CHEMICAL FOOTPRINT PROJECT

Frontrunners take the lead in reducing chemical footprints & growing safer solutions

7TH CFP REPORT

CLEAN PRODUCTION ACTION

Frontrunners take the lead in reducing chemical footprints & growing safer solutions:

7th Chemical Footprint Project Report — 2023 Survey Results

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cfp the chemical footprint project

The Chemical Footprint Project (CFP), a program of Clean Production Action, is the first-of-its-kind initiative to measure chemical footprints and assess corporate progress away from hazardous chemicals to safer alternatives. Now companies can chart and report on their progress in reducing hazardous chemicals to a common framework. Signatories to the Chemical Footprint Project include investors with over $3 trillion in assets under management and purchasers with over $1 trillion in procurement power. Together with these supporters we engage brands in assessing and reporting their chemicals management policies, procedures, and practices through the annual CFP Survey. Founded by Clean Production Action, Lowell Center for Sustainable Production at the University of Massachusetts Lowell, and Pure Strategies in 2014, CFP is now a program of Clean Production Action.

cpa Clean Production Action

Clean Production Action's mission is to design and deliver strategic solutions for green chemicals, sustainable materials, and environmentally preferable products. We are a solutions organization. Our tools, GreenScreen® for Safer Chemicals and Chemical Footprint Project, simplify the complexity of substituting chemicals of concern to human health and the environment with green chemistry solutions. Our collaborations, BizNGO and Investor Environmental Health Network, provide effective platforms for practitioners and thought leaders to work together in advancing chemicals, materials, products, and systems that are healthy for people and the planet. Together our tools and collaborations are transforming the toxic chemical economy into one that is healthy for people and the planet.

CONTENTS

WELCOME

Welcome to the 7th Chemical Footprint Project (CFP) report.

The Chemical Footprint Project is a worldwide initiative of Clean Production Action, a civil society organization, that advances business movement away from chemicals of high concern (CoHCs) towards safer solutions. The 7th CFP Report combines emerging trends in the chemical footprint approach with data evaluation of business responses to the 2023 CFP Survey to arrive at the following six key takeaways in chemicals management leadership.

SIX KEY TAKEAWAYS IN CHEMICALS MANAGEMENT LEADERSHIP

1.

- **USE THE CHEMICAL FOOTPRINT APPROACH TO ADDRESS CHEMICAL POLLUTION:** A global trend captured in the recently adopted United Nations Global Framework on Chemicals is the importance of reducing hazardous chemicals because **chemical pollution is one of the triple planetary crises along with climate change and biodiversity loss.**

2.

- **KNOW YOUR CHEMICAL FOOTPRINT:** Hazardous chemicals in products, manufacturing operations, and packaging are part of a company's chemical footprint. To know its chemical footprint, a company must know the chemicals in its products and know which of those chemicals are hazardous. **The recently released CFP Chemicals of High Concern (CoHCs) Reference List v.3.0 is a comprehensive list of over 55,000 hazardous chemicals,** including PFAS and other chemical classes, and is a valuable resource for knowing your chemical footprint.

3.

- **BE A FRONTRUNNER: Clorox, Ecolab, Grove Collaborative, Walmart, and Whole Foods Market are the latest companies to achieve the CFP Frontrunner award** based on their scores in the 2023 CFP Survey. They join the returning Frontrunners of Beautycounter, Case Medical, HP, Humanscale, MillerKnoll, Naturepedic, and Reckitt. Frontrunners demonstrate leadership across the four pillars of the chemical footprint approach: Management Strategy, Chemical Inventory, Footprint Measurement, and Disclosure and Verification.

In this report, you will find:

- Letter from the ESG investment firm, Boston Common Asset Management.
- List of the CFP Signatories — organizations that support the chemical footprint approach.
- List of the companies that participated in the CFP 2023 Survey.
- Results from the CFP 2023 Survey.
- In-depth discussion of the six key takeaways.
- How to join the chemical footprint reduction movement.

The convergence of consumer, investor, regulatory and policy pressures, along with the potential for risk mitigation and market differentiation, make it an opportune time for companies to act on reducing their chemical footprints. Using a chemical footprint approach can drive innovation, improve public health and environmental outcomes, and position companies as leaders in sustainability.

4. **REDUCE YOUR CHEMICAL FOOTPRINT:** Frontrunners know their chemical footprint, set goals to reduce their footprint, and track progress towards their goals. **Responders to the 2023 Survey reported reducing their use of CoHCs in products by 132.9 million pounds (60.3 million kilograms) — a weight equivalent to 226 Airbus A380s (the world's largest passenger aircraft)**.

5. **GROW SAFER SOLUTIONS: Frontrunners utilize third party certifications with robust chemical hazard evaluation criteria (e.g., GreenScreen Certified® and US EPA Safer Choice) as well as chemical hazard assessment methodologies such as GreenScreen® for Safer Chemicals** to verify that alternatives to CoHCs are indeed safer.

6. **SHARE YOUR JOURNEY: Disclosure Leaders publicly share their journey** away from hazardous chemicals to safer solutions. **The companies recognized as Disclosure Leaders from the 2023 Survey are: BD, Beautycounter, Case Medical, GOJO Industries, Grove Collaborative, HP, Humanscale, MillerKnoll, Naturepedic, Radio Flyer, Rite Aid, Walmart, and Whole Foods Market.**

Boston Common Asset Management

Boston Common Asset Management

Signatory

cfp

AS AN ESG-INTEGRATED INVESTOR AND LEADER IN GLOBAL SHAREHOLDER ENGAGEMENT, CHEMICALS MANAGEMENT IS INTEGRAL TO BOSTON COMMON'S APPROACH TO INVESTING AND ENGAGING.

The risks of inadequate chemicals management, particularly regulatory, litigation, and reputational risks, are too costly for companies and investors to ignore. The public today is well aware of unsafe chemicals and their profound impact on human health and the environment. In fact, a recent global survey shows customers are overwhelmingly in favor of reducing plastics in packaging and eliminating unsafe chemicals in products. This growing desire for safer, more sustainable products is a potential long-term demand driver. We see opportunities to address this demand with reformulations and green chemistry solutions that impact product functionality (improved safety characteristics), performance (equal to or better than petroleum-based counterparts), and price (younger households spend >10% of annual income on products with sustainability attributes, encouraging producers to increase volumes and thus improve cost parity).

Since its launch, The Chemical Footprint Project (CFP) has filled a significant gap in corporate evaluation, measurement, accounting, and disclosure of unsafe chemicals throughout the value chain. Companies can use the CFP framework as a self-assessment tool and evaluate their preparedness to effectively equip their organization, suppliers, and customers to navigate fast-paced regulatory and market changes. The framework stimulates critical conversations, helps establish baselines of chemicals used, and facilitates the collection of supply chain data and the exploration of safer alternatives. We believe that providing this information to corporate purchasing teams and the broader market, including shareholders, insulates companies against risk, ensures competitiveness, and helps address the social and environmental inequalities arising from the use of unsafe chemicals. This is the CFP's unique value proposition.

We believe strong chemicals management will emerge as a critical driver of company growth. Through our focus on "Climate Change and Earth Renewal," a core investment pillar, we seek to identify and invest in corporate leaders in green product innovation, ingredient transparency, and product reformulation. By allocating capital to and actively engaging with these companies, we are investing in producers of non-toxic products that support the green transition, net-zero commitments, nature-positive solutions, and circular economy objectives. The CFP framework is an essential tool in making these efforts possible.

Boston Common celebrates this year's CFP annual survey results and congratulates the companies that participated. We remain committed to the CFP and will continue encouraging our portfolio companies to integrate its framework into chemicals management strategies and reporting.

Constantina Bichta (she/her/hers), Ph.D.
Associate Director of ESG Research
Boston Common Asset Management | Boston, MA

We seek to identify and invest in corporate leaders in green product innovation, ingredient transparency, and product reformulation … The CFP framework is an essential tool in making these efforts possible"

— Dr. Constantina Bichta

CFP SIGNATORIES

Investors, retailers, health care organizations, non-governmental organizations (NGOs), and governments want to know where companies are on their chemicals management journey. Signatories to CFP encourage companies in their sphere of influence to reduce their chemical footprint, grow safer solutions, participate in the CFP Survey, and provide feedback to Clean Production Action on how to improve the Survey. By becoming a Signatory, organizations drive meaningful change in chemicals management practices and unlock valuable benchmarking data that highlights performance and identifies opportunities for improvement.

BECOME A SIGNATORY...

Join the CFP by becoming a signatory. Visit chemicalfootprint.org/value/be-a-signatory for more information.

