

Safer Chemistry Innovation in the Textile and Apparel Industry

EXECUTIVE SUMMARY



SAFER MADE

The textile and apparel industry will change dramatically over the next 10 years. It will adopt new materials that deliver unprecedented performance and will eliminate harmful chemicals from its products and manufacturing processes. The industry will emerge as a circular and regenerative sector of the economy.

In the [**“Safer Chemistry Innovation in the Textile and Apparel Industry”**](#) report we evaluate the role different chemicals of concern have in the production of textiles and apparel, identify five key Innovation Areas, offer insights into how to accelerate the adoption of new safer technologies, and highlight the work of over a hundred young innovative companies. The full report can be downloaded at www.safermade.net/textile-report.

The report was supported by Fashion for Good, a global initiative to make all fashion good, and it aims to accelerate the adoption of new technologies that reduce or eliminate the use of hazardous chemicals in the textile and apparel industry.

Safer Made is a venture capital fund that invests in safer products and technologies. Our goal with this report is to enable productive conversations and collaborations between both sector “insiders”—brands, retailers, mills, and chemicals and equipment suppliers—and those outside the sector, such as innovators, investors, governments and the advocacy and philanthropic community, leading to partnerships and investment decisions.



One of the best ways to eliminate hazardous chemicals is to develop new chemistry and materials that provide new or superior performance while being safer at the same time. We believe in focusing on the *function* delivered by chemicals of concern and seeking safer ways to deliver that function, rather than trying to find specific substitutes for the chemicals of concern.

“At Fashion for Good, our ambition is to reimagine the way fashion is designed, made, worn and reused. But this type of systemic change cannot happen in a bubble. An open innovation culture is crucial, and Safer Made’s report provides different stakeholders with valuable information to support them in the transition to only good fashion.”

Katrin Ley, Managing Director / Fashion for Good

By connecting functional aspects to the universe of potential solutions we define five “Innovation Areas” as shown in Figure 1: New Materials, New Safer Chemistries, Waterless Processing, Fiber Recycling and Supply Chain Information Management Tools, each with several Innovation Sub-areas. Within each Innovation Area, we highlight work by both startups and established suppliers to bring safer chemistry and materials to market.

FIGURE 1
Safer Chemistry Innovation Areas and Sub-Areas

Source: Safer Made, 2018





Consumers enjoy more choices and power than ever before, and they are looking for brands and products that reflect their values. In response, retailers and brands are spending considerable resources to understand what chemicals and materials are present in their products, or have been used to manufacture them.

Brands are devoting significant resources to ensure the most hazardous materials are eliminated, while developing ways to incentivize the adoption of safer chemistry. Most brands start with lists of chemicals they want to eliminate from their products or manufacturing processes (also known as Restricted Substance Lists and Manufacturer Restricted Substance Lists) and are working with the supply chain partners to implement them.

Some brands are going further by implementing safer chemistry tools at the design phase, becoming active participants in the innovation ecosystem, and telling the story of their work to become more sustainable. Preferred chemistry screening at the design phase promotes the best-in-class chemistry; drives the adoption of preferred materials; and allows designers to focus on creating apparel people want to wear, rather than monitoring chemicals.

Bringing new safer technologies to market within the textile and apparel industry takes both collaboration and capital. Brands and retailers participate in the innovation ecosystem by: partnering with innovative companies to jointly develop and scale safer chemistry and materials; engaging with accelerators and incubators; and investing in innovative companies or venture capital funds.

We are grateful to all the brands, entrepreneurs and supply chain partners who spoke to us about their work and who continue to share insights and connections to interesting new companies and technologies. We look forward to continuing the conversation, and invite anyone interested in supporting companies developing the next generation of safer chemistry and materials to get in touch: safermade.net/contact-us.

About this Report

This report was commissioned by Fashion for Good to accelerate the adoption of new technologies that reduce or eliminate the use of hazardous chemicals in the textile and apparel industry.

