

THE POWER OF Chemical Footprinting:

Radio Flyer Unlocks Their
Safer Materials Strategy



A pure|STRATEGIES Report



Retailers, non-profit organizations, and consumers are calling for greater chemical transparency and safer products and supply chains.

However, it is challenging for many companies to shift their approach to meet these expectations, even for leading firms.

This report provides an in-depth view of how one company is making this transition. **Radio Flyer**, the iconic toy maker, shows how to take the steps needed to move to sustainable chemicals management.

For Radio Flyer, quantifying their chemical footprint was the key to unlocking this safer materials strategy and gaining broad business value.



A **chemical footprint** is the total number or mass of chemicals of concern in products, processes, and packaging.

Common challenges with going beyond business as usual:

- Limited internal staff time or knowledge
- Suppliers not sharing information (e.g., confidentiality concerns, limited incentive to provide information)
- Lack of clarity on what is in materials (e.g., materials may be added upstream and not known by Tier 1 suppliers)
- Uncertainty on what products and materials to address and how
- External pressure from different directions (e.g., consumers, non-profits, customers, competitors, suppliers, industry)
- Internal priorities not aligned

The Transition

FROM BUSINESS AS USUAL —→ TO SUSTAINABLE CHEMICALS MANAGEMENT	
Compliance	Proactive
Product Focus	Value Chain Perspective
Transactional Information	Transparency that Empowers
Siloed Execution	Functionally-Integrated & Externally Engaged
Safety	Protection and Wellbeing

Sustainable chemicals management aims to improve the health and environmental profile of materials, utilizing safer substitution, and includes verification of progress.

Initial Steps

Chief Executive Officer/Chief Wagon Officer at Radio Flyer Robert Pasin states, “As a creator of playthings for children, Radio Flyer takes a strong precautionary approach to the materials in our products.”

As a result, the company has placed chemical safety at the heart of its product development work. Yet, the company was beginning to manage increasing state regulations and anticipated additional retailer requirements. Radio Flyer saw value in going further to gain greater transparency across the supply chain and understanding of potential chemicals of concern to get out ahead of the market and build on its legacy of responsibly producing products for children.

RADIO FLYER AIM

Our goal is to create outstanding, safe kids’ products and warm memories that last a lifetime. A major part of that goal involves knowing the chemical makeup of our products so that we can guarantee to our consumers that their children are playing with a safe and responsibly-made product.



Chemicals of concern (CoC) are substances with certain hazardous properties that can affect human health and/or the environment. There are numerous ways to determine which materials may be CoCs; there are resources from industry programs, customers, and non-profits (e.g., Zero Discharge of Hazardous Chemicals, Walmart, the Chemical Footprint Project).

Experts recommend leveraging a recognized existing effort that aligns with your company’s aims and resources. Typically, a list of CoCs is derived from publicly available authoritative sources with a robust and active review process that address the following health and environmental impacts:

- Carcinogenic, mutagenic, or toxic to reproduction
- Persistent, bioaccumulative and toxic substance
- 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 (for example, an endocrine disruptor or neurotoxicant)
- A chemical with breakdown products that meet any of the above

Radio Flyer sought external subject matter assistance from consulting firm Pure Strategies as it began to enhance its requirements and engagement with suppliers on chemicals. The company created and implemented a restricted substances list (RSL) to limit and ban specific chemicals of concern (e.g., PVC) in both the finished product and in manufacturing (to protect workers).

Radio Flyer's RSL addresses regulatory requirements in North America and the European Union and goes beyond regulations to restrict the use of additional chemicals of concern in their products. This effort is coupled with RSL testing and supplier auditing, determining the frequency and types of tests conducted based on risk assessments. Radio Flyer publicly shares its progress toward its goal to be PVC-free.

