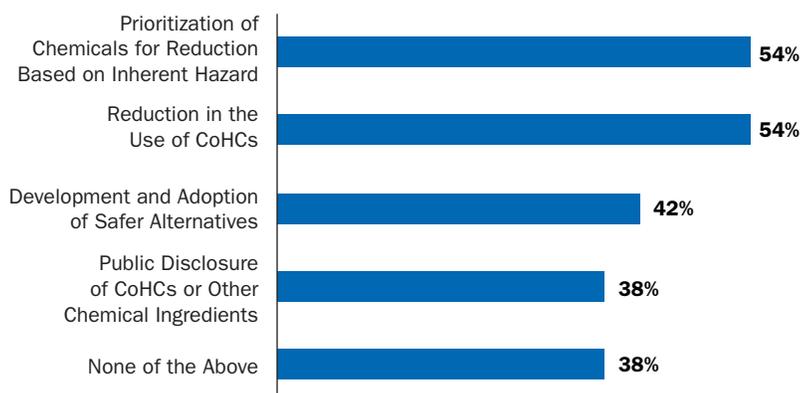


FIGURE 10. **Management Strategy: External Engagement (Indicator M4)** (percent of companies)



Project; Business and Institutional Furniture Manufacturers Association (BIFMA); Clean Electronics Production Network; Health Product Declaration Collaborative; Practice Greenhealth; Safe Cosmetics Business Network; and Zero Discharge of Hazardous Chemicals.

- **NGOs** including the American Sustainable Business Council, BizNGO, and the Green Chemistry & Commerce Council.
- **Government initiatives and policies** such as the United Nations Environment Programme's Chemicals in Products Programme and alternatives assessment in the European Union, including under the REACH and RoHS Directives.

The HP Materials and Chemicals Management Policy

As part of HP's commitment to environmental leadership, we are dedicated to reducing the environmental and human health impacts of materials throughout our supply chain.

The HP Materials and Chemicals Management Policy guides how we specify materials and chemicals for use in products, packaging, and manufacturing processes. This policy applies to all HP employees and businesses worldwide, and also extends to HP's suppliers. Supplier expectations are set through the HP General Specification for the Environment and the HP Supplier Code of Conduct.

Materials and chemicals management at HP is based on the following principled commitments:

- Comply with laws and regulations where HP does business and adopt and apply international standards where laws are less stringent.
- Proactively evaluate materials and chemicals in HP's products and supply chain, and prioritize them for restriction based on published lists of chemicals of concern, customer preferences, and sound scientific analysis that reveals a potential impact to human health or the environment.
- Determine the hazard characteristics of chemical constituents and formulations in products, packaging, and manufacturing processes and, using a precautionary approach, reduce hazard by replacing a chemical of concern with a less hazardous alternative.
- Redesign products and processes to avoid the use of chemicals of concern.
- Collaborate with supply chain partners to drive innovation in the development and adoption of environmentally preferable alternatives.
- Support policies, standards, and harmonized legislation to ensure that comprehensive hazard data are available for chemicals on the market and to eliminate or reduce known hazards. These policies, standards, and legislation should be based on sound science and include assessment of relevant hazards, exposures and subsequent risks, and a preference for lower risk alternatives.
- Require our suppliers to have proper management systems to inventory chemicals, eliminate or manage chemicals of concern, and provide appropriate personal protective equipment and training to workers.
- Identify the materials and chemicals used in products, packaging, and manufacturing processes. Provide this information to customers, workers, communities, and other stakeholders, subject to the need to protect confidential information for legitimate business needs and innovation.

We are committed to ensuring the principles outlined in this policy are integrated into our business operations. This includes conducting assessments, defining performance goals and metrics, reviewing results with senior management regularly, and publicly reporting on our continual improvement in areas covered by this policy.

Judy Glazer

Global Head of Sustainability and Product Compliance





The purpose of the **Responsibilities & Incentives Indicator (M5)** is to evaluate whether a company's chemicals policy delineates the responsibilities of employees, senior managers, and/or the board of directors, and whether senior management have a financial incentive for policy implementation. Over 80% of the companies scored points for at least one responsibility/incentive included in the 2016 CFP Survey, with senior management being assigned responsibilities for chemicals policy scoring highest (see Figure 11).

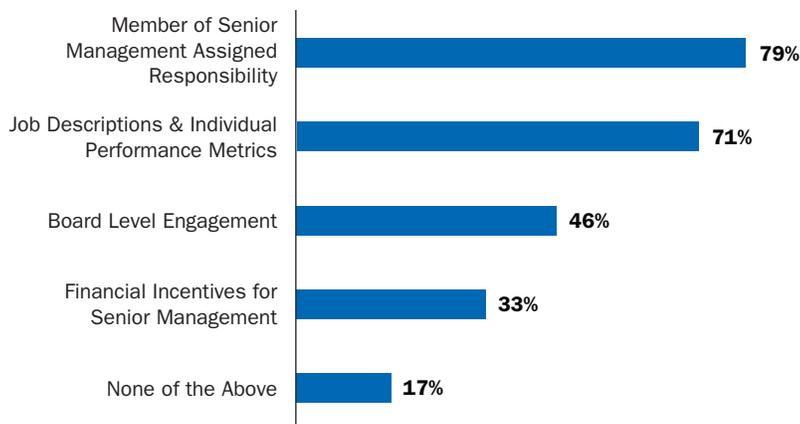
Management Strategy Leaders

A diverse group of eight companies scored in the top quartile with an average of 75% of possible Management Strategy points. They included companies of different sizes, product types, and sectors. One company even scored 100% of the potential Management Strategy points.

The eight leadership companies scored in the same pattern described above for all companies: Business Strategy—M3 (93% of possible points), Responsibilities & Incentives—M5 (88%); External Engagement—M4 (84%), CoHCs Policy—M1 (80%), and Safer Alternatives Policy—M2 (73%).

The eight Management Strategy leaders were also overall leaders, averaging 67% of total possible points (compared to the average of 49% for all companies). The leaders in Management Strategy led with Business Strategy and Responsibilities & Incentives, which includes senior management responsibility for and board level engagement in chemicals management. For example, one company's business strategy includes the integration of sustainable chemistry into business value creation, where sustainable chemistry is a vehicle for meeting or exceeding customer expectations, helping customers to meet their sustainability goals, and reducing organizational risks and costs associated with hazardous chemicals. Additionally that company's Vice Chair of the Board of Directors meets with the core sustainability leadership team monthly to engage in strategic sustainability oversight, including the implementation of the organization's chemicals policy.

FIGURE 11. **Management Strategy: Responsibilities & Incentives (Indicator M5)** (percent of companies)



Our “Vice Chair of the Board of Directors meets with the core sustainability leadership team monthly to engage in strategic sustainability oversight, including the implementation of the organization’s chemicals policy.”

Other examples of how companies engage their boards of directors in chemicals policy implementation include:

- “. . . we have top-down support as our CEO/ Founder and Board members have explicitly supported our company mission that every . . . product has a high performance standard without compromising health and safety;” and
- Our company “has established a corporate governance structure to manage our sustainability work, which is led by the Vice President of Sustainability & Product Compliance, who provides regular updates to the executive staff and the board of directors.”

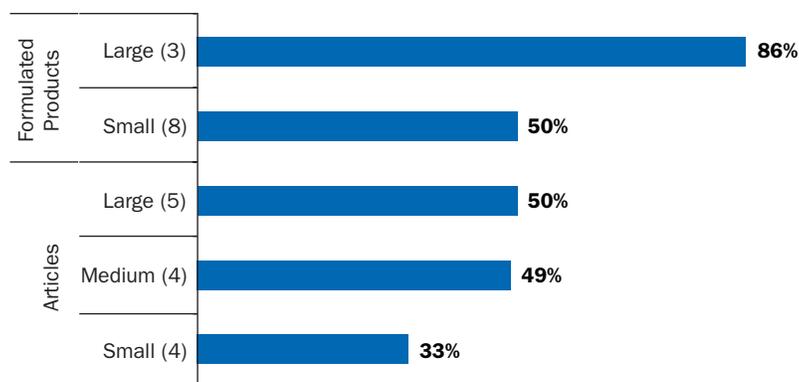
Companies overall, including the eight leading companies, scored lowest on average in establishing corporate-wide policies on CoHCs (M1) and Safer Alternatives (M2). The CFP's model comprehensive chemicals policy for manufacturers

and brands, which will be released in the fall of 2017, along with the Environmental Defense Fund's model Retailers Policy Model Chemicals Policy for Retailers of Formulated Products⁴³ provide guidance on what to include in a comprehensive chemicals policy.

