

Chemical management at Tesco F&F clothing – our Detox progress.

June 2018



Welcome to Tesco's first report on our chemical management work.



Tesco's Little Helps Plan, launched in 2017, sets out how we manage issues including responsible sourcing, food waste, health and packaging.

At F&F, we believe that it is possible to offer our customer great quality affordable fashion and reduce our environmental impact. We do this by having a plan in place to manage the sustainability challenges facing the fashion industry.

Our customers trust that we source and produce all of our products in a responsible and ethical way.

In this report, we outline the action we are taking and how we are collaborating with our suppliers to reduce the chemical impact on the environment, workers and communities in our supply chain.

We have set ambitious goals; including zero discharge of hazardous chemicals into the environment.

To achieve these goals will require change. We are committed to playing an active role in supporting that change throughout our supply chain.

This report captures the progress we have made to date. We recognise there is still a lot more to do.

Richard Price,
CEO F&F

About Tesco and F&F

Through our F&F brand, Tesco aims to be the world's leading, affordable fashion retailer. We want to delight our customers with quality products they love, sourced from suppliers we are proud to work with and with whom we work in true partnership.

We are a global brand. Our clothes are available in 25 countries through about 2,000 stores, including our franchise partners and online. They are sourced from 17 countries around the world and made in 405 factories, but our textile supply chain has an even wider reach.

Ethics and environmental issues are as important to us as they are to our customers. Our approach to fashion is based on these core beliefs:

- Improving lives through commerce
- Helping people to help themselves
- Building partnerships based on shared, traceable standards with our suppliers
- Continuously monitoring and reducing our environmental impact

The chemical management journey at Tesco.

Why it matters

Chemicals are everywhere in daily life, but the way clothes are produced puts the textile industry and its impacts in the spotlight. A t-shirt on sale in a Tesco store is the result of many processes involving chemicals, from the growing and harvesting of fibres, to bleaching, dyeing, washing, finishing, packaging and distribution. These processes can have significant impacts. According to Greenpeace, the textile industry is the second largest polluter of clean water globally, and responsible for 20 percent of all freshwater pollution. They point to over 3500 chemical substances used to produce textiles and estimate that 10 percent of these are hazardous to human health or the environment.

Our customers want to see these impacts reduced and eliminated, and so do we. This report sets out how we are going about that challenge, starting in our clothing business, F&F.

Our approach

Our chemical management work is part of our responsible sourcing agenda, which covers both the environmental and social impacts of our supply chains. By working with suppliers, industry and civil society, we seek to minimise our chemical impact and drive innovation in the textiles and clothing industry.

As a foundation for this work, it is essential that we build greater visibility and understanding of the chemicals used in our global supply chains, some of which have been identified as hazardous. In looking to manage these we apply the precautionary principle, avoiding substances when they may harm the environment or health even when the

type or magnitude of harm is not yet known.

We have taken a systematic approach to chemical management in our F&F business, with three main elements:

Transitioning from a focus on outputs (i.e. limiting pollution) to a focus on inputs (e.g. better chemical management and the use of safer alternatives). In section 2 we show how this approach is helping us to replace a growing number of substances of concern in our products.

Using our strong relationships with suppliers to improve performance and transparency. Section 3 explores how we are helping to build supply chain capacity to achieve this.

Working with industry and sector initiatives to drive best practice. In section 4, we set out how initiatives such as Greenpeace's Detox campaign and the Zero Discharge of Hazardous Chemicals programme inform our approach. A more detailed account of our progress on Detox commitments can be found in the appendix.