Health Care, Retail, & NGO Signatories: $1 trillion in procurement power

American Sustainable Business Network
Blue Cross Blue Shield of Massachusetts
ChemSec
CIS Center
CommonSpirit Health
Credo Beauty
CVS Health
Dollar General
Dollar Tree
Edward-Elmhurst Healthcare
Environmental Defense Fund
Fairview Health Services
Geisinger Health System
Hackensack Meridian Health
Inova Health Systems
Interfaith Center on Corporate Responsibility (ICCR)
Kaiser Permanente
Mind the Store Campaign
Partners Healthcare
Premier, Inc.
Rite Aid
SAHTECH
Safer Chemicals Healthy Families
Safety Assessment Solution Co., Ltd.
San Francisco Department of Environment
St. Joseph Health
Staples
Target Corporation
The Rose Foundation for Communities and the Environment
Trinity Health
University of Cantabria
University Hospitals
Vizient, Inc.
Walmart
Whole Foods Market
Zero Discharge of Hazardous Chemicals (ZDHC)

Investor Signatories: $3 trillion in assets under management

Adrian Dominican Sisters
Advocate Health Care
Anne Arundel Medical Group
Arjuna Capital
As You Sow Foundation
Athens Impact Socially Responsible Investments
Australian Ethical Investment
Aviva Investors
Bank J. Safra Sarasin Ltd.
Boston Common Asset Management
Calvert Research & Management
Carnegie Investment Counsel
Christopher Reynolds Foundation
Clean Yield Asset Management
Daughters of Charity, Province of St. Louise
Domini Impact Investments
Dominican Sisters of Hope
Everence and the Praxis Mutual Funds
Figure 8 Investment Strategies
First Affirmative Financial Network
Green Century Capital Management
Harrington Investments
Impax Asset Management
Investor Voice
JLens Investor Network
Legal & General Investment Management
Maryknoll Sisters
Mercy Health
Mercy Investment Services
Miller/Howard Investments
Natural Investments
Newground Social Investment
NorthStar Asset Management
Northwest Coalition for Responsible Investment
Parnassus Investments
Rhode Island Treasury
Signity Financial
Sisters of St. Francis of Philadelphia
Sonen Capital
The Sustainability Group of Loring, Wolcott and Coolidge
Trillium Asset Management
UBS Asset Management
Ursuline Sisters of Tildonk
Walden Asset Management
WHEB Asset Management
Zevin Asset Management

INVESTOR SIGNATORIES REPRESENT OVER $3 TRILLION IN ASSETS UNDER MANAGEMENT AND HEALTH CARE, RETAIL, & NGO SIGNATORIES REPRESENT OVER $1 TRILLION IN PURCHASING POWER.

CFP RESPONDERS TO THE 2023 SURVEY:

$1.2 TRILLION IN ANNUAL REVENUE

Leading businesses across six industry sectors with over $1.2 trillion in annual revenue participated in the 2023 CFP Survey.[1] Businesses voluntarily participate in the CFP Survey, which means they share their answers to the Survey with the non-profit organization, Clean Production Action, which assesses their responses and scores their answers according to the CFP Survey scoring rubric.[2] **See Box 1 below for the six industry sectors represented in the CFP 2023 Survey: 1) household and personal products; 2) retail; 3) building products and furnishings; 4) toys; 5) medical equipment and supplies; and 6) electronics**.

As regulations and market pressures grow, the CFP Survey is a vital tool for companies aiming to demonstrate leadership in their journey to products with safer chemicals and materials, and to meet stakeholder demands for transparency. In 2023, three new companies joined the list of CFP Responders: Dollar General, The Walt Disney Company, and an anonymous company. Twelve companies received the Frontrunner award and 13 companies received the Disclosure Leader award (see below).

6 SECTORS

Businesses that participated in the CFP 2023 Survey by industry sector

BUILDING PRODUCTS & FURNISHINGS

- Humanscale (Frontrunner, Disclosure Leader)
- MillerKnoll (Frontrunner, Disclosure Leader)
- Naturepedic (Frontrunner, Disclosure Leader)

HOUSEHOLD & PERSONAL PRODUCTS

- Beautycounter (Frontrunner, Disclosure Leader)
- Clorox (Frontrunner)
- Colgate-Palmolive
- Ecolab (Frontrunner)
- Grove Collaborative (Frontrunner, Disclosure Leader)
- GOJO Industries, Inc. (Frontrunner, Disclosure Leader)
- Procter & Gamble
- Reckitt (Frontrunner)

MEDICAL EQUIPMENT & SUPPLIES

- Becton, Dickinson and Company (BD) (Disclosure Leader)
- Case Medical (Frontrunner, Disclosure Leader)

RETAIL

- Dollar General (new)
- Dollar Tree
- Rite Aid (Frontrunner)
- Target
- Walmart (Frontrunner, Disclosure Leader)
- Whole Foods Market (Frontrunner, Disclosure Leader)

ELECTRONICS

- Anonymous (new)
- HP Inc. (Frontrunner, Disclosure Leader)

TOYS

- Hasbro
- Radio Flyer (Disclosure Leader)
- The Walt Disney Company

Frontrunner
Disclosure Leader
new New Responder to the Survey in 2023

RESULTS FROM THE 2023 CFP SURVEY

THE CFP SURVEY:

- Provides a framework for benchmarking companies on their journey away from chemicals of high concern (CoHCs) to safer solutions.
- Allows companies to quantify their chemical footprint — use of chemicals of high concern (CoHCs) — and set footprint reduction goals. This creates a measurable target for transitioning to safer solutions.
- Encourages companies to incorporate hazard assessment methodologies like GreenScreen® for Safer Chemicals into their product development processes and adopt safer solutions. This helps identify safer chemical options early in the design phase.
- Assesses and rewards companies that have a chemicals management system beyond regulatory compliance and publicly share their progress.

RESULTS FROM THE 2023 CFP SURVEY

The CFP Survey assesses companies on their journey away from hazardous chemicals to safer solutions based on their performance across **CFP's four pillars of chemicals management: Chemical Inventory, Management Strategy, Footprint Measurement, and Disclosure and Verification**. In 2023, companies had the option of participating in three different surveys: 1) chemicals in products — "product survey;" 2) chemicals used in manufacturing operations — "manufacturing survey;" and 3) chemicals in packaging — "packaging survey." The manufacturing and packaging surveys were pilot initiatives. Ninety six percent of respondents participated in the product survey, 17% participated in the manufacturing survey, and 13% participated in the packaging survey. The results presented in this 7th Report are from the product survey. **For details on the questions asked and definitions of terms in the CFP 2023 Product Survey see the 2023 guidance document**[3] **and scoring rubric.**[4]

Figure 1 includes the scores of all the Responders to the 2023 Product Survey. Each bar in Figure 1 represents one company and consists of four segments with each segment representing the score for each pillar: Chemical Inventory — maximum of 30 points; Management Strategy — maximum of 20 points; Footprint Measurement — maximum of 33 points; and Disclosure & Verification — maximum of 22 points. The total maximum score for the CFP Survey is 105 points. Figure 1 also highlights **three levels of performance in the CFP 2023 Product Survey: Frontrunners, Intermediates, and Beginners.** "Frontrunners" are companies with a score of greater than or equal to 80 points; "Intermediates" are companies with a score of greater than 40 or less than 80 points; and "Beginners" are companies with a score of less than or equal to 40 points. **Among all Responders in the CFP Product Survey, 52% were Frontrunners, 30% were Intermediates, and 17% were Beginners.**[5] For details on why Frontrunners scored high, see Takeaways #3–#5 below.

OUR 2023 FRONTRUNNER AWARD WINNERS

hp
reckitt
Grove COLLABORATIVE
NATUREPEDIC
Walmart
The Clorox Company
BEAUTYCOUNTER
MillerKnoll
Humanscale
ECOLAB
WHOLE FOODS MARKET
Case Medical

FIGURE 1.
CFP 2023 Product Survey: Survey scores of all Responders by pillar and key benchmarks