Management Strategy Scores by Product Type and Company Size

Within the Management Strategy Pillar, among **companies selling formulated products**, large scored highest on average followed by small companies (see Figure 12). Note that the 2016 Survey participants did not include any medium size formulated product companies. Among companies selling articles, in a twist from the typical large companies scoring highest, medium companies scored equivalent to large companies, followed by small companies.

FIGURE 12. **Management Strategy: All Indicators—Product Type and Company Size** (average percent of points)



Large companies selling formulated products (either only formulated products or both formulated products and articles) landed in the top quintile for each of the five Management Strategy Indicators, scoring consistently higher than small companies (see Figure 13). In general the differences in scores were quite significant, especially for policies (M1 and M2) and business strategy (M3). Figure 13 details the percent of possible points scored by companies by size (small and large) across the five Management Strategy Indicators.

Large companies have greater resources to create policies, strategies, and systems to ensure

implementation of chemicals management. Small companies may not be able to focus their scarce resources here. To simplify implementation, small companies can learn from the efforts of larger companies and NGOs to develop blueprints for chemicals policies or management systems. NGO resources include the [BizNGO Guide to Safer Chemicals](#), the [Mind the Store scorecard](#), and the [Outdoor Industry Association's Chemicals Management Module](#), among others.

Among sellers of only articles, no company reached the top quintile for any Management Strategy Indicator, and large companies reached into the fourth quintile for only one Indicator—CoHCs policy (M1) (see Figure 14 below). Medium size companies scored consistently the same as large companies for every Management Strategy Indicator except Safer Alternatives Policy (M2), where they scored notably higher. Small article companies scored lowest for every Indicator. The greatest differentiation emerged in corporate policies—CoHCs and Safer Alternatives—where small companies lagged behind medium/large companies for both formulated products and articles only.

Management Strategy Opportunities

The Management Strategy Indicators highlight a number of pathways for evolving corporate policies and strategies, including:

- Making the identification and implementation of safer alternatives an integral component of business strategy. In so doing, firms will embed the development and use of safer alternatives into the business of their companies, enabling its diffusion into corporate policies, supply chain management practices, product development, and public transparency. These actions will drive systemic change within a company.
- Establishing and/or refining policies for reducing CoHCs and preferring safer alternatives, and broadening these policies to address chemicals in manufacturing, supply chains, and packaging. Corporate policies on CoHCs and Safer Alternatives present the greatest opportunity for improvement among the Management Strategy Indicators. Elements of more comprehensive policies include: clear identification of RSLs and



Beyond RSLs; active and ongoing evaluation of chemicals in products; details on applicability, scope, and actions to be taken; and specified preference for safer alternatives.

- Engaging externally with sector-based initiatives (for example, Zero Discharge of Hazardous Chemicals—ZDHC), NGOs, educational institutions, and/or governments

all provide valuable opportunities for learning about, developing, and implementing chemical management initiatives.

Important to overall success with Management Strategy is engaging senior management and/or the board of directors in chemicals management.

FIGURE 13. **Management Strategy: Each Indicator—Small and Large Companies Selling Formulated Products** (average percent of points)

Management Strategy Indicators	Small and Large Companies Selling Formulated Products (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
CoHCs Policy (M1)	Small – 39%				
	Large – 83%				
Safer Alternatives Policy (M2)	Small – 31%				
	Large – 83%				
Business Strategy (M3)	Small – 53%				
	Large – 98%				
External Engagement (M4)	Small – 69%				
	Large – 83%				
Responsibilities & Incentives (M5)	Small – 59%				
	Large – 83%				

FIGURE 14. **Management Strategy: Each Indicator—Small, Medium, and Large Companies Selling only Articles** (average percent of points)

Management Strategy Indicators	Small, Medium, and Large Companies Selling Only Articles (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
CoHCs Policy (M1)	Small – 28%				
	Medium – 56%				
	Large – 60%				
Safer Alternatives Policy (M2)	Small – 19%				
	Medium – 53%				
	Large – 38%				
Business Strategy (M3)	Small – 57%				
	Medium – 41%				
	Large – 59%				
External Engagement (M4)	Small – 25%				
	Medium – 38%				
	Large – 40%				
Responsibilities & Incentives (M5)	Small – 38%				
	Medium – 56%				
	Large – 55%				



2.2 CHEMICAL INVENTORY

Specifications & Procedures for Knowing Products & Supply Chains

Chemical Inventory Indicators (30 points)

- I1 – Restricted Substances List (RSL) (5 points)
- I2 – Beyond RSL (5 points)
- I3 – Supplier Requirements (5 points)
- I4 – Chemicals in Products (5 points)
- I5 – Data Management (5 points)
- I6 – Supplier Conformance (5 points)

Chemical Inventory Indicators include the information companies seek on chemicals in products and supply chains, ranging from chemicals of high concern (CoHCs) to all chemicals in products and the means that companies use to collect and assure these data. Companies showing leadership in Chemical Inventory prioritize the elimination of CoHCs, seek to know 100% of the chemical substances in their products and supply chains, and work with suppliers to collect the data and ensure its accuracy. In the best

case, a leadership company will know all of the chemical ingredients in its products and will engage regularly with suppliers through trainings and audits.

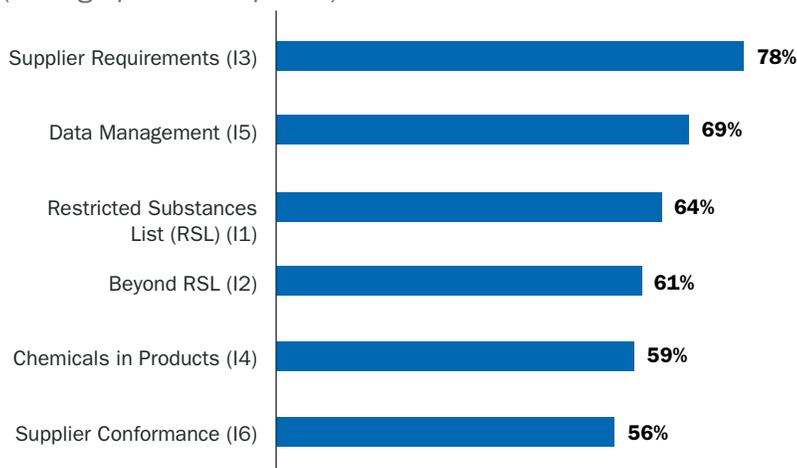
Chemical Inventory Indicators

Overall companies scored the highest on Chemical Inventory Indicators in comparison to the other CFP Pillars, with firms earning on average 64% of possible points. Figure 15 below provides the average score for each of the six Chemical Inventory Indicators. Companies scored the highest for Supplier Requirements–I3 (78% of possible points) and the lowest for Supplier Conformance–I6 (56% of possible points).

Restricted Substance Lists (RSLs–I1) are widely used among the CFP respondents, with 84% having an RSL or having designed their products to avoid CoHCs. More than half of the firms with RSLs make them available to the public. In addition, many of the companies track chemicals that are not currently regulated for their use, which is known within CFP as **Beyond RSLs–I2** (see Appendix 1 for definition). Fifty-eight percent of respondents use Beyond RSLs to track substances of concern to their company. The reality is very few CoHCs are legally restricted for most products, thus Beyond RSLs are especially important to predict future regulations and market pressures.

Supplier Requirements (I3)—A significant trend in the Chemical Inventory Pillar is the movement towards requiring suppliers to provide full chemical ingredient information; 58% percent of companies required full chemical ingredient information, from their suppliers. A diverse set of companies require full chemical ingredient information from their suppliers, including small, medium, and large companies that sell either articles or formulated products. As shown in Figure 16, firms that do not require full chemical ingredient information require other types of information from their suppliers including RSLs, Beyond RSL, and EU SVHCs. Only

FIGURE 15. **Chemical Inventory: Each Indicator**
(average percent of points)





13% of reporters do not require suppliers to provide any of this information.

Chemicals in Products (I4) evaluates the percent of full chemical ingredient information that a company collects on chemicals its products. The findings show that: a) 25% of companies collect full chemical ingredient information on all (100%) of their products; b) 25% collect full chemical ingredient information for 75% or more of their products; and c) 21% collect full chemical ingredient information for 50% or more of their products. Figure 17 provides further details, including the 21% that do not collect full chemical ingredient information on any of their products.

An advantage of collecting full chemical ingredient information in products is that it eliminates the need for repeated supply chain queries to update material declarations as governments and/or customers expand their RSLs. Additionally full chemical ingredient information also enables businesses to identify substances that could present high risks but are not on an RSL and supports the evaluation and prioritization of substances for redesign or replacement.