Our chemical management timeline

- 2008** Established Product Restricted Substance List (RSL)
- 2012** Signed up to [Sustainable Clothing Action Plan \(SCAP\)](#)
- 2015** Signed up to the [Zero Discharge of Hazardous Chemicals programme \(ZDHC\)](#) and committed to the joint roadmap
- 2016** Published Bangladesh F&F factories list
[Signed up to CanopyStyle initiative](#) to protect ancient and endangered forests
Joined [WWF Ganges Leather Buyers Platform](#)
- 2017** Signed up to [Greenpeace Detox](#) commitment
Published [integrated restricted substances list \(RSIT\)](#)
Published [all F&F garment and footwear factories list](#)
Signed up to [Sustainable Cotton Communiqué](#) to achieve 100% sustainable cotton by 2025
Pledged to support [Changing Market Foundation's](#) Roadmap towards responsible viscose & modal fibre manufacturing
- 2018** PFCs fully eliminated from Spring/Summer 2018 range

The Greenpeace Detox Campaign

We were pleased to join the Greenpeace Detox campaign in 2017 as part of our commitment to working collaboratively to promote sustainable chemical use in our F&F clothing business. In total 79 companies have now signed up to Detox, representing 15% of world textile production. The campaign has two key aims:

- The elimination of hazardous chemicals in the manufacture of clothing and textile products.
- The adoption of business models to achieve more sustainable consumption of textiles.

We set out a series of actions we would take in our clothing supply chain to help achieve the Detox ambitions:

- Operate with a strong system of environmental oversight of our suppliers and our operations.
- Establish mechanisms for disclosure and transparency about the hazardous chemicals used in our global supply chains.
- Fully and publicly support a systemic change to achieve zero discharge of hazardous chemicals (associated with supply chains and the lifecycles of products) within one generation or less.
- Sustain investment in moving industry, government, science and technology to deliver on systemic change and to affect system change across the industry towards this goal.
- Make production and business model changes that help to revolutionise sustainable consumption.

From pollution control to sustainable chemistry.

“We understand that eliminating hazardous chemicals is critical for the clothing industry. We are making good progress in this area but believe we need to go further, so we are strengthening our chemical compliance policy from a focus on pollution control to managing input chemicals and using more sustainable chemistry.”

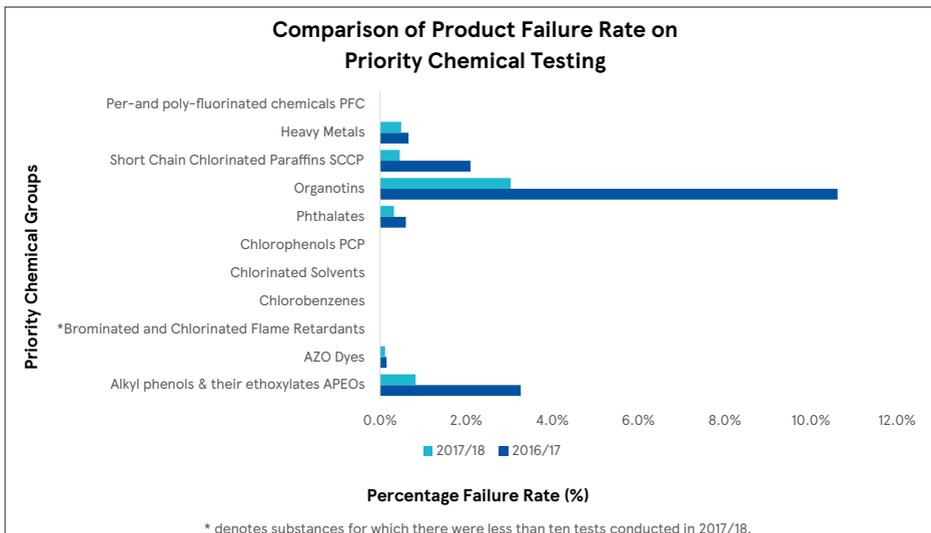
Alan Wragg, Technical Director, F&F Clothing

Restricting Substances

Finding ways to reduce and remove substances of concern from our products is the starting point for our chemicals work. Our policy sets out requirements which our suppliers must meet based on recommended detection limits for the relevant chemicals, and goes beyond regulatory requirements.