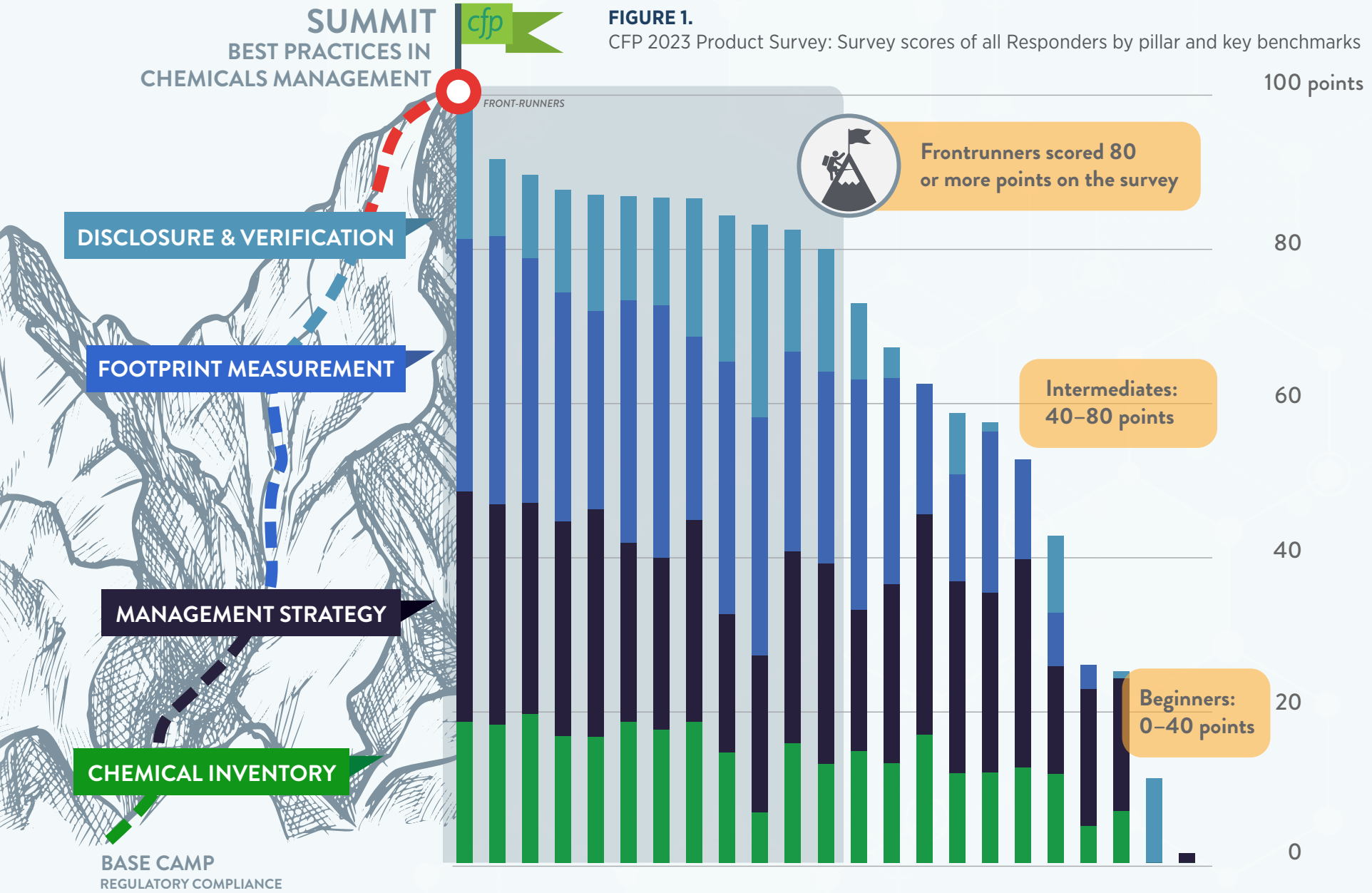


FIGURE 2. **Five essential steps in the chemical footprint approach**

2023 RESULTS

FIVE ESSENTIAL STEPS IN THE CHEMICAL FOOTPRINT APPROACH

In the 6th CFP Report[6] we highlighted five steps to best practices in chemical safety. These five steps are essential steps in the "chemical footprint approach" (see Figure 2), which gained international recognition in 2023 when the United Nations (UN) Global Framework on Chemicals integrated the concept into one of its targets for addressing the adverse impacts of chemical pollution:

> "Target D6 — By 2030, sustainable chemical and waste management strategies have been developed and implemented for major economic and industry sectors that identify priority chemicals of concern and establish standards and measures, such as the **chemical footprint approach** *[emphasis added]*, to reduce their impact and, where feasible, their input along the value chain."[14]

The results from the 2023 Survey reinforced the five essential steps to the chemical footprint approach depicted in Figure 2.

1.

RESTRICTED SUBSTANCES LIST (RSL) / MANUFACTURING RESTRICTED SUBSTANCES LIST (MRSL) First, start with a RSL or MRSL that goes beyond regulatory compliance. For examples of RSLs and MRSLs see the 6th CFP Report[7] as well as the Takeaways #3-#5 section below. In the CFP Survey, Question I1-RSL/MRSL asks if companies have an RSL or MRSL and Question I2-RSL/MRSL Compliance asks how they ensure supplier conformance to the RSL/MRSL. Figure 3, which depicts the percent of possible points scored by Beginners, Intermediates, and Frontrunners for each question in the Survey, reveals that **Question I1-RSL/MRSL is among the highest scoring questions for Intermediates and Frontrunners.**

2.

CHEMICAL INVENTORY Second, collect and manage data on chemicals contained in products and packaging, and used in manufacturing operations and supply chains. As Figure 4 shows, **Beginners and Intermediates scored the highest among the four chemicals management pillars on the Chemical Inventory Pillar** — reflecting that they start with knowledge when moving beyond regulatory compliance by identifying which chemicals are in their products, packaging, and/or manufacturing operations. For example, **Question I3-Data Collection was the highest scoring question for Beginners and among the highest scoring questions for Intermediates** as well as Frontrunners (see Figure 3). See Takeaway #2 below for more details on creating a chemical inventory.

3.

CHEMICALS POLICY The CFP Survey captures corporate-level governance indicators on chemicals management, such as Question M1-Chemicals Policy, in the Management Strategy Pillar. **Chemicals policies are essential to proactive chemicals management programs because they establish corporate-level engagement and support for minimizing chemicals of high concern (CoHCs) and using safer solutions.** For examples of chemicals policies, or materials policies that include addressing chemicals, see the 6th CFP Report, which highlighted HP's and Walmart's policies,[8] as well as Takeaways #3–#5 below.

The Management Strategy Pillar was the second highest scoring pillar for Beginners and Intermediates in the 2023 Survey (see Figure 4). This reflects the comparative ease of establishing governance structures as compared to making changes in products or manufacturing operations, which are captured in the Footprint Measurement Pillar.

FIGURE 3.
CFP 2023 Survey: Beginners, Intermediates, and Frontrunners
average scores for each question in the Survey (percent of possible points scored)

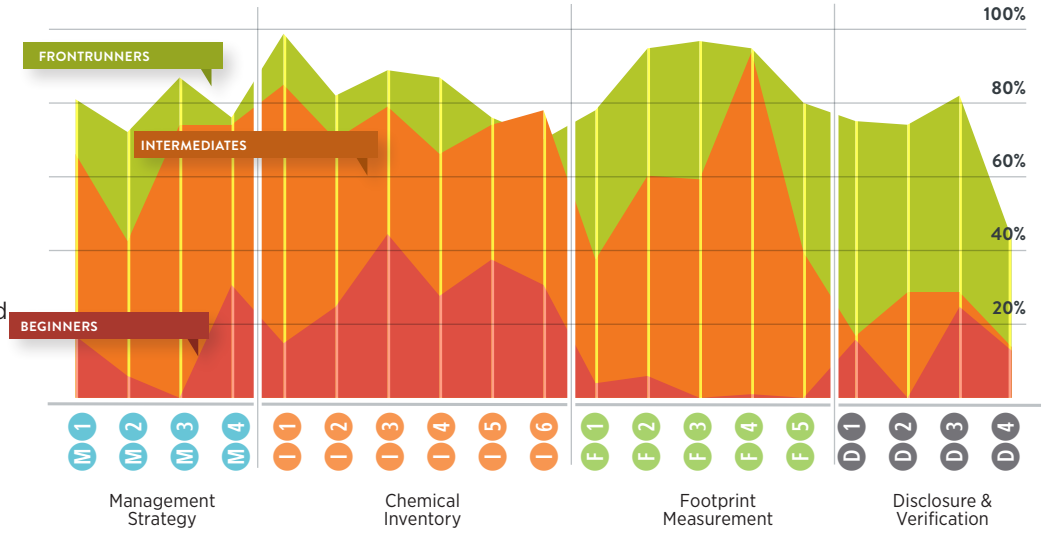
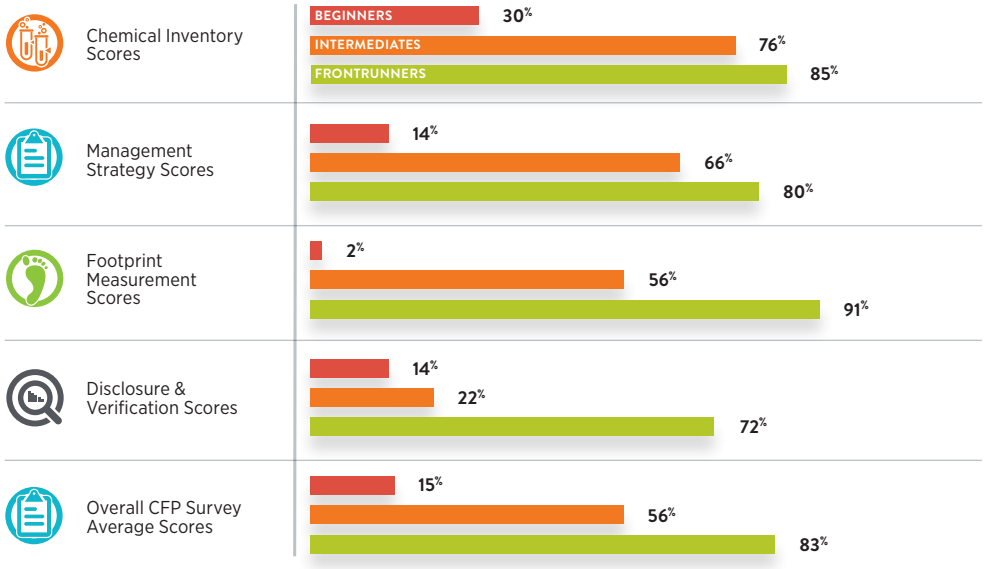


FIGURE 4.
CFP 2023 Survey: Beginners, Intermediates, and Frontrunners
average scores for each pillar and all four pillars combined (percent of possible points scored)



WHAT CONSTITUTES A CHEMICAL OF HIGH CONCERN (COHC)?