Data Management (I5) evaluates how companies manage their data and supplier relationships. Over 90% of the firms have specified a contact person on chemicals for their suppliers. Three-quarters of firms have data systems (either internal or third party) to manage an inventory of chemicals in products. And more than 70% have a data system (either internal or third party) that links their inventory of chemicals in products to chemical hazard information.

Supplier Conformance (I6) assesses how companies ensure supplier conformance with their policies. Almost two-thirds of participating

A significant trend in the Chemical Inventory Pillar is the movement towards requiring suppliers to provide full chemical ingredient information.

FIGURE 16. **Chemical Inventory: Supplier Requirements (Indicator I3)** (percent of companies by information collected)

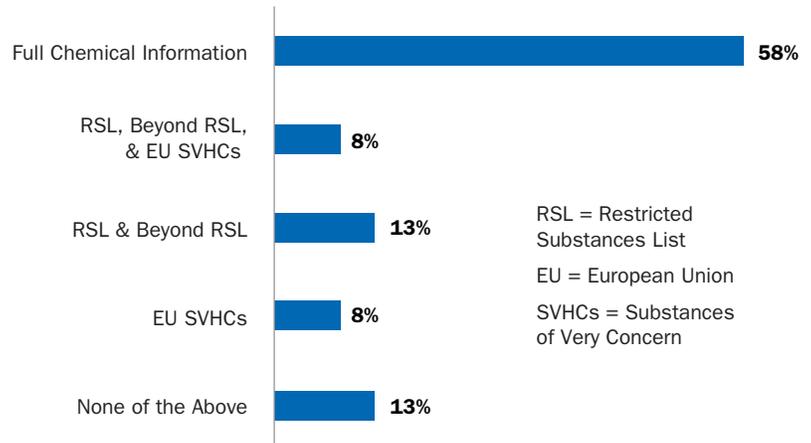


FIGURE 17. **Chemical Inventory: Chemicals in Products (Indicator I4)** (percent of companies)

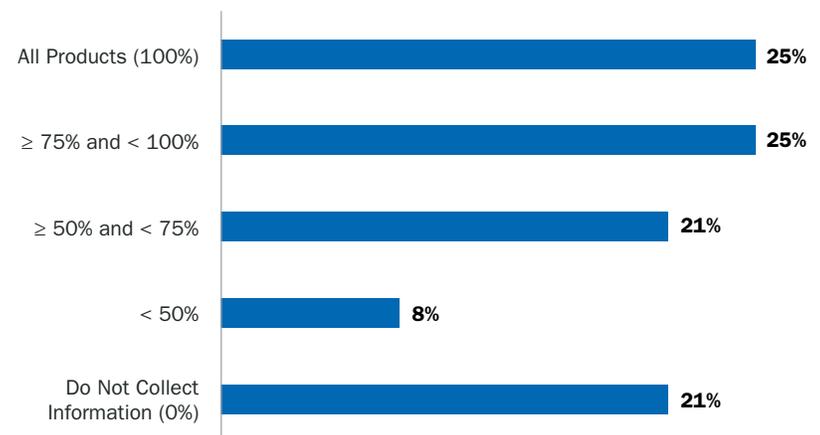
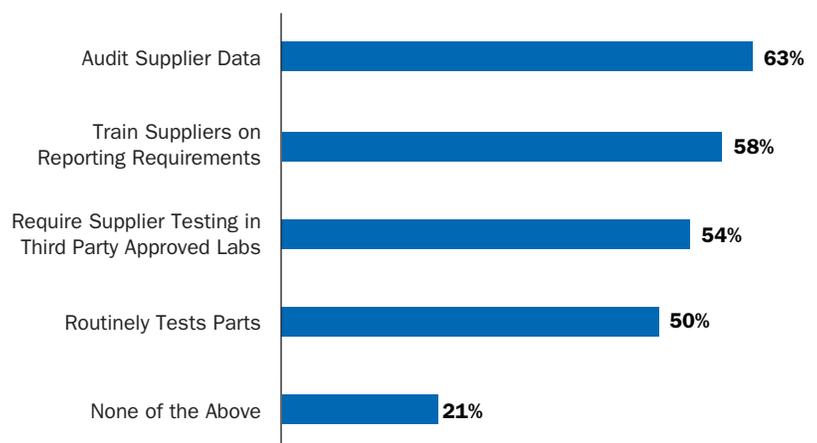


FIGURE 18. **Chemical Inventory: Supplier Conformance (Indicator I6)** (percent of companies)



companies have an audit program to verify supplier data. Slightly fewer train suppliers on reporting compliance or require suppliers to test parts and provide results. And half of the companies test parts for compliance (see Figure 18 for details).

Large companies excelled in the Chemical Inventory Indicators where they benefit from the resources to invest in systems, staff, subscriptions, and software.

Chemical Inventory Leaders

The top quartile of companies in Chemical Inventory averaged 90% of total points and included companies of diverse sizes, product types, and sectors, including electronics, building-related products, apparel, medical devices, and consumer goods. Three of the eight companies scored a near perfect 29 out of 30 points and included a mix of sellers of articles and formulated products.

Indicating a pathway to leadership in Chemical Inventory, the eight leaders scored highest for Supplier Requirements (I3) with a perfect 100% across all the companies, followed by Data Management (I5), RSL (I1), Beyond RSL (I2), Supplier Conformance (I6), and finally, Chemicals in Products (I4). What is interesting about the leaders

is their focus on supplier engagement, followed by data management. They then emphasized RSLs and Beyond RSLs, with the more challenging actions of Supplier Conformance and Chemical in Products trailing the pack of initiatives.

One of the leading companies has an “integrated software platform [that] allows us to manage our existing Ingredient Screen to more rapidly review chemicals for regulatory restrictions, chemicals of high concern, potential for exposure and related safety risks. This software platform serves to improve data accuracy in our existing ingredient screening tools and ingredient, and confirm the accuracy of our ‘Allowed,’ ‘With Approval,’ and ‘Prohibited’ ingredients more consistently through automatic searches on updated regulatory restrictions.”

Chemical Inventory Scores by Product Type and Company Size

Overall the scores for the Chemical Inventory Indicators followed the pathway of the large companies leading for both formulated products and articles, followed by medium companies for articles, and then small companies for both formulated products and articles (see Figure 19). The generally high scores for Chemical Inventory is a positive indicator that companies participating in the 2016 Survey are becoming prepared to quantitatively track their use and reduction of CoHCs because they increasingly know what chemicals are in their products and supply chains. And indeed the 2016 data for chemical footprinting (see Section 2.3) highlight the growing capacity to quantitatively track CoHCs in products.

Figure 20 details the percent of points scored by **companies selling formulated products** across the six Chemical Inventory Indicators. Large companies selling formulated products demonstrated outstanding leadership in the Chemical Inventory Indicators, scoring in the top quintile for four of the Indicators: RSLs (I1), Beyond RSLs (I2), Supplier Requirements (I3), and Data Management (I5). The only Indicators with significant room for improvement for large companies are to know Chemicals in Products (I4) and assure Supplier Conformance (I6).

Large companies excelled in the Chemical Inventory Indicators where they benefit from

FIGURE 19. **Chemical Inventory: All Indicators—**
Product Type and Company Size (average percent of points)

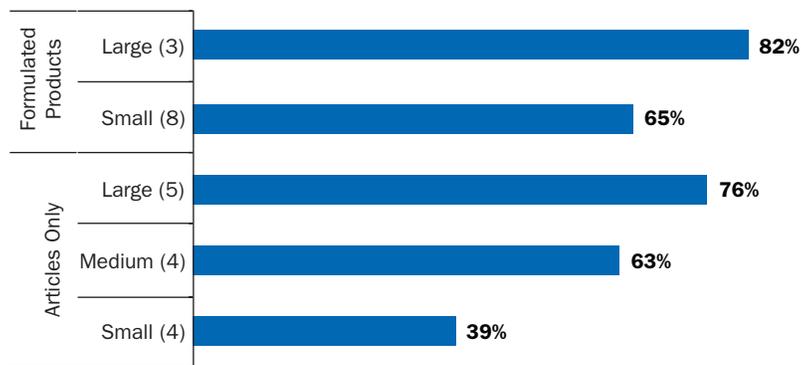




FIGURE 20. **Chemical Inventory: Each Indicator—Small and Large Companies Selling Formulated Products** (average percent of points) (Revised 10/26/17)

Chemical Inventory Indicators	Small and Large Companies Selling Formulated Products (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
Restricted Substances List (I1)	Small – 63%				
	Large – 93%				
Beyond RSL (I2)	Small – 60%				
	Large – 87%				
Supplier Requirements (I3)	Small – 75%				
	Large – 100%				
Chemicals in Products (I4)	Small – 74%				
	Large – 56%				
Responsibilities & Incentives (M5)	Small – 66%				
	Large – 92%				
Supplier Conformance (I6)	Small – 50%				
	Large – 67%				

having the resources to invest in systems, staff, subscriptions, and software:

- RSL implementation benefits from investment in subscriptions that track government regulations.
- Beyond RSLs require the capacity to evaluate chemicals based on hazards and track emerging concerns.
- Supplier Requirements and Supplier Conformance require systems and staff to engage, track, and manage suppliers.
- Data Management requires investments in internal or external systems.