We established our first Restricted Substances List (RSL) in 2008, outlining permitted levels for key chemicals. This list has helped us improve the chemical impact of finished garments, and protect workers and consumers by removing chemicals of concern. In line with the industry-wide Zero Discharge of Hazardous Chemicals (ZDHC) initiative, our approach now also focuses on the chemicals used in manufacturing stages, known as the Manufacturing Restricted Substances List (MRSL). When combined, these lists form our [Restricted Substances in Textiles, Leather & Footwear List \(RSiT\)](#) which is at the heart of our current approach.

We update the RSiT every six months taking into account the latest regulations, industry standards and recommendations from NGOs and experts. The latest edition was published in February 2018. It is shared with suppliers in English and



Chinese and promoted via the Tesco Supplier Network. We provide training and support for implementation and monitor effectiveness via product risk assessment testing, due diligence testing, mill assessments and technical audits.

Through this approach the occurrence of priority chemical groups of concern found in our regular monitoring product tests have significantly reduced. Levels of APEOs are now at 1%, PFCs are at 0%, and Organotins are at 3% (see chart on page 6). All our products passed our due diligence tests last year.

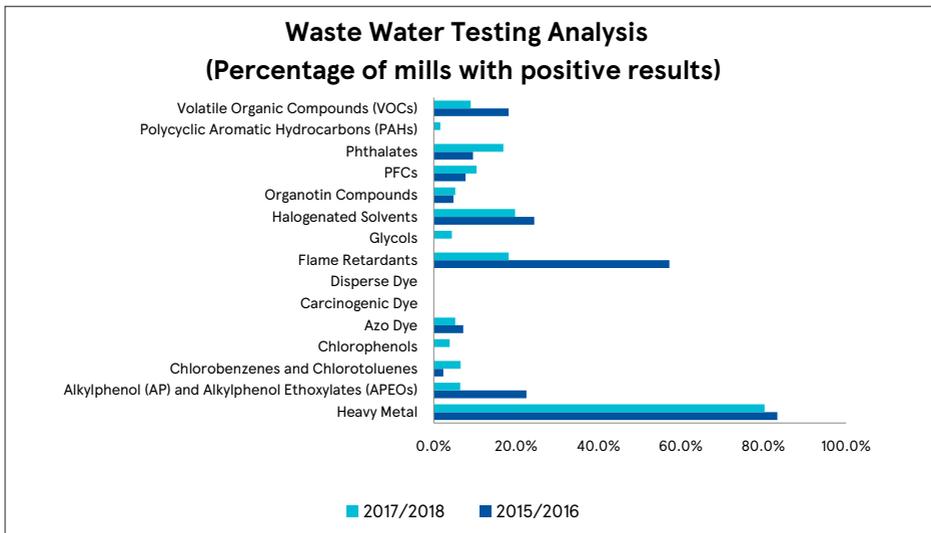
Driving better wastewater quality

We verify the successful implementation of our hazardous chemicals controls by regularly checking the wastewater from the wet processing factories operated by our suppliers.

After a successful pilot in 2015/2016, we now ask our wet processing factories to conduct third party wastewater tests each year (see chart below). Where hazardous chemicals are detected

beyond recommended limits, we work with our suppliers to develop corrective action plans and carry out further tests to check that appropriate actions have been taken.

In line with the Detox campaign, our suppliers have published their wastewater test results on the [Institute of Public and Environmental Affairs \(IPE\) platform](#) and also shared them on the [ZDHC Wastewater Disclosure Portal](#) which will be available for public access later this year. Currently, this data covers over 71% of our production, and by the end of 2018 we are aiming for 80%.



Promoting the use of more sustainable chemistry

We recognise that restricting substances is of no use unless we can either do without them or find suitable alternatives. We are therefore evolving our approach from reducing and restricting hazardous chemicals in our products, towards identifying the sustainable chemistries of the future.