To benchmark its program and assess potential areas for improvement, the company completed its first **Chemical Footprint Project** survey in 2015, the first year the survey was available. This corporate benchmarking tool, focused on chemicals management, helped Radio Flyer identify a roadmap for pursuing their aim of safer materials. Eric Selner, Director of Operations & Sustainability for Radio Flyer points out that, "the Chemical Footprint Project survey lays out a blue print of what is needed to have a strong chemicals management program."

Why go beyond business as usual, reaching past current regulations and requirements?

Leading businesses find three main drivers for greater transparency and understanding and addressing potential chemicals of concern: reduce risks, increase productivity, and enhance growth.

- Regulatory risk mitigation was identified by **survey** respondents as a top benefit for sustainable chemicals management.
- Productivity improvements and cost savings can stem from proactively addressing potential CoC during planned development cycles, instead of on a forced schedule or with added testing.
- Sales growth comes from enhanced consumer trust and customer relationships and there is significant investor and institutional purchaser interest in the Chemical Footprint Project.

The **Chemical Footprint Project** is a corporate benchmarking survey for chemicals management akin to the role CDP serves for carbon and water footprinting. It provides a means for firms to evaluate their own efforts and for investors, brands, and institutional purchasers to assess company performance.



Investors representing over \$2 trillion in assets under management and purchasers with over \$80 billion in purchasing power are asking investees and suppliers to complete the Chemical Footprint Project survey.

The survey covers four main pillars via 20 questions and includes a quantitative footprint.

CHEMICAL FOOTPRINT PROJECT PILLARS

1. Management Strategy
2. Chemical Inventory
3. Footprint Measurement
4. Disclosure and Verification

The footprint measurement described by the Chemical Footprint Project is currently focused at the product level and calculated according to: Total mass of "Chemicals of High Concern" (CoHCs) = Sum of the mass of CoHCs for all parts in a product times the sales of that product for all products.

The Key to Unlocking Progress

Radio Flyer's internal culture is underpinned by tracking progress against quantifiable goals. Selner notes that, "you get better at what you measure." When reviewing improvement opportunities from the Chemical Footprint Project survey, quantifying the company's footprint rose to the top. The idea of measuring chemicals of concern resonated with the company's approach and provided a common and easily understood metric to track progress in chemicals management.

Steps to calculating a chemical footprint:



DEFINE SCOPE

- Determine the level of information needed
(e.g., all intentionally added materials; products and/or processes and/or packaging)
- Decide on a definition of a chemical of concern; align with a recognized approach when feasible
- Determine which products to include
(e.g., a key category, sample of the product portfolio, or all products)



DEVELOP A SYSTEM MAP

List out ingredients or parts for products and work upstream to identify processes and materials used in those processes in the scope and which suppliers are involved (may need to reach to Tier 2 or 3 suppliers)



CREATE A MATERIAL INVENTORY

Collect and organize data from suppliers on the materials included in the product, processes, and packaging (depending on the scope); plan to have conversations with suppliers and provide resources to make sure they understand the request



ASSESS CHEMICALS OF CONCERN

Determine the number of chemicals or mass of chemicals and next steps.

Then, take steps to improve the chemical footprint by prioritizing chemicals/suppliers for action, making safer substitutions, and verifying progress.

The [Chemical Footprint Project](#) is a resource for more information.

Determining the footprint for the first time involved an increased level of effort for Radio Flyer, with demands to know more about the supply chain, chemicals used to make product parts, and if the materials are chemicals of concern. To get started, the company aligned with the Chemical Footprint Project’s definition of a chemical of concern (i.e., the Chemical Footprint Project’s chemicals of high concern) and selected key products in their portfolio that represented over 80 percent of the sales volume across the main product lines. The scope was all intentionally added materials in products and impurities of concern, but not processes and packaging.

RADIO FLYER SUPPLIER REQUEST

“In addition to complying with the Radio Flyer Restricted Substances List, we also request that suppliers share the CAS #, chemical name, and weight composition of each chemical intentionally added in their product part.”