Small companies with their smaller product portfolios demonstrated more robust knowledge of chemical ingredients in their products (I4) than large companies with their broader portfolio of products. For the other Chemical Inventory Indicators, small companies can learn from best practices in large companies and pursue assistance such as that offered by sector-based initiatives (for example, Zero Discharge of Hazardous Chemicals in the apparel sector) and leverage NGO resources to identify RSLs and Beyond RSLs.

Among companies selling only articles, Figure 21 details the pattern of large company leadership as well as its divergence across the Chemical

Inventory Indicators. Large and medium companies selling only articles scored near perfect and perfect, respectively, for I3—collecting data from supplier. This is a positive sign of in-depth supplier engagement, and mirrors the score of the large companies selling formulated products; though it contrasts with “assuring supplier conformance” (I6) through testing, training, and audits, where companies across all sizes continue to have opportunities for improvement.

Large companies selling only articles were in the top and fourth quintiles for five of the six Indicators. Knowing Chemicals in Products (I4) was challenging for all the companies selling articles.

Medium companies selling only articles scored in the third quintile for four of the six Indicators, signifying solid Chemical Inventory management and practices, along with a perfect score for Supplier Requirements (I3), and outscoring large companies for Supplier Conformance.

Small companies selling only articles, with their limited resources and capacities to invest in gathering chemical knowledge, scored in the second or third quintiles for all the Chemical Inventory Indicators, highlighting their need for resources to achieve this capacity.

FIGURE 21. **Chemical Inventory: Each Indicator—Small, Medium, and Large Companies Selling Only Articles** (average percent of points)

Chemical Inventory Indicators	Small, Medium, and Large Companies Selling Only Articles (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
Restricted Substances List (I1)	Small – 45%				
	Medium – 45%				
	Large – 80%				
Beyond RSL (I2)	Small – 25%				
	Medium – 45%				
	Large – 88%				
Supplier Requirements (I3)	Small – 25%				
	Medium – 100%				
	Large – 93%				
Chemicals in Products (I4)	Small – 43%				
	Medium – 60%				
	Large – 51%				
Data Management (I5)	Small – 56%				
	Medium – 56%				
	Large – 80%				
Supplier Conformance (I6)	Small – 38%				
	Medium – 69%				
	Large – 65%				



Chemical Inventory Opportunities for Improvement

The Chemical Inventory Indicators track performance on RSLs and Beyond RSLs, Supplier Requirements and Conformance, and Chemicals in Products and Data Management. Overall, the more companies can put in place systems to collect, manage, and verify all chemicals in their products and supply chains, the better prepared they will be to avoid CoHCs and identify and implement safer alternatives. Across all companies, sizes, and product types the two most consistent challenges are knowing Chemicals in Products (I4) and assuring Supplier Conformance (I6). These challenges highlight that most companies continue to need to improve their knowledge of chemicals in their products and hold their suppliers accountable to their requirements through testing, training, and audits.



2.3 FOOTPRINT MEASUREMENT

Metrics for Management

The Footprint Measurement Indicators assess the extent to which companies have baseline data on CoHCs in their products and track their progress to safer alternatives. Companies show leadership in Footprint Measurement by avoiding CoHCs by design or by collecting relevant data and reporting on it. To measure their chemical footprint companies need to know the chemicals in their products and supply chains, need to have systems in place for tracking the chemicals, and need to align the data they collect on CoHCs in products with sales of those products. Additionally, leadership companies employ robust methods to evaluate chemical hazards and identify and implement safer alternatives. Leading companies are responding to demand from investors and purchasers to calculate their chemical footprint.

Footprint Measurement Indicators

Companies scored on average 53% of possible points for the Footprint Measurement Indicators, equivalent to the average of 54% of possible points scored for the Management Strategy Indicators. Among the five Footprint Measurement Indicators, average performance varied widely, from 83% of possible points for Hazard Assessment (Indicator F4) to 38% of possible points for CoHCs Reduction (see Figure 1).

CoHCs Goals (F1) evaluates companies on whether they have set goals to reduce CoHCs, publicly disclose those goals, and report annually on progress towards meeting the goals. In the 2016 Survey, over half of the companies (63%) set goals to reduce CoHCs with the remainder either having no CoHCs (8%) or setting no goals to reduce CoHCs (29%). Of the companies that set goals, less than half publicly released their goals (46%) or reported on annual progress (42%). GOJO Industries became the first company participating in CFP to publicly commit to reducing its chemical footprint, with



Footprint Measurement Indicators (30 points)

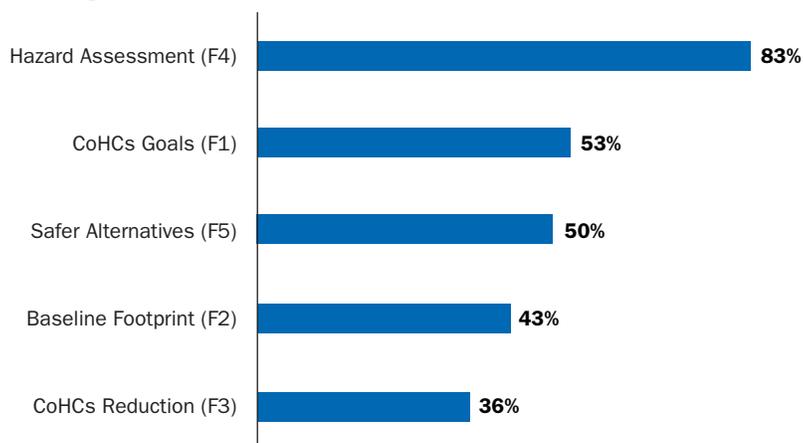
- F1 – CoHCs Goals (4 points)
- F2 – Baseline Footprint (8 points)
- F3 – CoHCs Reduction (6 points)
- F4 – Hazard Assessment (6 points)
- F5 – Safer Alternatives (6 points)

a goal of 50 percent reduction by 2020 (see company profile in this section).

Why Having a Sound Chemicals Management Program Matters

Baseline Footprint (F2) scores companies on their ability to calculate their chemical footprint. For the 2016 Survey, CFP measured “chemical footprint” as the total mass of CoHCs in products sold by a company and provided three pathways for companies to report on their baseline footprint:

FIGURE 22. **Footprint Measurement: Each Indicator**
(average percent of points)



Management Program Matters

At GOJO, our Purpose—Saving Lives and Making Life Better through Well-Being Solutions—compels us to create social, environmental, and economic value for our employees, our customers, society, and all our business touches. Our 2020 Sustainable Value Strategies and Goals are informed by the perspectives of our stakeholders and demonstrate our belief that understanding what matters most to the people we serve and working together to address shared challenges are paramount to our short- and long-term success. As part of our 2020 Goals, we became the first company to publicly commit to reducing our chemical footprint, with a goal of 50 percent reduction by 2020.

We see the opportunity to have a significant positive impact beyond our own operations, creating new sources of Sustainable Value for GOJO, our customers, people who rely on our well-being solutions to help them stay healthy, our suppliers, our team members, our collaboration partners, and our community.

It's for that reason that we have publicly committed to advancing our strategic priorities, along with our 2020 Goals. As we work toward 2020, we have aligned ourselves with the United Nations' Sustainable Development Goals (SDGs), which are designed to address the ways in which countries, companies, and citizens improve the lives of people around the world.

GOJO has formed an internal sustainable chemistry implementation team to focus on the chemical footprint reduction target. This team identifies projects to help the company review potential ingredients of concern and prioritize ingredients for reduction or substitution. Our 2016 progress reflects reductions of triclosan and parabens in existing products. We began phasing out triclosan as part of the implementation of our sustainable chemistry policy in 2013. During our involvement with the Chemical Footprint Project, we implemented additional projects to dramatically reduce parabens and titanium dioxide. We also devised internal communication tools to ensure Enterprise-wide awareness of our Footprint reduction efforts and to avoid using these ingredients in new products. We use informed substitution to guide our selection of ingredients in a manner that improves the human and environmental safety of our products without compromising their function.

GOJO was an early participant in the Chemical Footprint Project, responding to the 2014 pilot, and to the 2015 and 2016 Surveys. Completing the Surveys has provided a helpful framework to evaluate our chemical use, implement our sustainable chemistry policy, and ultimately declare our 2020 goal to reduce our chemical footprint by 50 percent.