To this end, we have partnered with preferred chemical manufacturers, formulators and suppliers to guide our supply chain on the most appropriate chemicals to use. We have developed positive lists of chemicals that comply with our chemicals restrictions. These lists help simplify the process of input selection and provide a supplementary tool for purchase screening. We also encourage our suppliers to use other appropriate tools such as ZDHC Gateway, Greenscreen and select chemicals from credible certification programs such as Oeko-Tex®, Bluesign® and GOTS.

Product Story: PFC-free schoolwear

Poly-Fluorinated Chemicals (PFCs) are used to make surfaces repel water and oil. They do not occur naturally, take a very long time to degrade, and can build up in humans. As a result, they are categorised as a banned substance in our integrated Restricted Substance List. Children's schoolwear has sometimes included PFCs to improve stain and water repellency. We have worked with our suppliers to make sure our school wear is PFC free but delivers the same high quality and value expected by our customers.

Our schoolwear features the Teflon EcoElite™ finish, it is a highly sustainable, renewably sourced, non-fluorinated, water-repellent treatment for fabrics. It repels water-based stains and releases oil-based stains during washing.

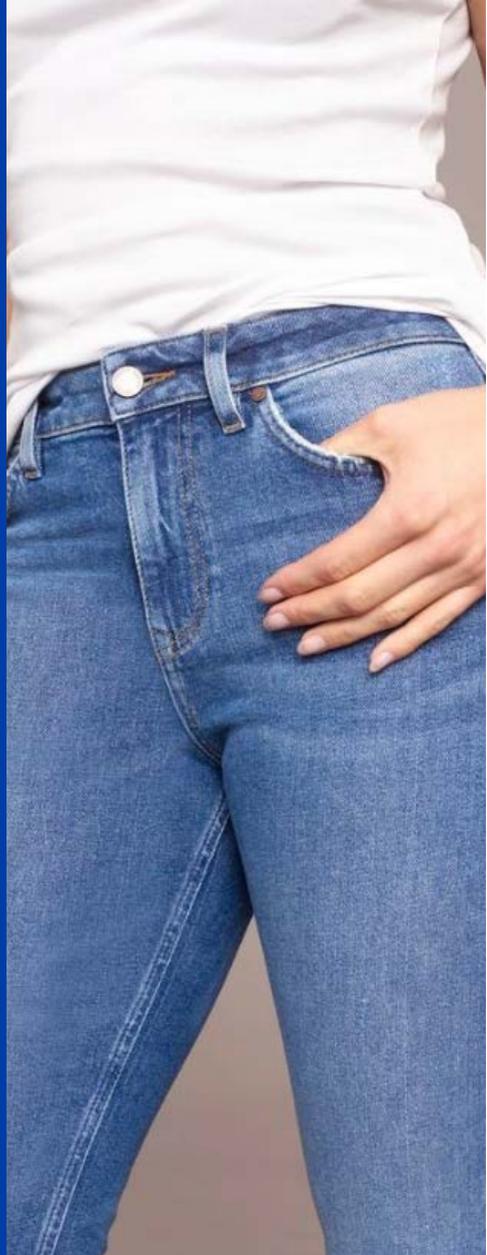
Other products which also require water repellent properties such as outerwear jackets now also use a PFC-free finish.

Product Story: Sustainable denim

We sell over four million denim garments each year. The conventional method of producing denim uses large quantities of energy, water and chemicals. The yarn dyeing process involves emersion 6 to 15 times in dyeing vats, where an oxidation process helps the dyes to stick to the yarn. The fabrics are then washed up to 20 times, and as much as 11,000 litres of water can be used making a single pair of jeans. Traditional indigo denim colour often uses sodium hydrosulphite – leaving sulphites and sulphates in the wastewater. The process is also very labour intensive and can have adverse effects on workers' health.