A carcinogen, mutagen, or developmental/ reproductive toxicant; persistent, bioaccumulative and toxic substance (PBT); or any other chemical for which there is scientific evidence of probable serious effects to human health or the environment that give rise to an equivalent level of concern — such as endocrine disruption — or a chemical whose breakdown products result in a CoHC that meets any of the above criteria.

4.

CHEMICAL FOOTPRINTS + SAFER SOLUTIONS

The Footprint Measurement Pillar assesses the actions companies take to reduce chemical footprints and use safer solutions. Questions F1-Footprint Reduction Goal, F2-Footprint Measurement, and F3-Footprint Change all address reducing chemical footprints, the use of CoHCs. **Responders to the 2023 Survey reported reducing their use of CoHCs in products by 132.9 million pounds (60.3 million kilograms) — a weight equivalent to 226 Airbus A380s (the world's largest passenger aircraft).**

Questions F4-Hazard Assessment and F5-Safer Alternatives address actions taken to select safer solutions to CoHCs. **Reflecting the challenges companies confront in moving beyond regulatory compliance, Beginners encountered significant difficulties with the entire Footprint Measurement Pillar,** scoring the lowest of any pillar (see Figures 3 and 4). On the other hand, **Frontrunners scored the highest in the Footprint Measurement Pillar, reflecting their investments in reducing CoHCs and certifying safer solutions** (see Figures 3 and 4, as well as Takeaways #3-#5 below).

SMALLER CHEMICAL FOOTPRINTS:

Responders to the 2023 Survey reported reducing their use of CoHCs in products by 132.9 million pounds (60.3 million kilograms) — a weight equivalent to 226 Airbus A380s (the world's largest passenger aircraft).

5.

TRANSPARENCY The Disclosure & Verification Pillar encompasses four questions. The first three questions address the public disclosure of: chemicals in products (Question D1); responses to the CFP Survey (Question D2); and score in the CFP Survey (Question D3). In addition, Question D4-Verification gives points for companies that have their answers to the Survey verified by CFP Verifiers.[9] **The Disclosure & Verification Pillar was the lowest scoring pillar for both Intermediates and Frontrunners** (see Figures 3 and 4), reflecting a general reluctance among companies to publicly share their journey to reducing CoHCs and verify their responses with third party CFP Verifiers.

Frontrunners, for example, could further excel by strengthening their: disclosure of chemical ingredients (D1); disclosure of CFP Responses, which is notably lower than their scores for other questions (D2); and third party verification of responses to the CFP Survey (D4), their lowest scoring question (see Figure 3). By addressing Disclosure & Verification, the Frontrunners can set new benchmarks for transparency and accountability, inspire other companies to strive for excellence and contribute to raising industry standards overall.

Recognizing that transparency and disclosure is a challenge in chemicals management, Clean Production Action created the Disclosure Leader award to acknowledge companies that publicly share their CFP responses (Question D2) and CFP score (Question D3) on the CFP website at https://chemicalfootprint.org/results/disclosure-leaders. **The companies recognized as Disclosure Leaders based on their public disclosures of their 2023 Survey results are: BD, Beautycounter, Case Medical, GOJO Industries, Grove Collaborative, HP, Humanscale, MillerKnoll, Naturepedic, Radio Flyer, Rite Aid, Walmart, and Whole Foods Market** (see Takeaway #6 for further details).

"Walmart

Participation in the Chemical Footprint Project helps to publicly benchmark progress towards greater transparency."

SIX KEY TAKEAWAYS

THE COMBINATION OF EMERGING TRENDS IN THE CHEMICAL FOOTPRINT APPROACH WITH DATA RESULTS FROM THE CFP 2023 SURVEY REVEALED SIX KEY TAKEAWAYS IN CHEMICALS MANAGEMENT LEADERSHIP.

1. USE THE CHEMICAL FOOTPRINT APPROACH TO ADDRESS CHEMICAL POLLUTION.

2. KNOW YOUR CHEMICAL FOOTPRINT.

3. BE A FRONTRUNNER.

4. REDUCE YOUR CHEMICAL FOOTPRINT.

5. GROW SAFER SOLUTIONS.

6. SHARE YOUR JOURNEY.

EACH TAKEAWAY IS ADDRESSED ON THE FOLLOWING PAGES.

1.

TAKEAWAY #1: USE THE CHEMICAL FOOTPRINT APPROACH TO ADDRESS CHEMICAL POLLUTION

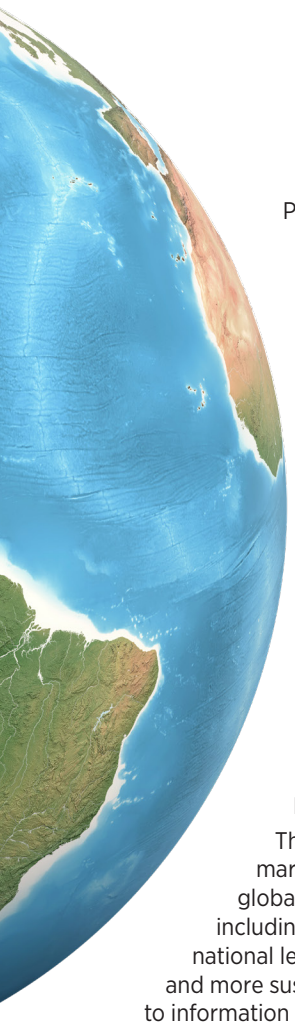
THE TRIPLE PLANETARY CRISIS

The chemical footprint approach as summarized in Figure 2, which is built from the findings of the CFP Survey, provides a clear pathway for addressing chemical pollution — one of the triple planetary crises — and meeting key targets in the UN Global Framework on Chemicals.

Triple Planetary Crisis

The body of scientific evidence on the widespread prevalence of chemical pollution keeps growing and studies continue to document the threat that it imposes on the stability of global ecosystems. The Lancet Commission on Pollution and Health reported in 2018 that "Pollution is the largest environmental cause of disease and premature death in the world today. Diseases caused by pollution were responsible for an estimated 9 million premature deaths in 2015—16% of all deaths worldwide—three times more deaths than from AIDS, tuberculosis, and malaria combined and 15 times more than from all wars and other forms of violence."[10] Four years later in an update the Lancet Commission on Pollution and Health found that pollution was "responsible for approximately 9 million deaths per year, corresponding to one in six deaths worldwide. Reductions have occurred in the number of deaths attributable to the types of pollution associated with extreme poverty. However, these reductions in deaths from household air pollution and water pollution are offset by increased deaths attributable to ambient air pollution and toxic chemical pollution."[11]

THE UN FRAMEWORK ON CHEMICALS CALLS FOR MAJOR INDUSTRY SECTORS TO "IDENTIFY PRIORITY CHEMICALS OF CONCERN AND ESTABLISH STANDARDS AND MEASURES, SUCH AS THE CHEMICAL FOOTPRINT APPROACH, TO REDUCE THEIR IMPACT."



Per- and polyfluoroalkyl substances (PFAS) exemplify the urgency of this issue. PFAS are a large group of synthetic chemicals widely used in consumer and industrial products that have immediate and far-reaching environmental impacts that are pushing against or exceeding the safe operating space defined by planetary boundaries. Cousins et al. (2022) demonstrated that the global spread of PFAS through the atmosphere has already exceeded the planetary boundary for chemical pollution. For Cousins et al., the persistence of PFAS in the environment is particularly concerning. These chemicals can continuously cycle in the hydrosphere, including on sea spray aerosols emitted from the oceans, making environmental exposure poorly reversible. This persistence amplifies theirimpact on planetary boundaries, as their presence in the environment can affect biodiversity and ecosystem services, which are fundamental to maintaining other planetary boundaries.[12]

For these reasons, **chemical pollution is one of the triple planetary crises along with climate change and biodiversity loss.**[13]

United Nations (UN) Global Framework on Chemicals + Chemical Footprint Approach

The adoption of the UN Global Framework on Chemicals in 2023 marks a significant new step towards reducing chemical footprints globally. The Global Framework on Chemicals includes several vital targets including: phasing out highly hazardous pesticides by 2035, implementing national legal frameworks for chemical management, transitioning to safer and more sustainable chemical alternatives, enhancing transparency and access to information regarding chemicals and their associated risks, and calling for major industry sectors to "identify priority chemicals of concern and establish standards and measures, such as the chemical footprint approach, to reduce their impact."[14]

The CFP Survey outlines a clear pathway for companies to move beyond regulatory compliance and adopt leading chemical management practices. This journey commences with establishing a restricted substance list (RSL) or manufacturing RSL (MRSL), laying the groundwork for responsible chemical usage. Companies then progress by acquiring comprehensive knowledge of the chemicals in their products and engaging with suppliers, a crucial step in the Chemical Inventory Pillar. Subsequently, they advance to implementing company-wide chemicals policies and practices beyond compliance, exhibiting a proactive approach to chemical management. Through the Footprint Measurement Pillar, companies demonstrate tangible progress by setting chemical footprint goals, measuring their performance, and reducing their footprint, ultimately paving the way for adopting safer alternatives. Lastly, the Disclosure & Verification Pillar underscores the importance of transparency, encouraging companies to share their chemical management practices and achievements openly. This chemical footprint approach explicitly addresses the chemical pollution aspect of the triple planetary crisis, contributing to efforts to mitigate climate change and biodiversity loss, and the implementation of the Global Framework on Chemicals.