This is an exciting time of growth and opportunity at GOJO, and our Purpose remains at the center of everything we do.

Nicole Koharik
Corporate Communications Director





1. “SVHCs” Pathway: report on use of REACH Candidate List of Substances of Very High Concern (SVHCs)—the Candidate List included 169 chemicals at the time of the release of the CFP Survey in September 2016;
2. “CoHCs” Pathway: report on use of CFP’s Chemicals of High Concern (CoHCs) List—the CFP CoHCs list (which is based on GreenScreen® List Translator) included roughly 2,200 chemicals and chemical groups (including the SVHC list); and
3. “No Data” Pathway: no report of baseline footprint because the company does not currently collect or have in hand that data.

Within both the SVHCs and CoHCs Pathways companies had three options for reporting data: a) products do not contain SVHCs/CoHCs; b) calculate SVHCs/CoHCs based on number of those chemicals in products (for example, our products contained 12 CoHCs); and c) calculate SVHCs/CoHCs based on mass of those chemicals in products (for example, our products contained 1,252 metric tons of CoHCs). Twenty five percent of the companies chose the SVHCs Pathway, 37.5% of the companies chose the CoHCs Pathway, and the remaining 37.5% of companies did not report data (the No Data Pathway).

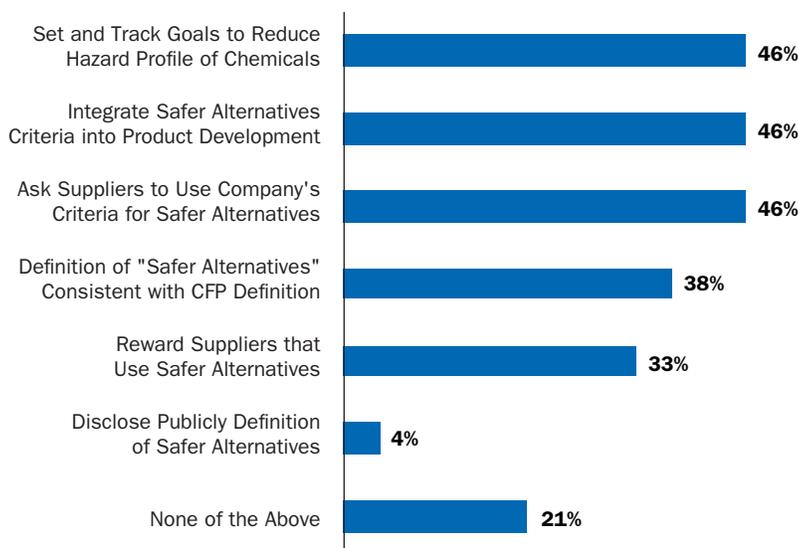
In the 2016 Survey, 42% of the companies calculated their chemical footprint on the basis of SVHCs or CoHCs (by count or mass). By count, the number of SVHCs in products ranged from one to 13 and the number of CoHCs in products ranged from one to 632. And the 21% of companies that calculated their chemical footprint by mass shipped or sold products with 631 million pounds of CoHCs in 2015.

The companies that calculated their chemical footprints now have clear metrics for evaluating their progress to safer chemicals by reducing the number or mass of CoHCs in their products.

CoHCs Reduction (F3) evaluates whether companies reduced CoHCs over the past two years or do not use CoHCs. A highlight in the 2016 CFP Survey responses is that 13% of companies reduced their use of CoHCs in products by 416 million pounds over the past two years.

Hazard Assessment (F4) evaluates whether companies assess the hazards of chemicals in their products and supply chains. In the 2016

FIGURE 23. **Footprint Measurement: Safer Alternatives (Indicator F5)** (percent of companies)



The 21% of companies that calculated their chemical footprint by mass shipped or sold products with 631 million pounds of CoHCs in 2015.

(Revised 10/26/17)

responses, 83% of companies either evaluate chemical hazards or require suppliers to provide hazard evaluations, with the remaining 17% of companies not assessing the hazards of chemicals in their products beyond regulatory requirements. The reporting companies use a mixture of methods, tools, and databases to evaluate hazards, including: [3E Ariel WebInsight](#), [Actio Material Disclosure](#), [GreenScreen® for Safer Chemicals](#), [Pharos](#), [SciVeraLENS](#), [toxnot](#), and [UL WerCS](#).

Safer Alternatives (F5) evaluates how companies assess whether alternatives to CoHCs are safer for people and the planet. The majority of companies (58%) reported having two or more approaches for advancing safer chemicals in products and supply chains, with many specifying criteria for safer alternatives and communicating them to suppliers. Only 21% of companies have no activities for evaluating whether alternatives are safer (see Figure 23).

13% of companies reduced their use of CoHCs in products by 94,418 metric tons over the past two years.

Footprint Measurement Leaders

The top quartile of eight companies averaged 77% of total potential points with one company scoring 100% of possible points. The leading companies in Footprint Measurement tend to be small companies selling formulated products—they have corporate missions to use safer chemicals and smaller product portfolios. Two of the eight leaders in Footprint Measurement are large companies and two of the eight leaders sell only articles. The eight leadership companies in Footprint Measurement scored highest for Hazard Assessment (F4) with an average score of 89%, followed by: CoHCs Goal (F1)—75% of possible points, Baseline Footprint (F2)—78% of possible points, CoHCs Reduction (F3)—72% of possible points, and Safer Alternatives (F5)—69% of possible points.

All the leadership companies in the Footprint Measurement Pillar either had no SVHCs or CoHCs in their products, or were able to calculate the mass of CoHCs in their products (F2). Additionally, some of the companies were able to

calculate reductions in the mass of CoHCs as well (F3).

One leadership company measured its footprint for articles by:

- Creating product content models for representative products from each family based on a combination of engineering drawings and specifications, safety data sheets, technical data sheets, disclosures, declarations, product teardowns, analytical testing, material database, literature search, and subject matter expertise. Based on this analysis, this firm identified greater than 95% of the chemical ingredient information for these products.
- Taking into account product attributes that are important for identifying CoHCs, including product size, number of components, and weight of plastics and metals.
- Adjusting metrics for different products.
- Completing this work for representative products that cover 90% of its products by sales volume for products.

The leadership companies in the Footprint Measurement Pillar led on safer alternatives (F5) by either having no CoHCs in their products or scoring points for three or more of the approaches for identifying safer alternatives.

Footprint Measurement Scores by Product Type and Company Size

The leading companies by size in Footprint Measurement were small companies selling formulated products, with an average score of 70% of possible points. Interestingly, large companies selling formulated products and articles scored similarly, 56% and 52%, respectively (see Figure 24).

Among the **companies selling formulated products** (only formulated products or both formulated products and articles), small companies scored higher than large companies on every Footprint Measurement Indicator. Small companies selling formulated products scored in the fourth and top quintiles for every Footprint Measurement Indicator, while large companies selling formulated products scored in the second to fourth quintiles, with average scores highest for Hazard Assessment (F4) and Safer Alternatives (F5), and lowest for CoHCs Reduction (F3) (see Figure 25).

FIGURE 24. **Footprint Measurement: All Indicators—Product Type and Company Size** (average percent of points)