At F&F, we use innovative Advanced Denim technology developed by our supplier Achroma. This technology reduces the use of energy, water use and chemicals such as sodium hydrosulphite by using a more ecological dyeing process, a single dyeing box to achieve a medium colour intensity, and one further step to fix the colour. The process improves colour fastness, almost eliminates wastewater discharge, and is healthier for the workers involved.

Since 2015, we have saved 57% of the water and 54% of the energy used by using "Advanced Denim" dyeing methods instead of conventional methods.



Working with our suppliers.

“We have supplied F&F with fabrics for over 12 years, and with their support, we started on our ZDHC journey in 2015. They have helped us understand the importance of chemicals management and put the right controls in place. Now we are in a position to help share this knowledge with others.”

Dunstan Weragala, Assistant Manager,
Hayley’s Fabric



Supporting suppliers

Our suppliers hold the key to reducing the environmental impact of chemicals, so it is critical that we fully support them. The first step on this journey is ensuring that our suppliers understand which chemicals we want to restrict and why, and how doing so might benefit their own business, for example saving energy and water during processing. The second step is ensuring that our suppliers understand how they can

achieve this, for example by focusing on input management, training and engaging their employees, and using alternative chemicals which are safer and lower impact. We support them with a wide range of training, workshops, online platforms to share best practice, and other initiatives to address specific challenges.

In the first instance we work with companies that supply us directly – our ‘Tier 1 suppliers’ (for example a factory which makes clothes) – but we are also extending our support to companies that supply them – our Tier 2 or 3 suppliers. These sites are often where the wet processing stages of textile production take place (e.g. dyeing), and consequently where most chemicals are used and where there is a particular environmental risk. To meet our objectives, it is important that these parts of the supply chain are also engaged in better chemical management.

Highlights:

- We have delivered 38 training sessions to almost 1,000 participants since 2015, with more planned.
- 110 supplier representatives have completed our in-house certified training programme for fabric technologists and they are now equipped to support the implementation of our chemical policy at their supplier units.
- We have incorporated chemical modules as part of performance management tools such as the Tesco All-in-one Self-Assessment and the Tesco Clothing and Footwear Manufacturing Standard (TCFMS).

- We regularly host webinars on our Supplier Network platform covering subjects such as chemical compliance tools, implementation of the integrated Restricted Substances List, wastewater testing analysis, sustainable chemicals and best practices.
- Our dedicated colleagues based in sourcing hubs, such as Dhaka, Bangalore, Colombo, Istanbul, Shanghai and Hong Kong are working with local clothing and general merchandise suppliers to ensure they understand our requirements and how they can make progress.
- We have hosted the Tesco ZDHC Awards since 2016 to raise awareness and reward suppliers who have shown significant progress in their ZDHC commitment.
- In April 2018, we hosted four sustainability workshops to bring together suppliers, NGOs, and Tesco to discuss and raise awareness of sustainability issues in apparel, including chemicals, viscose, plastics and microfibres.
- We are working with the International Finance Corporation (IFC) to incorporate a Chemical Management Module in their Bangladesh Partnership for Cleaner Textiles (PaCT) program.

Building partnerships with suppliers

Since 2015 we have been working with suppliers to phase out a range of chemicals. Recognising this as a journey we needed to make alongside suppliers we have sought to develop strong, open and trusted relationships. Through regular meetings with the suppliers we were able to guide and support them. Our tools and training have helped to build their own capacity and allowed them to take more ownership for leading their hazardous chemicals elimination work.

The strong relationships we hence developed meant that we were able to introduce consultants in selected factories to screen their chemical inventory, identify potential hazardous substances contained in the formulation, and analyse sources when they were detected in wastewater tests. We were then able to work together with suppliers to replace any hazardous substances with safer alternatives and completely eliminate use of those chemicals in these factories.