"

Case Medical

Case Medical is "proactively addressing potential environmental issues in our products, workplace, and our neighborhood. That is why we participate in the Chemical Footprint Project."

FOR THESE REASONS, CHEMICAL POLLUTION IS ONE OF THE TRIPLE PLANETARY CRISES ALONG WITH CLIMATE CHANGE AND BIODIVERSITY LOSS.

2.

TAKEAWAY #2: KNOW YOUR CHEMICAL FOOTPRINT

Knowing your chemical footprint is a critical step for companies on the pathway to proactively avoiding the regulatory and reputational risks associated with hazardous chemicals in products, packaging, manufacturing, or supply chains. Determining a company's chemical footprint involves three core key steps: first, compile chemical inventory; second, screen chemical inventory for chemicals of high concern (CoHCs); and third, measure CoHCs by count or mass.

Step 1: Chemical Inventory

Creating a chemical inventory requires first defining the scope of that chemical inventory. For example, a chemical inventory can be compiled for chemicals: contained in products, contained in packaging, or used in manufacturing operations or by suppliers. Companies that participate in the CFP Survey typically start their journey in chemical footprinting by selecting a product category for collecting a chemical inventory.

CFP defines a comprehensive chemical inventory as knowing "full chemical ingredient information" for products, and differentiates between formulated products[15] and articles:[16]

- **Formulated products:** a company knows: 100% of the intentionally added substances by mass and any impurities that are both a CoHC and present at 100 parts per million (ppm) or higher in the formulation.
- **Articles**: a company knows: 95% of the intentionally added substances by mass and any impurities that are both a CoHC and present at 1000 ppm or higher in a homogeneous material.[17]

Databases and resources for managing chemicals in products and manufacturing operations vary across sectors.[18]

The 19 chemical classes added to the CFP CoHC Reference 3.0 list are:

1. Alkylphenols and alkylphenol ethoxylates
2. Azo dyes and azo colorants
3. Benzophenones
4. Bisphenols
5. Cyclic Volatile Methyl Siloxanes (D4, D5, D6)
6. Formaldehyde releasers
7. Halogenated organic compounds
8. Ortho-phthalates
9. Ozone depleting substances (ODS)
10. Parabens
11. Per- and polyfluoroalkyl substances (PFAS)
12. Antimony and compounds
13. Arsenic and compounds
14. Cadmium and compounds
15. Chromium VI and compounds
16. Cobalt and compounds
17. Lead and compounds
18. Mercury and compounds
19. Organotin compounds

"HP helped to develop and pilot the Chemical Footprint Project in 2013 and has participated in the assessment since 2016."

Step 2: Chemicals of High Concern (CoHCs) Identification with CFP CoHCs Reference List v.3.0

Once a company has its chemical inventory, identifying CoHCs among that chemical inventory is straightforward because companies can use *CPA's CFP CoHCs Reference List v.3.0* to screen its inventory to identify CoHCs. **The CFP CoHCs Reference List v.3.0 identifies over 55,000 chemicals of high concern, including PFAS.** Details on Reference List v.3.0 are provided below.

Clean Production Action's definition of a CFP CoHC aligns with the European Union (EU) REACH regulation definition of a substance of very high concern (SVHC),[19] GreenScreen® for Safer Chemicals' Benchmark 1 criteria,[20] and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).[21]

The CFP CoHCs Reference List is a broad-based resource for identifying known CoHCs to human health and the environment. Companies use the Reference List to: identify CoHCs contained in products and packaging, and used in manufacturing processes, supply chains, and maintenance of facilities (for example, used for cleaning offices); set goals for reducing their chemical footprints; and identify, track, and measure reductions in their chemical footprint.

Companies participating in the 2023 CFP Survey reported chemical footprints according to the *CFP CoHCs Reference List v.2.0* (2018). Moving forward, companies will report to the *CFP CoHCs Reference List v.3.0*, which Clean Production Action released in 2024.

Version 3.0 of the Reference List updates v.2.0 of the CFP CoHC Reference List, which was released in 2018. Version 2.0 was based on chemicals with a hazard score of GreenScreen® List Translator-1 (LT-1).

The newly released v.3.0:

- Adds publicly available GreenScreen® Benchmark-1 (BM-1) chemicals
- Updates the list of GreenScreen List Translator-1 (LT-1) chemicals
- Adds chemicals from 19 chemical classes
- Adds an expanded list of per- and polyfluoroalkyl substances (PFAS)
- Updates the references for the Authoritative Source Lists

For details on the definitions of chemical classes and the chemicals on the Reference List see https://chemicalfootprint.org/metric/metric-overview.

Step 3: Chemical Footprint Measurement

The gold standard in calculating a chemical footprint metric is by mass of CoHCs. This requires knowing the weight of CoHCs in a product and then calculating annual sales of the product; and doing that for all products sold by the company or for a portion of those products.

The CFP Survey provides intermediate steps to the gold standard of mass-based chemical footprint calculations. In the 2023 Product Survey:

- **52%** of Responders **calculated their chemical footprint by mass of CoHCs.**
- **17%** of Responders **calculated their chemical footprint by count**, the number of CoHCs contained in products.
- **13%** of Responders **calculated their chemical footprint by mass of EU REACH SVHCs.**
- **17% did not calculate their chemical footprint.**[22]

Note that some Responders only calculated chemical footprints for portions of their product portfolio, not their entire product lines.

ECOLAB®

"One mechanism used to assess risks in our chemical portfolio is through our participation in the Chemical Footprint Project."

TAKEAWAY #3: BE A FRONTRUNNER

TAKEAWAY #4: REDUCE YOUR CHEMICAL FOOTPRINT

TAKEAWAY #5: GROW SAFER SOLUTIONS

Being a CFP Frontrunner, reducing chemical footprints, and growing safer solutions are deeply intertwined takeaways.

Frontrunners

Frontrunners are leaders in chemicals management as demonstrated across the four pillars of the CFP Survey. **Clorox, Ecolab, Grove Collaborative, Walmart, and Whole Foods Market are the latest companies to achieve the CFP Frontrunner status based on their scores in the CFP 2023 Product Survey. They join the returning Frontrunners of Beautycounter, Case Medical, HP, Humanscale, MillerKnoll, Naturepedic, and Reckitt.** Frontrunners not only comply with regulations but also take the initiative to strategically enhance their organizations' long-term resilience by adopting innovative chemical strategies, practices, and procedures that go beyond regulatory standards.

Their high proficiency and consistency, particularly in the Chemical Inventory and Footprint Measurement Pillars, where they scored 85% and 91% of possible points, respectively, demonstrate a strong commitment to identifying and implementing safer chemical alternatives in their products. Their strong performance in RSLs (I1), data collection (I3), footprint measurement (F2), footprint change (F3), and hazard assessment (F4) indicates a comprehensive approach to chemicals management (see Figures 3 and 4).

However, even within this high-performing group, there is room for improvement, notably in safer alternatives (F5), which scored 81% of possible points, and footprint reduction goal (F1), which scored 79% of possible points, were the lowest within the Footprint Measurement Pillar for Frontrunners. **Footprint reduction goals and safer alternatives, while still scoring relatively high, present opportunities for further advancement for Frontrunners,** underscoring the continuous nature of progress in sustainable business practices and green chemistry. For companies, embracing safer alternatives can enhance worker well-being, minimize handling and disposal costs related to hazardous materials, and ensure compliance with changing regulations and global policies stimulating investment in innovation in creating sustainable products.

> reckitt
>
> *We "use insights from our participation in initiatives like the Chemical Footprint Project (CFP) to help us validate our approach… Through this, we track our progress on managing chemicals, choosing safer alternatives and using and reducing ingredients of concern."*

The Clorox Company

Clorox uses CFP to "assess and manage our retail and professional cleaning products' chemical footprints, while evaluating expansion to other product categories."

Reduce Chemical Footprints + Grow Safer Solutions

Frontrunners not only exemplify optimism for success across a diverse range of industry sectors, but also instill hope and positivity by taking significant steps to mitigate chemical pollution and find safer alternatives, thereby contributing to alleviating the interconnected triple planetary crises affecting the planet. Frontrunners demonstrate how the paths of chemical footprint reductions and safer solutions growth are interconnected. Figure 5 illustrates the flow of actions from setting chemical footprint reduction goals to footprint measurement to actual chemical footprint reductions to the replacement of hazardous chemicals with safer solutions. Figure 5 is a circle because companies must constantly innovate and improve upon their performance. Science, materials, chemistries, and products are constantly evolving, thus the movement away from CoHCs to safer solutions is an iterative path and requires continuous improvement. The CFP Survey Frontrunners are leaders in the chemical footprint approach, including making the interconnection between reducing chemical footprints and growing safer solutions. See below for a detailed look into the specific work of Frontrunners by industry sector in setting goals, assessing and managing chemicals in products, reducing chemical footprints, growing safer solutions, and being transparent.