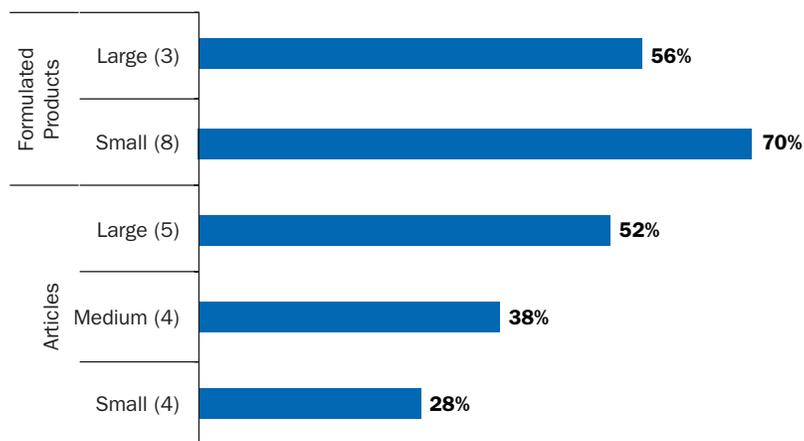


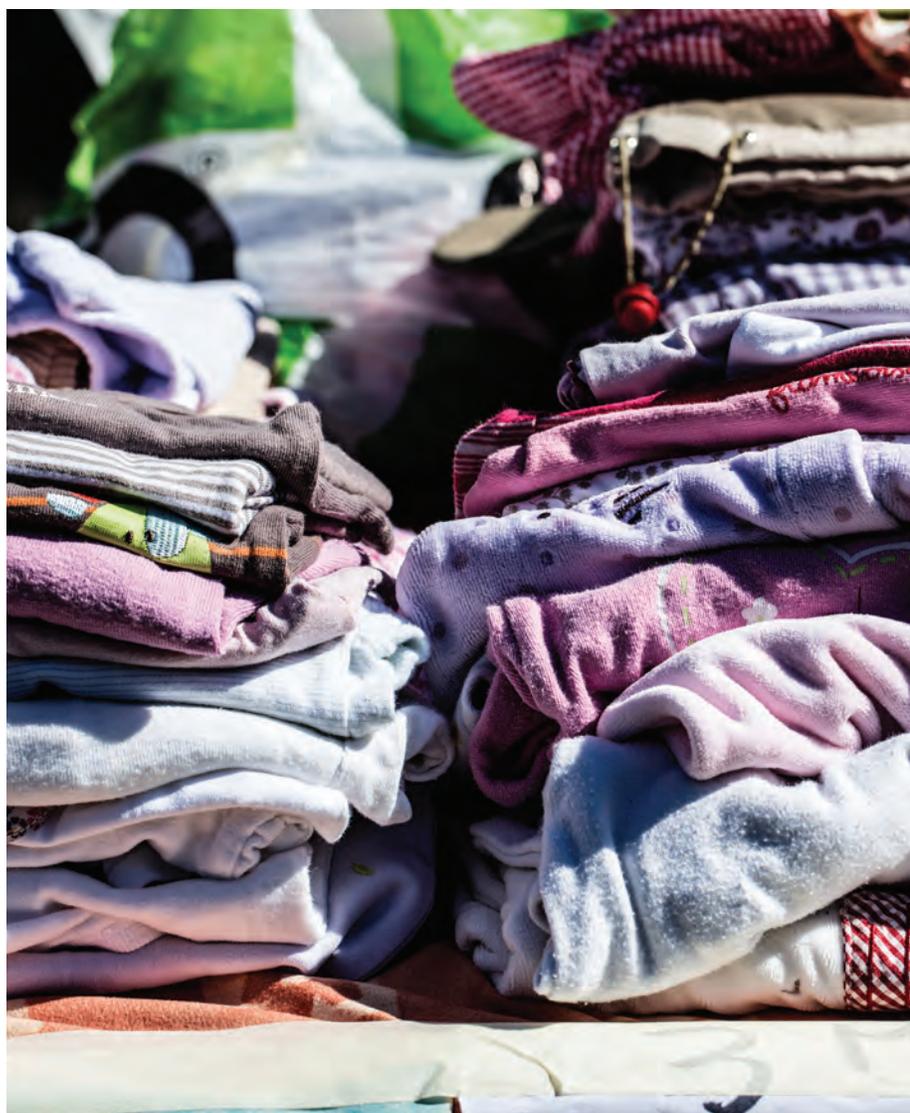
FIGURE 25. **Footprint Measurement: Each Indicator—Small and Large Companies Selling Formulated Products** (average percent of points) (Revised 10/26/17)

Footprint Measurement Indicators	Small and Large Companies Selling Formulated Products (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
CoHCs Goals (F1)	Small – 72%				
	Large – 58%				
Baseline Footprint (F2)	Small – 66%				
	Large – 58%				
CoHCs Reduction (F3)	Small – 67%				
	Large – 33%				
Hazard Assessment (F4)	Small – 88%				
	Large – 67%				
Responsibilities & Incentives (F5)	Small – 63%				
	Large – 61%				

The data indicate that small companies with their smaller product portfolio and mission alignment to safer chemicals may find it comparatively easier to establish a Baseline Footprint, set and implement goals, and evaluate chemical hazards.

For **companies selling only articles**, the dominant pattern of large companies leading, followed by medium and then small companies, held for the Footprint Measurement Indicators. Figure 26 reveals the pattern and its divergences across the Footprint Measurement Indicators. Outside of Hazard Assessment (F4), the highest quintile attained by sellers of articles was large companies reaching the fourth quintile for CoHCs Goals (F1). Medium and small size companies clustered in the first and second quintiles for CoHCs Goals (F1), Baseline Footprint (F2), and CoHCs Reduction (F3). Companies of all sizes (for sellers of articles) clustered together in the upper second quintile and lower third quintile for Safer Alternatives (F5).

Participating companies of all sizes that sell articles find it challenging to reduce CoHCs, implement safer alternatives, and measure their baseline footprint. Small and medium size companies selling articles are just beginning on the journey to measure and reduce CoHCs in their products.



Footprint Measurement— Opportunities for Improvement

Companies can improve their Footprint Measurement by:

- Specifying the avoidance of CoHCs in the product design and development process.
- Setting goals and reporting progress in reducing CoHCs.
- Systematically collecting data on CoHCs in products.
- Using the baseline data on CoHCs in products (F2) to document progress to safer chemicals (F3).
- Developing initiatives to engage suppliers in identifying and implementing safer

alternatives (F5), including: developing a clear definition of safer alternatives and making it public, rewarding suppliers that use safer alternatives, and integrating safer alternatives criteria into product design.

Companies selling articles were generally challenged by the Footprint Measurement Indicators, with the exception of Hazard Assessment. Creating goals, measuring baseline footprint, reducing CoHCs, and encouraging safer alternatives are all opportunities for improvement for companies that produce and sell articles.

FIGURE 26. **Footprint Measurement: Each Indicator—Small, Medium, and Large Companies Selling only Articles** (average percent of points)

Footnote Measurement Indicators	Small, Medium, and Large Companies Selling Only Articles (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
CoHCs Goals (F1)	Small – 25%				
	Medium – 25%				
	Large – 65%				
Baseline Footprint (F2)	Small – 6%				
	Medium – 31%				
	Large – 35%				
CoHCs Reduction (F3)	Small – 8%				
	Medium – 17%				
	Large – 27%				
Hazard Assessment (F4)	Small – 75%				
	Medium – 75%				
	Large – 100%				
Safer Alternatives (F5)	Small – 33%				
	Medium – 42%				
	Large – 43%				



2.4 DISCLOSURE & VERIFICATION

Leadership with Transparency

The Disclosure & Verification Indicators evaluate the sharing of information on chemicals in products with the public, the disclosure of responses and scores for the CFP Survey, and steps taken to verify answers to the CFP Survey. Companies show leadership in Disclosure & Verification by being transparent to the public and providing third-party verification of responses.

Disclosure & Verification Indicators

Trust is a critical component of a healthy corporate reputation. Firms generate trust through a variety of attributes including their demonstration of: vision and leadership, social and environmental responsibility, quality products and services, healthy workplace environment, and financial performance. Companies engender trust by disclosing information about their policies and practices in a variety of realms. Often this information is provided in an annual corporate social responsibility report. In addition to annual reporting, many companies share information about their policies on websites and information about chemical ingredients in products on websites and packaging. Corporate transparency about chemicals generates trust as investors, customers, and the public understand where a firm is on its journey to safer chemicals. It also provides a means for deciding whether to invest in a company or purchase products based on their chemical content.

In comparison to the other CFP Pillars, companies received the lowest percent of possible points for the Disclosure & Verification Pillar, scoring an average of 20% of points, with a range of company scores from zero to 80% of possible points. Figure 27 details the average score as a percent of possible points for each Disclosure & Verification Indicator.

The **Chemicals in Product Disclosed (D1) Indicator** evaluates to what extent and for what percent of sales a company discloses chemical ingredients in products. As the Natural



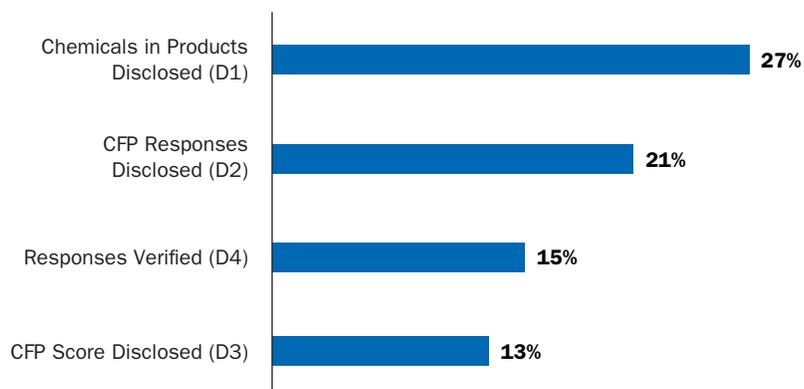
Disclosure & Verification Indicators (20 points)

- D1 – Chemicals in Products (8 points)
- D2 – CFP Responses (3 points)
- D3 – CFP Score (5 points)
- D4 – Responses Verified by Third Party (4 points)

Marketing Institute concluded in its annual state of sustainability report, “Demand for product transparency is on the rise, and brands that fulfill this demand by providing comprehensive product information from sourcing to manufacturing to ‘cause’ efforts are positioned to gain favor.”⁴⁴ The disclosure requirements in the CFP Survey vary depending on whether the company sells formulated products or articles, with the requirements for formulated products being more rigorous than for articles.