Our suppliers have also been happy to share the findings and materials through our Supplier Network platform so that others can learn from the work and we can promote continuous improvement in the rest of our supply chain.

Building supply chain transparency

Transparency in our apparel supply chain holds the key to better collaboration. In 2017 we published a list of all our Tier 1 clothing and footwear suppliers online. However, we see our responsibilities as extending beyond the first tier of our supply chain.

Since 2015, we have been systematically mapping our suppliers back to the mill and engaging with our lower-tier suppliers to promote sustainable chemistry practices throughout the supply-chain. All our strategic supplier partners, including direct vendors, mills and nominated trims vendors, have been

through training programmes which we are continuing to roll out to the rest of our textile supply base.

We recognise that as we and others increase engagement with our supply chain we risk creating greater complexity and duplication in reporting requirements for our suppliers. We are therefore working with our peers to pilot a software platform that provides a secure, central solution for chemical inventory management which can be shared across the textile and clothing industry. Following positive trials, we are rolling-out the platform to cover over 70% of our F&F business in 2018 and aim to reach 80% in 2019.

Working with industry and sector campaigns to drive best practice.

“We understand the complexity of this environmental challenge and recognise that it is not possible for us to tackle it alone. We need to collaborate with our peers, suppliers, NGOs and governments to help transform the textile and clothing industry. Working together, we can make a big difference.”

Carmen Chan, Senior Sustainability Manager, F&F Clothing

Collaboration with the industry through ZDHC

We recognise that we can only achieve the elimination of harmful chemicals and build a sustainable future by working together as an industry. The [Zero Discharge of Hazardous Chemicals programme \(ZDHC\)](#) is an industry group that aims to achieve widespread implementation of sustainable chemistry in the clothing and footwear industry to protect consumers, workers and the natural environment. We became one of the first UK supermarkets to join ZDHC in 2015 and play an active role in its development as a member of the ZDHC Board.

We support the wider adoption of ZDHC standards and tools in our supply chain such as the ZDHC Gateway which was launched in 2017. The Gateway is a global online platform that aims to provide the ZDHC community with the information needed to support better sourcing decisions. It includes an advanced search engine for formulations that meet ZDHC requirements and a platform to share verified wastewater test data.

Aligning with Greenpeace Detox to raise the bar

Greenpeace launched their [Detox campaign](#) in 2011, to encourage the apparel and footwear industry to eliminate hazardous chemicals across their whole product life-cycle.

The Detox campaign highlights 11 hazardous chemical groups for action. For two of these, we already have measures in place that achieve Detox objectives, and have committed to reporting on their final elimination:

- Alkylphenol Ethoxylates (APEOs) - used in detergents, cleaning agents and leather production
- Per fluorinated Chemicals (PFCs) - used in stain and water resistance

We are committed to enforcing existing bans on the remaining nine substances:

- Phthalates – used in many plastics as plasticisers and flame retardants
- Azo dyes – major dyes in different dye classes
- Organotin compounds – used as fungicides and bactericides
- Chlorobenzenes – used in the production of dyes
- Chlorinated solvents – used in the production of other chemicals
- Chlorophenols – used in pesticides and herbicides
- Short chain chlorinated paraffins – used as flame retardants and plasticisers
- Heavy metals – used in a wide range of

applications in the textile industry

To ensure we are meeting our commitment to eliminate these chemicals, we have embedded new policies in our manufacturing processes

and updated our testing programmes and auditing protocols. A summary of our progress against our Detox commitments can be found in the appendix.

Kanpur Leather Buyers Platform

Tannery clusters in Kanpur on the banks of the Ganges are causing pollution due to poorly managed discharges of heavy metals, salt and processing chemicals entering the river. Companies from the UK are some of the primary buyers of leather from Kanpur, using it for shoes, bags and other leather products. Tesco has joined WWF and other leading brands to work with tanneries in this area to improve technical practices, investigate green finance options and support policy development. The approach at Kanpur is part of a programme to bring all tanneries we use up to a good environmental standard. More information about the initiative can be found [here](#).