Developing a system map to determine the parts, processes, and suppliers, was straightforward as the company already had the information, but collecting supplier data beyond legal requirements for the material inventory proved challenging. In reaching out to its suppliers, Radio Flyer took care to state the company’s commitment to product safety and to stress that the company viewed this work as a partnership with its suppliers. Radio Flyer also provided a form with a description of the information requested. This included a formal policy statement in the request for the information, which was reinforced in discussions with suppliers.

Many suppliers required assistance through conversations and needed to see examples of the data Radio Flyer expected them to provide. Perhaps most importantly, suppliers needed to understand that providing this data was a requirement for doing business with Radio Flyer.

Chemical Footprinting Challenges and Solutions

CHALLENGES	SOLUTIONS
Complex supply chain of global co-manufacturers and part manufacturers	Map out products, parts, processes, and suppliers, reaching to the point where the information is likely known (e.g., could be beyond Tier 1 suppliers)
Limited supplier knowledge of chemicals	Provide simple forms, examples of expected information
Lack of supplier interest in doing more than current regulatory requirements	Discuss why the company is committed to chemical safety and incorporate requirements into business practices
No single definition of a chemical of concern	Leverage external tools that align with program aims and resources, such as a key customer, industry tools, or the Chemical Footprint Project
Insufficient staffing and resources	Limit the scope when starting out, lengthen the timeline, add staffing, and use external subject matter assistance

Chemical footprinting drives change in chemicals management and progress to safer materials through:

- Greater transparency
- Stronger supplier relationships
- Deeper supply chain knowledge
- Information beyond regulatory requirements
- Clear metrics and means of tracking progress
- Insight on potential chemicals of concern



The company is on track to quantify its chemical footprint baseline in 2017. After that point, Radio Flyer will further their shift to a sustainable chemicals management approach. Selner noted, “the footprinting effort has helped us reach new levels of achievement across our broad chemicals management program.” The company found that it facilitated:

- 1) **greater transparency, knowing what is in their products and supply chains, in order to improve materials**
- 2) **stronger accountability across the supply chain through a better understanding of inputs and processes (reaching across other company priorities, such as quality)**

It is particularly notable that Radio Flyer has already realized a number of benefits, transparency and accountability, from the footprinting effort. As the company’s program evolves and moves to safer materials, Radio Flyer, is sure to gain more value from the investment.



CHEMICAL FOOTPRINTING DRIVING SAFER MATERIALS FOR WALMART

The material health gains Radio Flyer is seeking with its footprinting efforts can be seen for example with **Walmart**. Walmart was a footprinting pioneer, tracking the progress of their sustainable chemistry policy by the number products with and volume of high priority and priority chemicals in formulated beauty, home care, and personal care products. The company realized notable gains, such as a 95 percent reduction in high priority chemicals by weight in products sold at Walmart US stores in 2015.

The process of footprinting required Walmart to collect and analyze aggregate data from suppliers, providing Walmart visibility to the suppliers and products with the greatest opportunity to reduce high priority chemicals. In addition, the simplicity of the footprint metric provided Walmart with a clear way to track and report progress.

New Goal Delivers Value

Driven by benefits achieved from the footprinting efforts, Radio Flyer established an internal goal on chemical footprinting to support their safer materials program. While this is not a public target, the company holds itself accountable to this internal goal, driving progress across all levels in the organization to increase chemical transparency across the supply chain to support continuous improvement.

The benefits from determining its chemical footprint are already driving business value for Radio Flyer. An important outcome from footprinting was a stronger connection to the supply chain. Conversations with suppliers, and their suppliers, are needed to build trust and collect the needed information. This process yields more than chemical data; it also provides greater knowledge of what suppliers are using and doing to help shape the final product. The suppliers, in turn, gain an understanding of and respect for the company's efforts. This delivers value across the organization and business, for product quality and costs.