Companies selling formulated products—The 2016 CFP Survey differentiated between four levels of disclosure for companies selling formulated products: 1) no disclosure beyond legal requirements; 2) chemical identity beyond legal

FIGURE 27. **Disclosure & Verification: Each Indicator**
(average percent of points)



requirements; 3) all intentionally added chemicals with the exception of fragrances; and 4) all intentionally added chemicals. Of the companies selling formulated products, 36% disclose all intentionally added chemicals, 27% disclose all intentionally added chemicals except fragrances, 9% disclose some but not all chemicals beyond

For the 36% of companies disclosing all intentionally added chemicals, the majority provide that data for all of their products.

legal requirements, and 36% do not disclose beyond legal requirements. Note that since companies report the percent of products with disclosure, they can be listed in more than one disclosure level; for example, companies can disclose “all chemicals” for a percent of their products and disclose “all but fragrances” for another percent of their products. This is why the percentages for the disclosure levels listed above do not add up to 100%. For the 36% of companies disclosing all intentionally added chemicals, the majority provide that data for all of their products.

Companies selling articles—The 2016 CFP Survey differentiated between three levels of disclosure for companies selling articles: 1) no disclosure beyond legal requirements; 2) generic material content for greater than or equal to 95% by mass; and 3) chemical identity for greater than or equal to 95% by mass. Of the companies selling articles, 24% received points for disclosing generic material content (for example, polyester, steel, etc.); 18% received points for disclosing chemical ingredients by CAS number; and the majority do not disclose beyond legal requirements.

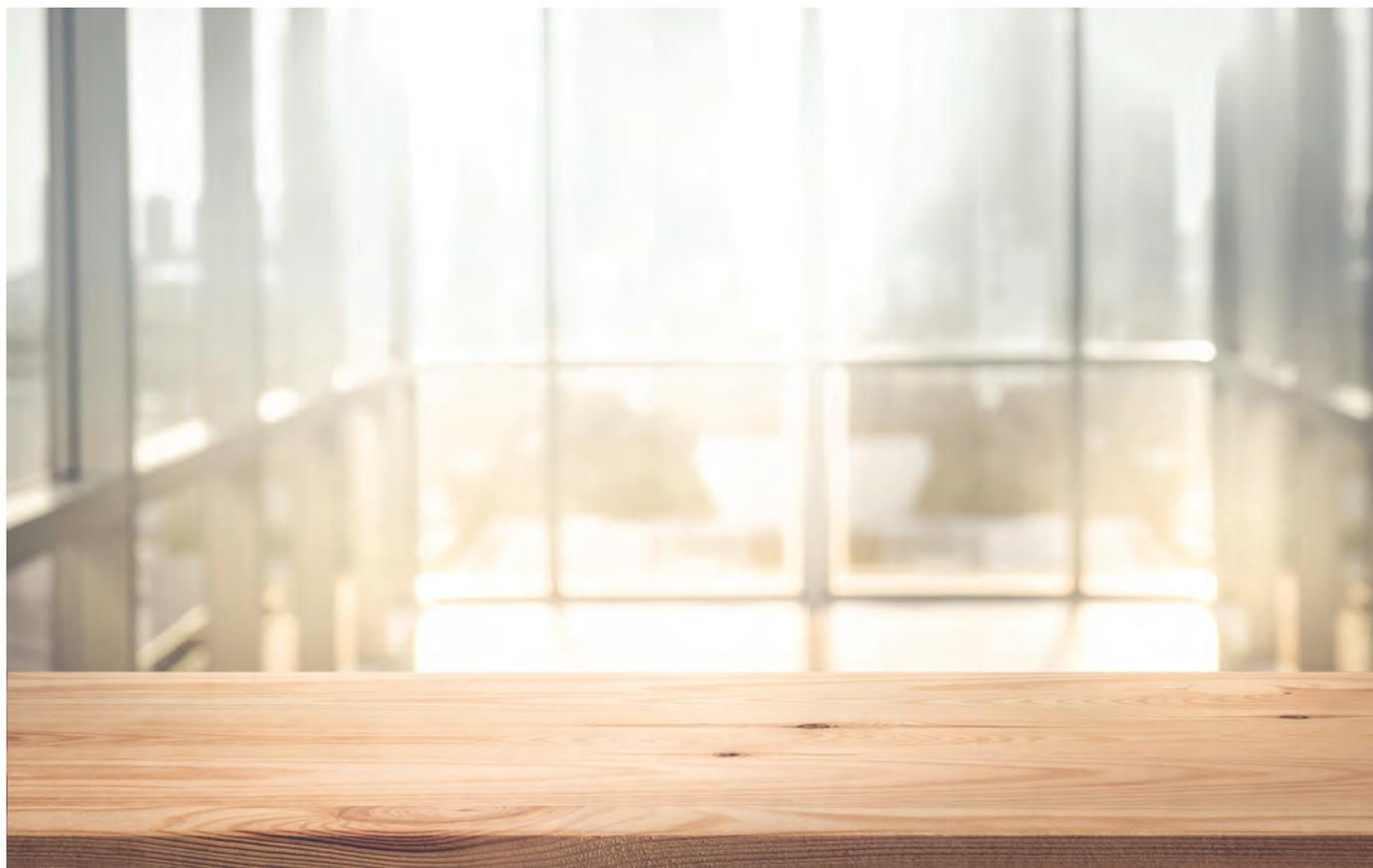
Disclosing CFP Responses (D2) and CFP Score (D3)—All companies are encouraged to participate in the CFP Survey to evaluate their company’s chemicals management systems. This self-assessment provides a valuable gap analysis for determining how to make needed improvements and can be done anonymously. CFP encourages participating companies to be transparent about their participation and awards additional points to those firms that agree to disclose their score and responses.

Figure 28 depicts five levels of transparency related to participation in the CFP Survey. At the base level are the companies that have yet to participate in the Survey. At the next level are companies that participated in the Survey, but did not make their names public. Two companies opted to take this option in the 2016 Survey. These companies have taken the first step of reporting to a common standard in regard to their chemical management policies and practices beyond regulatory compliance. At the next level are the 17 companies that publicly stated their participation in the Survey, but have not shared their CFP Survey answers or scores.

The five leaders in CFP Survey transparency are Beautycounter, BD, Case Medical, Inpro Corporation, and Replenish. They occupy the top two levels of Figure 28. Inpro Corporation and Replenish agreed to make their responses publicly available, but not their scores (Indicator D2). Beautycounter, Becton Dickinson, and Case Medical agreed to publicly share both their responses and scores (Indicator D3). As Ellen Kondracki of BD highlights in this section, “BD believes that being transparent about where we are on the journey is critical in open communications

FIGURE 28. **Disclosure & Verification: Levels of Transparency in CFP Participation**





to our customers and stakeholders. This is why we have made our responses and score to the CFP Survey public for 2016.” For a complete list of the companies that agreed to publicly state they participated in the 2016 Survey see the Executive Summary. Answers and scores can be found at www.chemicalfootprint.org.

Responses Verified by Third Party (D4)—The CFP Survey includes a question about third party verification to address stakeholder concerns about the veracity of self-assessment. The first step in verification of survey responses is the quality assurance and quality control review conducted by CFP staff. CFP conducts this evaluation based on information provided by companies as well as by reviewing publicly available information. Participating companies can choose to have their answers independently verified and receive additional points for this action. To receive points for D4, a company must attach an assurance statement from an independent third party verifying the authenticity for each response option for which it claimed credit. The

The top quartile of eight companies averaged 46% of possible points with the highest scoring company achieving 80% of possible points.

verification must clearly relate to each response option in the CFP Survey. Of the 29% of companies that had their answers verified: 17% had two to four responses verified; 4% had at least eight responses verified; and 8% had all of their responses verified by outside consultants.

Disclosure & Verification Leaders

The top quartile of eight companies averaged 46% of possible points with the highest scoring company achieving 80% of possible points. Included in the top quartile are small and large companies selling only articles or formulated



Among the companies selling formulated products, small companies scored consistently higher than large companies on the Disclosure & Verification Indicators.

products from a range of sectors, including medical devices, household and personal products, and electronics. The majority of leading companies in Disclosure & Verification are small companies selling formulated products. These companies have smaller product portfolios and in general their corporate missions include an emphasis on transparency. Two of the eight leaders in Disclosure & Verification are large companies that sell only articles.