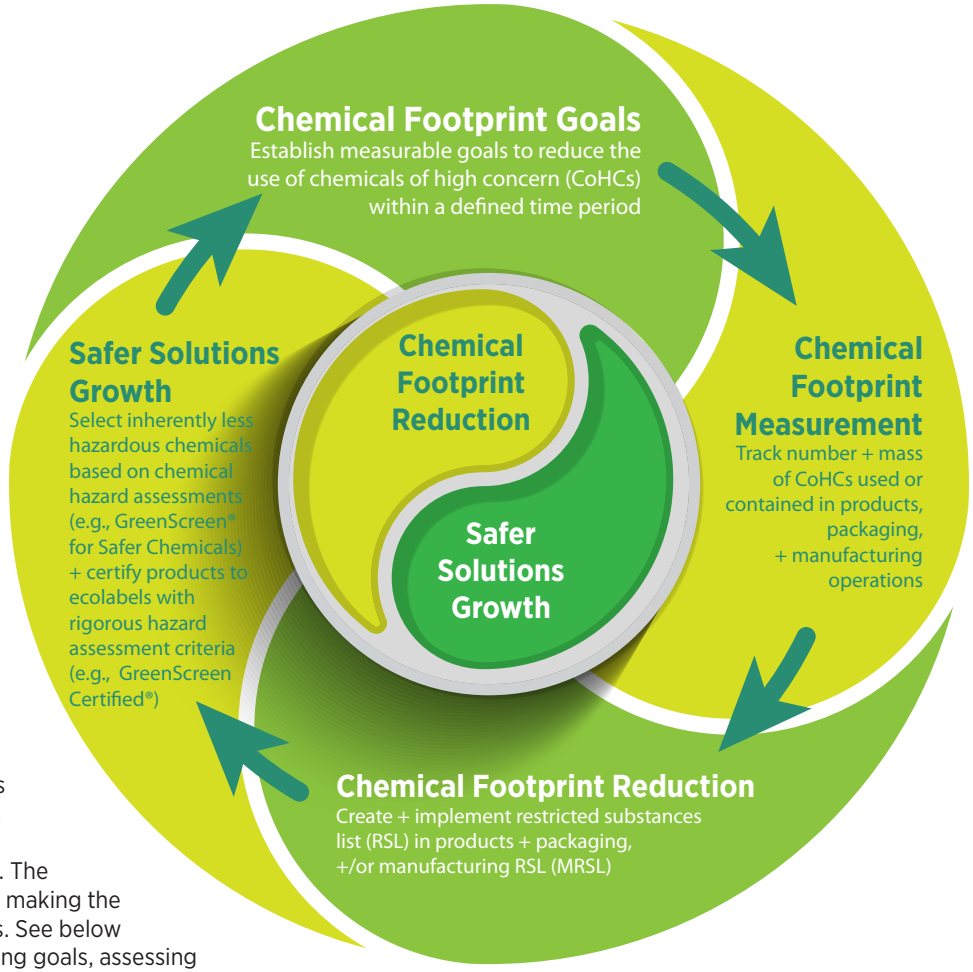


Figure 5. From Chemical Footprint Reduction to Safer Solutions Growth

FRONTRUNNERS

FRONTRUNNERS IN HOUSEHOLD & PERSONAL PRODUCTS: RECKITT, CLOROX, AND ECOLAB

HOUSEHOLD & PERSONAL PRODUCTS

reckitt

- **Setting goals:** "Our targets: 50% of net revenue from more sustainable products and 65% reduction in our chemical footprint by 2030."[23]
- **Assessing + managing chemicals in products:** We "use insights from our participation in initiatives like the Chemical Footprint Project (CFP) to help us validate our approach. It enables us to score and benchmark our approach across four areas: chemicals management, inventory, footprint measurement, and disclosure and verification. Through this, we track our progress on managing chemicals, choosing safer alternatives and using and reducing ingredients of concern."[24]
- **Reducing chemical footprints + growing safer solutions:**
  - Supplier engagement: "Our internal raw materials playbook, launched in 2022, to guide conversations with our suppliers… provides guidance on what green chemistry is, and what our expectations are." It includes "how suppliers can support safe and sustainable design" through:
    - **"Chemical footprint:**
      - Measure and scope their chemical footprint
      - Remove or reduce chemicals of high concern from their raw materials
      - Identify, share and collaborate on alternatives for emerging chemicals of high concern
    - **Safe & effective alternatives**
      - Supply basic hazard data for individual substances
      - Provide public GreenScreen benchmark scores
      - Provide evidence of efficacy"[23]
  - "Our Ingredient Steering Group (ISG) governs how we adopt safe and sustainable alternatives in new or reformulated products, and oversees our ingredients policies, including our Restricted Substances List (RSL) and its watch list."[25]
- **Being transparent:** "In 2023, 90% of our net revenue came from products where we disclose ingredient information on the pack or online."[26]

Reckitt also integrates chemical footprint reduction into its biodiversity and packaging initiatives:

- **Biodiversity:** "We screen our products to prevent the risk of eco-toxicity and are working to reduce our **chemical footprint** [emphasis added] in our approach to product stewardship."[27]
- **Packaging:** "Our ambition is for all our plastic packaging to be recyclable or reusable by 2025. We're swapping multi-layer laminates for mono-materials which are easier to recycle, removing black dyes from our bottles that can impede the recycling process, and exploring the use of ingredients from circular feedstocks, which biodegrade better and which have a lower **chemical footprint** [emphasis added]."[28]

HOUSEHOLD & PERSONAL PRODUCTS

The Clorox Company

- **Setting goals:** "We have set a goal to improve the Chemical Footprint Project score for our domestic cleaning portfolio 50% by 2030 with an interim target of 35% by 2025."[29]
- **Assessing + managing chemicals in products:** Clorox uses CFP to "assess and manage our retail and professional cleaning products' chemical footprints, while evaluating expansion to other product categories."[29]
- **Reducing chemical footprints:**
  - "Continued delivering on our commitment to reduce the chemical footprint of our domestic cleaning portfolio by **achieving and exceeding our goal to improve the Chemical Footprint Project score** for our domestic cleaning portfolio 35% by 2025 with the long-term goal of improving 50% by 2030."[30]
  - **Restricted substances:** "principles and guidelines to ensure new and existing formulations in our domestic cleaning products restrict the use of over 200 ingredients that have been identified to negatively impact human and environmental health."[31]
- **Growing safer solutions:** "We currently have a focus on selecting ingredients with lower hazard potential, as exemplified by our recognition by the U.S. EPA Safer Choice program. … We're aiming to increase products with targeted certifications and product transparency affiliations. One of the ways we're accomplishing that is by developing cleaning products that earn third-party certifications from the U.S. EPA's Safer Choice and Design for the Environment programs."[32]
- **Being transparent:** We "share information on the ingredients in our cleaning, disinfecting and laundry products sold in the U.S. to the industry portal SmartLabel, not only complying with the California law but going beyond its requirements. On SmartLabel, consumers will find ingredient information, usage and handling instructions, health, safety and environmental information, as well as links to safety data sheets and other company and brand information."[32]

ECOLAB

- **Setting goals:** "By 2030, Ecolab will transition away from EU SVHC Authorization listed substances in our global chemical portfolio."[33]
- **Assessing + managing chemicals in products:** "One mechanism used to assess risks in our chemical portfolio is through our participation in the Chemical Footprint Project. … We continued our participation in the Chemical Footprint Project (CFP) in 2023, which measures business progress toward safer chemicals and provides a tool for benchmarking companies as they select safer alternatives and reduce their use of chemicals of high concern. Ecolab completed this comprehensive benchmarking survey globally, included all business units in the evaluation and reported our performance to the CFP."[34]
- **Reducing chemical footprints:** "Prohibiting development of new products containing SVHCs" and "Obsoleting low-volume or low-business value formulas containing EU SVHCs."[33]
- **Identifying safer solutions:** "Ecolab promotes developing new products which are biodegradable, reduce or eliminate the need for personal protective equipment, are free of hazard classifications and reduce waste during manufacturing and logistics."[33]

FRONTRUNNERS IN BUILDING PRODUCTS + FURNISHINGS: HUMANSCALE, MILLERKNOLL, AND NATUREPEDIC

BUILDING PRODUCTS & FURNISHINGS

Humanscale®

- **Assessing + managing chemicals in products:** "Chemical Policy — Humanscale aims to manufacture without the use of chemicals of concern in our products, packaging, through the supply chain, in manufacturing and other facilities. In each area, we inventory the chemical ingredients, reduce chemicals of high concern, and give preference for safer alternatives."[35]
- **Reducing chemical footprint:**
  - Defined by Humanscale as "red list" ingredients.
  - "We work hard to remove chemicals of concern, or 'red list' ingredients from our products, above and beyond legal requirements. ... Requirements defined for new products include that they must not contain any red list ingredients."[35]
  - Successes include eliminating hexavalent chromium (chrome 6), PFAS, bisphenol A (BPA), and halogenated flame retardants (HFRs) from products.[36]
- **Identifying safer solutions:** "We evaluate materials for their health and environmental impact through HPD [Health Product Declaration] standards."[37]
- **Being transparent:** "To help our customers make informed decisions and avoid toxins, we publicly share all the ingredients in our products. In 2022, ... 100% of new Humanscale products were launched with an ingredients label."[36]