Collaboration to promote sustainable viscose

Viscose is used in a wide range of clothing from school uniforms to leggings. Made of wood fibre, it has potential to impact the environment through forest loss. We have committed to zero-net deforestation in our sourcing of viscose, and in 2017 we signed up to the CanopyStyle initiative which aims to end the use of endangered and ancient forests in the viscose supply chain. We work with suppliers to trace the origin of viscose in our supply chains, as well as working directly with viscose producers to improve their sourcing practices.

Chemicals are also used in viscose processing to dissolve pulp and make it into fibre and yarn. These chemicals can affect the environment, and harm the health of factory workers and local communities. We are therefore supporting the development of the Changing Markets Foundation's 'Roadmap Towards Responsible Viscose and Modal Fibre'.

Responsible Consumption and Living.

“Customers can play a crucial role in enabling us to reduce the environmental impact of the fashion industry and achieve more sustainable models of consumption. We support our customers by raising awareness and taking them with us as part of the solution.”

Joe Little, Head of Technical, F&F Clothing

Chemical management is just one of the ways in which we can ensure the sustainability of the clothing we produce. We take a holistic approach to addressing the environmental impacts of our clothing and footwear, and engage with our customers to encourage responsible fashion consumption.

We are part of the [Sustainable Clothing Action Plan \(SCAP\)](#), a collaborative initiative led by WRAP which aims to revolutionise the clothing industry, using collective action to minimise the environmental impact of our clothes. Along with other UK retailers we have committed to reducing our carbon, water and waste by 2020. By working closely with our supplier partners and the Better Cotton Initiative, we have been able to ensure that 60% of the cotton we buy is grown more sustainably. We have set the target to reach 100% by 2025.

Another way we are taking action to achieve these targets is by working with our suppliers and customers to reduce waste. For example, we are leveraging

our experience from other areas of our business such as packaging. We have set out our ambition to work towards a closed-loop system and are taking action to reduce and simplify the materials we use in order to support this. Our packaging team are continuously working to reduce the amount of plastic packaging we use across all of our products. At F&F, we have recently reduced the weight of the plastic polybags items such as shirts and baby bodysuits are sold in.

Supporting a closed loop approach, we have also ensured that all the uniforms our colleagues wear have been made from 100% recycled polyester since 2012. Last year this equated to over 330,000 garments. For customers, we want to ensure they can enjoy our clothes for longer so we have been using an ‘As New’ treatment which reduces pilling and colour fastness, therefore making the garment last longer, wash after wash.

Finally, in the UK, we work with 12 charity partners to manage the clothing and textile banks in our customer car parks. In 2017/18, these charities collected over 10,000 tonnes of clothing. We also partner with Cancer Research UK to ask customers to donate their pre-loved clothing, shoes and accessories to the charity which can be sold in Cancer Research UK’s shops. Last year the clothing collected helped the charity to raise £100,000 to fund vital research into over 200 different types of cancer.

Future Priorities.

“Tesco is using what we have learned in the clothing supply chain to continue to make improvements and extend our chemical management approach to other areas of our business, such as general merchandise.”

Laurence Webb, Responsible Sourcing Manager

Our journey towards a truly sustainable clothing supply chain and production based on sustainable chemistry requires long term commitment and continued action. We are proud of the progress we have made so far in engaging our suppliers on the importance of responsible chemical management and the reductions we have achieved in the levels of chemicals of concern in our products. However, we recognise that there is more that we need to do.

We have begun to increase transparency of our clothing and footwear supply chains by publishing [our tier 1 suppliers](#), and going forward we will be focussed on achieving the same degree of visibility for the lower tiers of our supply chain. Our new wastewater testing regime is making an important contribution to ensuring compliance with our hazardous chemicals policy, however, we will be working to extend the coverage of this data.