About Safer Made

Safer Made is a venture capital fund that invests in safer products and technologies. Our investment premise is that people prefer safer products. The technologies we invest in enable brands and retailers to tell a differentiated story of safety and sustainability that resonates with consumers. Safer Made works with brand manufacturers and retailers that lead in safety and sustainability to invest in technologies that address their safer chemistry needs. Safer Made's General Partners are Adrian Horotan and Marty Mulvihill.

About Fashion for Good

Fashion for Good is a global initiative to make all fashion good. At the core of Fashion for Good is its innovation platform. Fashion for Good's Plug and Play Accelerator gives promising start-up innovators the expertise and access to funding they need in order to grow. The Scaling Program supports innovations that have passed the proof-of-concept phase. The Good Fashion Fund (in development) will catalyze access to finance where this is required to shift at scale to more sustainable production methods.

Fashion for Good acts as a convener for change. From its first hub in Amsterdam, it houses a Circular Apparel Community co-working space; creates open-source resources like its Good Fashion Guide; and welcomes visitors to join a collective movement to make fashion a force for good.

Fashion for Good was launched in 2017 with C&A Foundation as a founding partner. Its programs are supported by corporate partners Adidas, C&A, Galeries Lafayette Group, Kering, Target and Zalando, as well as organizations including the Cradle to Cradle Products Innovation Institute, the Ellen MacArthur Foundation, IDH—the Sustainable Trade Initiative, Impact Hub Amsterdam, McDonough Innovation, Plug and Play and the Sustainable Apparel Coalition.

Acknowledgements

Safer Made would like to thank all of the people who made this report possible. We would like to acknowledge Fashion for Good for funding and the C&A Foundation for initiating this report in order to support the industry's alignment on a safer chemistry innovation agenda. We are grateful to all the brands, supply chain partners and other collaborators who have taken the time to speak to us and who continue to share insights and connections to interesting new companies including: Megan McGill, Scott Leonard, Tom Flicker, Phil Graves, Bart Sights, Una Murphy, Scott Echols, Robert Buck, Linda Gallegos, Michael Kabori, Eva van der Brugge, Karine Basso, Rogier van Mazijk, Martin Lichtenthaler, Cyrus Wadia, Scott O. Seydel, Jr., Nate Sponsler, Brandon Boyd, Kevin Myette, John Frazier, Bernhard Kiehl, Milos Ribic, Libby Sommers, Liesl Truscott, Shona Quinn, Roland Seydel, Maryam Mazlumpour, Genna Heath, Yogendra Dandapure, Hiam Hindi, Avery Lindeman, Claudia Richardson and Karla Mora.

We would like to thank Beth Jensen, Jessie Curry and the Chemicals Management Working Group at the Outdoor Industry Association for hosting the Sustainability Convergence Event at the Outdoor Retailer Show. Thank you also to all the panelists, startups and participants whose ideas helped shape this report.

We would also like to thank Anastasia O'Rourke, Nilofar Gardezi and Amanda Cattermole who all provided feedback throughout the process of drafting this report. Finally, a special thanks to Tonja Larson and Ladywithafan Design for her assistance with layout and design and to Kristin Lennert Murra for her help with editing.

Authors



Marty is a general partner at Safer Made.

Before Safer Made, Marty started and ran the Berkeley Center for Green Chemistry. He has worked with many Fortune 500 companies to help them replace hazardous chemicals with safer alternatives. Marty has a PhD in Chemistry from UC Berkeley, and has done post-doctoral work at Lawrence Berkeley National Lab. He lives in Oakland, California.



Adrian is a general partner at Safer Made.

Before Safer Made, Adrian made venture investments with Elm Street Ventures, the Yale Entrepreneurial Institute Innovation Fund, Connecticut Innovations, and Launch Capital. Before working in venture finance, Adrian worked for 10 years in corporate finance and investment banking. Adrian has a Masters of Environmental Management from Yale and an MBA from INSEAD, France. Adrian lives near New Haven, Connecticut.