MillerKnoll

- **Assessing + managing chemicals in products:** "Herman Miller has been reporting to CFP since 2016. This [2022] is its second year as a Frontrunner and reflects the data and progress prior to the acquisition of Knoll. The company will look to expand its reporting scope as MillerKnoll moving forward."[38]
- **Reducing chemical footprint:** "Reducing harmful substances: Everyday products can house harmful chemicals. We help organizations minimize their exposure to chemicals like PFAS, formaldehyde, VOCs, and more by carefully vetting our products and rethinking our manufacturing processes."[39] For example, the MillerKnoll brand, "Maharam has proactively eliminated PFAS from 75% of its current offering and, as of January 2023, all forthcoming products are PFAS-free."[40]
- **Identifying safer solutions:** "'We believe that safe chemistry is a requirement for any sustainable product,' said Gabe Wing, Vice President of Sustainability at MillerKnoll. 'We work with our suppliers to maintain a database of thousands of chemicals that have been eco-profiled and reviewed by chemical engineers to ensure we've made the best choice possible for people and the environment.'"[38] "We use these chemicals in more than 3,000 materials to ensure the safety of products across the MillerKnoll collective."[39]
- **Being transparent:** "We are transparent about our materials because we believe in informed decisions. Our ecomedes platform provides environmental product information from across our brands, including details about materials used and third-party certifications. This resource helps customers buy or specify environmentally preferable products by supplying product-level data and automating product performance calculations that can help contribute to sustainability goals."[41]

NATUREPEDIC®

- **Assessing + managing chemicals in products:** "Naturepedic participates in a voluntary evaluation of its overall social and environmental sustainability as well as its management of chemical usage. This evaluation takes the form of an in-depth survey of our operations at all levels. ... The survey is called 'The Chemical Footprint Project' (CFP) and it evaluates a company's Management Strategy, Chemical Inventory, Chemical Footprint Measurement, Public Disclosure and Verification of all supplied company information."[42]
- **Reducing chemical footprint:** "Vigilant Testing and Standards: We constantly evaluate our materials for environmental impact and health risks. We avoid toxic chemicals like flame retardants, phthalates and formaldehyde and do not use adhesives in any of our mattresses."[43]
- **Growing safer solutions:** Naturepedic has its Non-Toxic Standard, which includes: "Align with Third-Party Certifications and Testing — Third-party certifiers have rigorous standards that enhance our own criteria by providing independent analysis, real testing data, supply-chain evaluation and supplier reputation. This helps to confirm the appropriateness of our material selection process."[44]

FRONTRUNNERS IN RETAIL: GROVE COLLABORATIVE, WALMART, AND WHOLE FOODS MARKET

RETAIL

Grove COLLABORATIVE

- **Assessing + managing chemicals in products:** "Grove participates in the Chemical Footprint Project to disclose our management, practices, and chemical policies."[45]
- **Reducing chemical footprints:**
  - "All products meet our rigorous standards and omit chemicals found on our anti-ingredient list."[46]
  - "We also advocate for stronger chemical regulation and transparency requirements on a state and federal level, whenever possible. Recent legislative efforts included advocacy around the banning of "Forever Chemicals" or PFAS."[47]
- **Growing safer solutions:** "Our in-house Research & Development team has extensive industry experience, prioritizing product performance without making concessions on ingredients that may be harmful to human and environmental health."[48]
- **Being transparent:** "Grove leads with transparency first, from integrating sustainable principles into business objectives and financial planning to best-in-class reporting on progress. Transparency in our ingredients, disclosures, and reporting is directly tied to customer and industry credibility."[49]

Walmart

- **Goal setting:** "By 2022, we aim to reduce our footprint of priority chemicals in formulated consumables by 10% compared to our 2017 baseline."[50]
- **Assessing + managing chemicals in products:** "Walmart focuses its efforts in three key pillars: Transparency, Advancing Safer Formulation, and Advancing our Assortment. We describe each in more detail below and are committed to publicly sharing our measurement progress through our Walmart Sustainability Hub website and through Walmart's participation in the Chemical Footprint Project Survey."[51]
- **Reducing chemical footprints:** Walmart exceeded its goal of reducing its chemical footprint by 10% compared to our 2017 baseline in 2022 by reducing the total weight of priority chemicals from 206.2 million pounds in 2019 to 171.8 million pounds in 2021.[50]
- **Growing safer solutions:** Walmart encourages the use of certifications that align with its Commitment to Sustainable Chemistry. In particular, Walmart encourages certifications that: prioritize reduction of priority chemicals; have a robust alternative assessment methodology; make their method publicly available; and have a data verification processes. Certifications include: US EPA's Safer Choice; EWG verified; and Cradle to Cradle (Silver or above level). Walmart measures the number of UPCs that use credible certifications and suppliers with credible certifications.[51]
- **Being transparent:**
  - Walmart encourages suppliers of formulated consumables to: disclose full product formulations to The WERCS through WERCSmart; disclose all product ingredients online by product; disclose information required to be disclosed under California's Cleaning Product Right to Know Act of 2017 on-pack; and encourage online and on-pack disclosure internationally.[51]
  - **Walmart annually measures:** "percentage of formulated consumable products by UPC with fully disclosed formulation provided by supplier to The WERCS through WERCSmart;" "percentage of suppliers reporting products with online ingredient disclosure through the Sustainability Index, a voluntary supplier survey;" and "percentage of suppliers reporting products with on-pack ingredient disclosure through the Sustainability Index, a voluntary supplier survey."[51]
  - "Participation in the Chemical Footprint Project helps to publicly benchmark progress towards greater transparency."[51]

FRONTRUNNERS IN ELECTRONICS AND MEDICAL SUPPLIES: HP AND CASE MEDICAL

RETAIL

ELECTRONICS

MEDICAL EQUIPMENT & SUPPLIES

WHOLE FOODS MARKET

- **Reducing chemical footprints + being transparent:**
  - "As of the end of 2023, we have banned more than 550 unacceptable ingredients across our standards for food and beverages, supplements, body care and household cleaning product categories."[52]
  - **Meat Department Quality Standards:** No antibiotics are used in its meat products.[53]
  - **Standard for Household Cleaning Products:** requires that ingredients are always listed on the label, except for proprietary fragrance and enzyme blends; and bans over 140 household cleaner ingredients including phosphates, phthalates, FD&C colors, and optical brighteners, which are synthetic chemicals added to liquids and powders like detergents to make clothes appear whiter and brighter.[54]
  - **Standard for Beyond Clean Beauty:** bans over 240 ingredients; requires organic claims to be third party certified.[55]

hp

- **Assessing + managing chemicals in products and manufacturing:**
  - "The HP materials and chemical management policy— which applies to all HP employees, businesses, and suppliers—guides our use of materials and chemicals in products, packaging, and manufacturing processes."[56]
  - "HP helped to develop and pilot the Chemical Footprint Project (CFP) in 2013 and has participated in the assessment since 2016."[56]
- **Reducing chemical footprints:**
  - "We initiated our General Specification for the Environment (GSE) in 1998 and update it annually to reflect new regulations and to advance the latest in safe alternatives. The GSE includes a full list of material restrictions for products, packaging, and manufacturing process chemicals, often going beyond worldwide regulatory requirements."[56]
- **Growing safer solutions:**
  - "Following a precautionary approach, we explore safer alternatives to materials currently in use, referencing A Framework to Guide Selection of Chemical Alternatives by the National Academy of Sciences and incorporating the GreenScreen® For Safer Chemicals methodology. For example, as part of our new product–development process, we screen all of our formulated ink ingredients using the GreenScreen methodology."[57]
  - "HP actively influences and contributes to standards, emerging legislation, and improved approaches to the use of materials in the IT sector. Notably, HP was the first corporation to adopt GreenScreen® for Safer Chemicals."[56]
  - We have "contributed to standards, legislation, and improved approaches to materials use in the IT sector to ensure they align with environmental benefit, such as including a preference for safer alternatives in order to avoid regrettable substitutions. We have worked to incorporate safer chemicals and GreenScreen into eco-labels, such as TCO and EPEAT. Recently, we've participated in the latest EPEAT revision to add requirements for process chemicals and improve the product chemical criteria."[56]
- **Being transparent:**
  - From 2022–2024, HP launched its Full Material Disclosure program for all products.[56]

Case Medical

- **Assessing + managing chemicals in products + reducing chemical footprints:**
  - "Case Medical is proactively addressing potential environmental issues in our products, workplace, and our neighborhood. That is why we participate in the Chemical Footprint Project."[58]
  - **"Environmental Policy:** to seek continual improvement throughout our business operations to lessen our impact on the local and global environment by conserving energy, water and other natural resources; reducing waste generation; recycling and; reducing our use of toxic materials."[59]
  - **"Chemical Policy:** to promote sustainability in chemistry by reviewing all chemical requisitions and formulations to ensure applicable compliance issues are addressed and by using only the safest ingredients in their class."[59]
  - **"Chemical policy for supply chain:** Case Medical is committed to working with the supply chain to improve the sustainability of products, by looking at the ingredients used and choosing those with only the safest chemicals in their class. Our sourcing team is shifting our buying choices toward ingredients that were produced in more socially and environmentally responsible ways."[59]
- **Growing safer solutions + being transparent:**
  - "Case Medical supports the goals of the US EPA Safer Choice Program, by manufacturing sustainable solutions that are Safer Choice certified and utilize only ingredients listed on the EPA SCIL and GreenBlue's CleanGredients list. ... Our goal is to meet EPA requirements for cleaners that are the safest in their class, and validated for the intended use of instrument processing."[59]

6.