The eight leadership companies in Disclosure & Verification scored significantly higher than

the average for this Pillar. The leaders averaged 46% of possible points compared to the Disclosure & Verification Pillar average of 20% of possible points. Leaders led by disclosing Chemicals in Products (D1) and disclosing CFP Responses (D2)—averaging 63% of possible points for both Indicators, followed by disclosing CFP Score (D3)—38%, and having Responses Verified by Third Party (D4)—13% of possible points.

Disclosure & Verification Scores by Product Type and Company Size

Small sellers of formulated products scored higher than large sellers of formulated products for the Disclosure & Verification Indicators, while large sellers of articles scored incrementally better than small sellers of articles (see Figure 29).

Among the **companies selling formulated products** (either only formulated products or both formulated products and articles), small companies scored consistently higher than large companies on the Disclosure & Verification

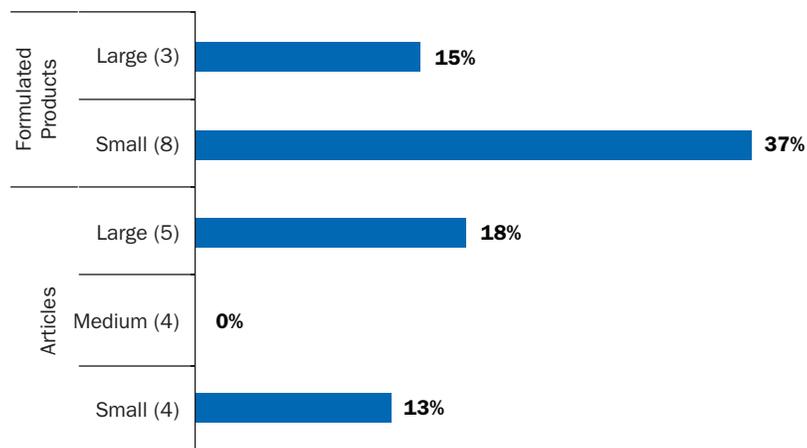


Indicators. Figure 30 details the percent of points scored by companies by size (small and large – the Survey did not have any medium size formulated product companies) across the four individual and overall Disclosure & Verification Indicators.

Small companies selling formulated products are much more transparent about chemicals in products (D1), as well as more willing to disclose their CFP Responses (D2) and Scores (D3), than larger companies selling formulated products. Only for the Verification Indicator did large companies outscore the small companies selling formulated products. This result indicates that the larger companies are more able to expend resources to verify their scores.

For companies selling only articles, the dominant pattern for Disclosure & Verification is that large and small companies scored similarly overall, with medium companies scoring zero points. Figure 31 details that dominant pattern and its divergences across the Disclosure & Verification Indicators. Both small and large companies scored similarly for Chemicals in Products (D1), CFP Responses (D2), and Verification (D4). Only for disclosing CFP Score did large companies score noticeably higher, with no small sellers of articles disclosing their score. Participating companies that are medium size and sell articles are not disclosing chemicals in products to the public at any level, nor were they willing to share their CFP Responses and Scores with the public.

FIGURE 29. **Disclosure & Verification: All Indicators—Product Type and Company Size** (average percent of points)



Disclosure & Verification Opportunities

Companies have ample opportunities for increasing engagement with their stakeholders through greater disclosure of their chemicals management practices. Companies can improve Disclosure & Verification by:

- Publicly disclosing chemicals in products beyond regulatory requirements. In particular, sellers of articles and large sellers of formulated products have room for growth in greater sharing of chemical ingredient information.
- Making CFP answers and scores available to the public. This could be an “easy” path for

FIGURE 30. **Disclosure & Verification: Each Indicator—Small and Large Companies Selling Formulated Products** (average percent of points)

Disclosure & Verification Indicators	Small and Large Companies Selling Formulated Products (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
Chemicals in Products (D1)	Small – 52%				
	Large – 17%				
CFP Response (D2)	Small – 38%				
	Large – 0%				
CFP Score (D3)	Small – 25%				
	Large – 0%				
Responses Verified (D4)	Small – 22%				
	Large – 42%				
Average of All Four Indicators	Small – 37%				
	Large – 15%				

Becton Dickinson and Co.'s Commitment to Chemical Safety

Our pledge to “helping all people live healthy lives” has inspired us to help address social and environmental challenges. This isn't just the “right” thing to do; it's much more than that. We believe it's key to the future of our business.

For example, we see the need to minimize the use of hazardous materials in our processes and products. Among our 2020 sustainability goals launched in July 2015, we set goals to eliminate priority materials of concern in each of the following product categories:

- Devices: PVC and Phthalates
- Instruments: Phthalates, Brominated Flame Retardants (BFRs) and Heavy Metals
- Packaging: PVC and Expanded Polystyrene

Toward this end, in 2015, BD Intima II PLUS was launched for the Chinese market. It meets basic requirements for infusion and meets additional requirements for pediatric, gynecology, oncology, CT and specialty infusion processes. The new product is made from polyurethane, replacing DEHP-plasticized PVC that was used in the previous version of the product.

BD maintains a Materials of Concern list, which includes legally restricted or reportable chemicals, as well as additional substances added by BD such as PVC, latex and BPA. A decision to place a chemical on the list, beyond a legal requirement, is made by BD's Chemical Review Board. The decision is based on the level of stakeholder interest combined with overall impact on our enterprise-wide portfolio.

To collect information on chemicals in products from our suppliers, we have developed a web-based communication tool and database called Material Disclosure. BD's preferred approach is for suppliers to provide full material disclosure. In the long term, this eases the reporting burden on our suppliers, as only changes to the supplied material need to be communicated.

During 2016, BD funded a project to upgrade and implement a comprehensive supplier collaboration platform with automatic verification of chemical presence for all its purchased materials. This new platform will be linked to BD's global ERP system and will feed chemical data and risk attributes into BD's Global Specification database, housed within the ERP. This tool will allow engineers to identify potential chemicals of concern early in the development cycle and find safer alternatives if available. The new tool is being implemented to be fully operational at the end of 2017. BD has produced a guidance document to help our suppliers fulfill requirements for material disclosure. Additionally, we have developed a code of conduct for our suppliers, available in 12 languages. We expect all suppliers to review and acknowledge the code of conduct, and we hold a host of activities to connect and educate them.

BD makes our chemical policy, reduction goals, progress reports, and Materials of Concern list publicly available on its website, along with our documentation for suppliers. BD believes that being transparent about where we are on the journey is critical in open communications to our customers and stakeholders. This is why we have made our responses and score to the CFP Survey public for 2016.

At BD, we have the unique opportunity to fulfill our life's work through our work life, and we take seriously our ability to serve unmet societal needs through business models and initiatives that also contribute to our commercial success. We will continue our unwavering support to make a difference—not just for our shareholders, but for the world as a whole.

Ellen Kondracki
Senior Director, Global Sustainability





FIGURE 31. **Disclosure & Verification: Each Indicator—Small, Medium, and Large Companies Selling Only Articles** (average percent of points)

Disclosure & Verification Indicators	Small, Medium, and Large Companies Selling Only Articles (average percent of points)				
	0–20%	> 20–40%	> 40–60%	> 60–80%	> 80–100%
Chemicals in Products (D1)	Small – 20%				
	Medium – 0%				
	Large – 23%				
CFP Response (D2)	Small – 25%				
	Medium – 0%				
	Large – 20%				
CFP Score (D3)	Small – 0%				
	Medium – 0%				
	Large – 20%				
Responses Verified (D4)	Small – 6%				
	Medium – 0%				
	Large – 5%				
Average of All Four Indicators	Small – 13%				
	Medium – 0%				
	Large – 18%				

companies to increase their Disclosure & Verification Score, but it will require participating companies to develop comfort with a greater level of transparency. For medium and large companies, it will require a greater willingness to use CFP as a tool to assist with the journey to environmentally sound management and to accept that the demand for greater transparency and engagement among investors and institutional customers requires increased sharing of information.

- Seeking third-party verification of responses. CFP will invest resources over the next several years to improve the capacity of organizations to verify CFP Responses.

Transparency continues to be the one of most challenging aspect of environmentally sound chemicals management. Many corporations are

Transparency continues to be the one of most challenging aspect of environmentally sound chemicals management. Many corporations are reluctant to be fully open about chemicals management.

reluctant to be fully open about chemicals management. This approach runs counter to growing demands for greater transparency from investors, institutional purchasers, and individual consumers. Leading businesses are learning how to provide more information to these audiences as they work to continuously improve their chemicals management systems.