Benefits Achieved and Expected by Radio Flyer

- Anticipated regulations and customer requirements
- Accelerated RSL compliance
- Improved health and environmental profile of materials in the supply chain
- Cost-effective verification of product composition
- Stronger supplier relationships
- Efficiently meeting customer requirements and emerging regulations
- Continued consumer trust



GOJO ESTABLISHED A CHEMICAL FOOTPRINT GOAL

To drive progress in safer materials, much like Radio Flyer aspires to do, **GOJO**, maker of hand and surface cleaning products including the Purell brand, set a public target to **reduce its chemical footprint** by 50 percent by 2020. To pursue the goal, GOJO developed a cross-functional team to establish a baseline chemical footprint by number and mass of chemicals of concern. The group also integrated this idea into product development with criteria and a process to evaluate and prioritize ingredients for reduction or substitution.

BUILDING CONSUMER TRUST AND BRAND STRENGTH THROUGH FOOTPRINTING



Business value, such as consumer trust and loyalty, comes from greater

transparency and addressing chemicals of concern, as the household products company, **Seventh Generation**, has shown in their work to build "the most trusted brand in our industry." Its aspirations to "Enhance Health" and "Nurture Nature" begin with chemical transparency across the supply chain and have progressed through seeking safer alternatives to ingredients in long-standing use in the industry that many consider to be chemicals of concern.

The company works closely with its suppliers to ensure ingredients and finished products meet its stringent ingredient and quality standards and follows up with authenticity testing of both ingredients and finished products. When unexpected chemicals are detected, for example, due to cross-contamination, the company researches the cause and aspires to be transparent with stakeholders about the findings and solution.

Martin Wolf, Director of Sustainability & Authenticity notes, "our commitments to developing safe and effective products and to building trust through transparency have been the foundation of our success. We believe consumers have the right to know what's in the products they buy, and to trust the companies they are supporting. This resonates with consumers: when they understand our mission and practices, they are twice as likely to be loyal to our business."

Summary

“Understanding the chemical footprint has been an important step in our safer materials strategy. It helped jumpstart our approach to greater transparency and has set the stage for us to make improvements.”

— ERIC SELNER, DIRECTOR OF OPERATIONS & SUSTAINABILITY, RADIO FLYER

Radio Flyer’s safer materials program was accelerated by the process of calculating the chemical footprint. With business benefits being realized, the company is also able to take important next steps, including defining, assessing, and making safer substitutions for priority chemicals of concern.

Companies can transition to sustainable chemicals management by following the steps Radio Flyer has taken, especially by quantifying their chemical footprint. Doing so will increase transparency, supply chain knowledge, and chemical information to help propel progress towards safer materials across product types and supply chains.

The chemical footprint brings greater transparency and sets the stage for safer materials.



Set Your Program Up for Success— Sustainable Chemicals Management and Safer Materials

ORGANIZATIONAL ALIGNMENT

- Get support from company leadership
- Establish a strategy with a footprint target
- Dedicate staffing and resources

BUSINESS INTEGRATION

- Build supplier relationships
- Bring footprinting into business processes
- Measure and report progress



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ABOUT PURE STRATEGIES

Pure Strategies has been transforming business through sustainability performance since 1998. Our team helps companies initiate and enhance existing sustainability programs by setting meaningful goals, devising effective management strategies, and making changes to products and supply chains that deliver value to the business and society. Our clients include Walmart, Annie's, Organic Valley, Seventh Generation, Colgate-Palmolive, Ben & Jerry's, and Radio Flyer.

ABOUT THE REPORT

Pure Strategies has supported Radio Flyer's sustainability program since 2010. In 2015, our team helped the company complete its first Chemical Footprint Survey and take the steps in 2016 and 2017 to quantify its chemical footprint. We are documenting the effort in this public report so other companies can leverage their learning. Other companies cited, Walmart and Seventh Generation, are also Pure Strategies' clients.