TAKEAWAY #6: SHARE YOUR JOURNEY

Stakeholders, including consumers and investors, as indicated by Dr. Bichta's opening letter in this report from Boston Common Asset Management, want to know where companies are on their chemicals management journey. They want to know the measures companies are taking to reduce chemical classes such as PFAS and ensure the alternatives are not regrettable substitutes. For example, the investment community has shown a growing awareness of the environmental and financial risks posed by PFAS, with firms holding over $8 trillion in assets demanding improved disclosure and management of PFAS from chemical producers.[60]

Addressing reputational and regulatory risks associated with toxic chemicals in products, manufacturing processes, and supply chains is becoming increasingly crucial for companies. Regulatory bodies in the European Union and certain states in the U.S. are implementing stricter controls on toxic chemicals in consumer products. The Sustainability Accounting and Standards Board (SASB) has established key performance indicators (KPIs) for reporting on chemicals and concerning materials across various industries. These KPIs provide a structured framework for companies to follow, aligning with investor expectations.

The SASB Standards reference both GreenScreen® for Safer Chemicals and the CFP CoHCs Reference List to guide industry sectors in managing chemical risks. GreenScreen® for Safer Chemicals is cited in standards for industries such as: Apparel, Accessories & Footwear; Building Products & Furnishings; Household & Personal Products; Multiline and Specialty Retailers & Distributors; and Toys & Sporting Goods. These standards emphasize the integration of safer chemicals into product design through assessments like GreenScreen® for Safer Chemicals, encouraging companies to prioritize reducing or eliminating hazardous substances and adopting safer alternatives. Similarly, the CFP CoHCs Reference List is referenced in: Apparel, Accessories, & Footwear; Building Products & Furnishings; Multiline and Specialty Retailers & Distributors; and Toys & Sporting Goods.[61]

The integration of GreenScreen® for Safer Chemicals and CFP into the SASB Standards highlights the importance of proactive chemicals management, reductions of chemicals footprints, and selections of safer alternatives across various industries. This alignment with investor demands for comprehensive chemical risk management practices further emphasizes companies' need to prioritize and disclose these efforts. **Disclosing CFP Survey responses and scores, as CFP Disclosure Leaders do, aligns with investor demands and KPIs in SASB.**

Grove® COLLABORATIVE

"Grove [Collaborative] participates in the Chemical Footprint Project to disclose our management, practices, and chemical policies."

NATUREPEDIC®

Naturepedic "participates in a voluntary evaluation of its overall social and environmental sustainability as well as its management of chemical usage. This evaluation takes the form of an in-depth survey of our operations at all levels… The survey is called 'The Chemical Footprint Project'"

CALL TO ACTION:

SET GOALS, REDUCE FOOTPRINTS, GROW SOLUTIONS, + PARTICIPATE IN CFP SURVEY + UN GLOBAL FRAMEWORK ON CHEMICALS

The UN Global Framework on Chemicals calls for ambitious targets to improve the health of people and the planet by dramatically reducing chemical pollution by 2030.

In the 6th CFP report, Clean Production Action emphasized the importance of the private sector setting ambitious goals to reduce their chemical footprint. This year, we reiterate this **call to action for the private sector to set "chemical footprint reduction goals of at least 50% by 2030 and zero by 2040."**[62] This ambitious goal aligns with the Global Framework on Chemicals as well as the Sustainable Development Goals (SDGs) of 3-Good Health and Well-being, 6-Clean Water and Sanitation, and 12-Responsible Consumption and Production.

With concerted efforts from the private sector, guided by the Global Framework on Chemicals and supported by initiatives like the Chemical Footprint Project, we can achieve dramatic reductions in chemical footprints and pave the way for a safer, healthier, and more sustainable future. As Persson, et al. emphasize, better risk management, monitoring, and reduction in harmful production and release of pollutants are urgently needed to return within the planetary boundaries.[63]

As we tackle the global challenges of hazardous chemicals and waste, the decision to set time-bound targets is not just a necessity, but a strategic move that can drive significant progress. The new Global Framework on Chemicals offers a structured approach and clear targets to guide these efforts. By establishing specific deadlines for reducing chemicals of high concern, companies can align their strategies with international goals and demonstrate their commitment to sustainability.

This call to action is not just about compliance; it is about leading the way in creating a safer and more sustainable future.

We urge all companies to seize this opportunity to set ambitious, time-bound targets for chemical footprint reductions and safer solutions that will not only protect human health and the environment but also enhance their competitiveness and reputation in a rapidly evolving market.

By participating in the CFP Survey and UN Global Framework on Chemicals, companies learn where they have opportunities for improvement, strengthen their reputation for responsible practices, enhance their sustainability position within their industry sector, contribute to elevating overall industry standards, and establish a path for more sustainable and safer chemicals management.

CFP WELCOMES...

Investors, purchasers, retailers, and NGOs in engaging companies in participating in the 2025 Survey.

Companies demonstrating their leadership in chemicals management by participating in the 2025 Survey.

The CFP Survey will be open from March to June 2025.

For more information contact us at moreinfo@chemicalfootprint.org or go to https://chemicalfootprint.org.

ENDNOTES

1. For company responses to the 2023 Survey as well as to past CFP Surveys go to https://chemicalfootprint.org/results/companies.
2. Clean Production Action, Chemical Footprint Project, "Survey Guidance," accessed November 17, 2024, https://chemicalfootprint.org/assess/survey-guidance.
3. See Clean Production Action, Chemical Footprint Project, *2023 Survey: Product Module Guidance*, https://chemicalfootprint.org/assets/downloads/CPA_CFP_2023Survey_ProductModuleGuidance_May_2023_FINAL.pdf.
4. See Clean Production Action, Chemical Footprint Project, *CFP 2023 Survey — Product Module Scoring Rubric*, accessed November 17, 2024, https://chemicalfootprint.org/assets/downloads/CPA_CFP_2023Survey_ProductModule_ScoringRubric_2023_04_07_FINAL.pdf.
5. Numbers do not add up to 100% due to rounding.
6. Mark S. Rossi, Agnes Cheng, Angela Pinilla-Urzola, and Alexandra McPherson, *Setting Bold Chemical Footprint Reduction Goals: 2021 Survey Results — Our Sixth Annual Report,* December 2, 2023, https://chemicalfootprint.org/assets/downloads/CPA-CFP-6th-Report.pdf, p.13.
7. Mark S. Rossi, Agnes Cheng, Angela Pinilla-Urzola, and Alexandra McPherson, *Setting Bold Chemical Footprint Reduction Goals: 2021 Survey Results — Our Sixth Annual Report,* December 2, 2023, https://chemicalfootprint.org/assets/downloads/CPA-CFP-6th-Report.pdf, p.15.
8. Mark S. Rossi, Agnes Cheng, Angela Pinilla-Urzola, and Alexandra McPherson, *Setting Bold Chemical Footprint Reduction Goals: 2021 Survey Results — Our Sixth Annual Report,* December 2, 2023, https://chemicalfootprint.org/assets/downloads/CPA-CFP-6th-Report.pdf, p.17.
9. Clean Production Action, Chemical Footprint Project, "CFP Verifier Program," accessed November 17, 2024, https://chemicalfootprint.org/assess/cfp-verifier-program.
10. The Lancet Commission on pollution and health, Landrigan, Philip J et al., *The Lancet*, Volume 391, Issue 10119, 462 – 512 http://dx.doi.org/10.1016/S0140-6736(17)32588-6
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12. Ian T. Cousins, Jana H. Johansson, Matthew E. Salter, Bo Sha, and Martin Scheringer, "Outside the Safe Operating Space of a New Planetary Boundary for Per- and Polyfluoroalkyl Substances (PFAS)," *Environmental Science & Technology* 56, no. 16 (August 2022): 11172–11179, accessed November 18, 2022, https://pubs.acs.org/doi/10.1021/acs.est.2c02765.
13. United Nations Environment Programme, & International Science Council (2024). *Navigating New Horizons: A global foresight report on planetary health and human wellbeing.* https://wedocs.unep.org/20.500.11822/45890.
14. United Nations Environment Programme (UNEP). (2023). Global Framework on Chemicals — For a Planet Free of Harm from Chemicals and Waste. https://www.unep.org/global-framework-chemicals/framework/text-global-framework-chemicals#Strategic%20objectives%20and%20targets
15. A mix of substances and/or mixtures. Examples include: paints, adhesives, cosmetics, lubricants, detergents, and cleaning products. Can be sold to another formulator, fabricator, or distributor, or sold as a final product to a retailer or consumer.
16. An object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition (https://www.reach-compliance.eu/english/REACH-ME/engine/sources/definitions.html, accessed November 9, 2024).
17. See Question I3, pp.22–24 in Chemical Footprint Project, *2023 Survey: Product Module Guidance,* https://chemicalfootprint.org/assets/downloads/CPA_CFP_2023Survey_ProductModuleGuidance_May_2023_FINAL.pdf
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