As we implement our responsible chemical management strategy we have encountered a number of challenges. The lack of stability in the supply chain due to the fast paced nature and price sensitivity of the fashion market, means that we will need to maintain our efforts to raise awareness and understanding amongst all tiers of the supply chain.

Certain regions or sectors of the industry have proved more challenging to engage due both to cultural factors, the development of the industry and our degree of leverage. Working together with other brands, experts and with local governments will be critical to overcoming these challenges and bringing about a transformation in the sustainability of the clothing industry.

We will continue to support our suppliers to implement chemical management best practices and to phase out hazardous chemicals from the manufacturing process towards our 2020 Detox commitments. In view of the significance of their impacts, managing chemicals in our clothing business has been the key priority for both ourselves and our stakeholders. This work is now informing our approach to chemical management across our general merchandise operations.

Appendix.

Progress against our Detox commitment

Our Detox commitment focuses on seven areas of action where our priorities align with those of Greenpeace.

1. Supply chain disclosure

We published our [RSiT List](#) in February 2018. We have also disclosed 100% of our Tier 1 clothing and footwear suppliers which includes 32% of wet processing production for Tier 2 suppliers on our [tescoplc.com website](#). We will be working to disclose more of our Tier 2 suppliers in the future.

Wet processing factories which cover 71% of our production have tested their wastewater against our published requirements and published their results on the [Institute of Public and Environmental Affairs \(IPE\) platform](#) and [ZDHC Wastewater Disclosure Portal](#). We continue to make effort to expand the coverage and we expect this will reach over 80% by the end of 2018.

2. Priority hazardous chemical groups elimination policy

Our chemical compliance policy goes beyond the elimination of priority hazardous chemicals. We require our supply chain to develop a robust chemical management system and apply best practice in the industry. In the long term, we aim to be fully transparent about the chemical formulation used in all our factories and work with our supply chains to implement sustainable chemistry solutions.

3. Alkylphenols & their ethoxylates (APEOs) elimination policy

We have achieved 100% elimination of intentionally added APEOs. Some contamination issues remain and are being investigated so that we can eliminate these too. We are sharing case studies with guidance on APEO elimination with our supply chain and the industry.

4. PFCs – Perfluorocarbon / Polyfluorinated Compounds elimination policy

Tesco has followed the Detox recommended approach by listing all relevant individual PFCs in its list of restricted substances. This is in addition to the ZDHC requirement which remains at the ‘group’ or ‘class’ level. From Spring-Summer 2018, all of our products which require water repellent properties are using PFC free finishes.

5. Targets for other hazardous chemicals

We are following targets identified for 2020 in the ZDHC MRSL. Specific chemicals being targeted include glycols, poly aromatic hydrocarbons (PAHs), various volatile organic compounds, carcinogenic dyes (or equivalent concerns) and dispersive, sensitising dyes. These have been our focus as they are the most commonly used and safer alternatives are available. Details of the timeline can be found in our [Restricted Substances in Textiles, Leather & Footwear List \(RSiT\)](#).

6. Responsible consumption or living (closed-loop operations across global supply-chain and product lifestyles)

Our Little Helps Plan sets out how we are tackling a range of product issues that minimise the environmental impact of our supply chains, promote closed loop systems and encourage responsible consumption. Our Sustainable Clothing Action Plan (SCAP) brings this to life for our clothing business.

7. Self-reporting on the DETOX Commitment

This report is our principal account of the work we have been doing to deliver our DETOX commitments and we will continue to report against our progress.

Substitution Business Case Studies

Technical case studies for industry stakeholders:

- [Substitution Case Study for APEOs \(a\)](#)
- [Substitution Case Study for APEOs \(b\)](#)
- [Substitution Case Study for Chlorinated Compounds](#)
- [Substitution Case Study for Phthalates](#)
- [Substitution Case Study for Naphthylamine](#)