A business model based on hazardous chemicals and environmental destruction





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The fast fashion business model is notorious for the huge volumes of clothes that are produced, the speed they are brought to market, and for stories of outsize environmental and social impacts. The most visible of these is the vast quantity of polluting textile waste increasingly making its way to East Africa and other Global South countries, as recently revealed by Greenpeace Germany.¹ While credible attempts to change the business model are thin on the ground, there's no shortage of 'sustainability' or 'circularity' initiatives, which are mostly not a serious attempt to address the problem² – and are increasingly being proven as greenwashing. It's hard to imagine how fast fashion could get any worse, yet this is already happening. The latest phenomenon – ultra fast fashion³ – championed by the Chinese online fashion brand SHEIN, has taken the fast fashion business model beyond the extreme. This new evolution of fast fashion forces suppliers to deliver at breakneck speed, with orders made in China within 3-7 days⁴ and delivered direct to customers around the world by air freight. It's a business model built around the exploitation of the environment and people, which relies on the lack of enforcement of regulations designed to protect the environment – and the health and safety of workers and consumers – routinely crossing the red line of regulation.

Pink and purple foam on the Tullahan River in the Philippines. The river changes colour almost daily. Several industries, including a dye factory, are located upstream from this site.



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River Pollution in West Java.

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Indonesian models wear eco fashion apparels designed by well-known Indonesian designers Felicia Budi, Indita Karina, Lenny Agustin during a "Detox Catwalk" organised by Greenpeace in the polluted paddy field in Rancaekek, West Java 2015 province to highlight the toxic pollution brought by the clothing industry as well as the idea that 'beautiful fashion shouldn't cost the earth'.

The fashion industry is responsible for up to 10% of global greenhouse gas emissions⁵ (GHG) and is even failing to meet its own GHG commitments.6 It is also a major cause of water pollution worldwide,7 with over 80% of its supply chain impacts on the environment taking place in Global South countries where the overwhelming majority of clothes are manufactured.8 Following the pressure of Greenpeace's successful Detox My Fashion campaign, the global brands that were targeted are cleaning up their supply chains to tackle the huge problem of water pollution with hazardous chemicals that we revealed in 2011.9 But this voluntary action can only go so far; without a level playing field, there will always be companies who will do nothing unless they are required to by regulation, whether that's cutting corners on hazardous chemicals and water pollution or speeding up the turnover of "disposable" plastic clothing. 10 And if the regulations that do exist are not enforced, they will take advantage of this too.

As a result, all of the brands targeted by the campaign, including fast fashion giants like Zara and H&M, have been working successfully for years to Detox their supply chains, with the positive effects that come with supply chain transparency. Nevertheless, these brands and others like them opened Pandora's box many years ago by starting the fast fashion trend. While their business models still depend on non-circular fast fashion and can therefore never be sustainable, it's shocking that the number of new designs they promote even looks small in comparison with the huge

number of new designs that SHEIN puts on its website every week. SHEIN's clever marketing bombards young people, under the radar of critical eyes, through novel social media platforms like TikTok, with glamorous looking products selling at rock-bottom prices, promoted by micro- and macro-influencers who get free products and other benefits in return for spreading the word. Yet the suppliers that make these products for SHEIN are shrouded in mystery; little is known about the thousands of cut and sew suppliers in Guangdong, China, which churn out orders 7 days a week, and even less about the factories that wash and dye their fabrics - the biggest contributors to SHEIN's pollution footprint.

Can the products themselves tell a story? Do the sheer volumes and tight turnaround times of SHEIN's products mean that it is cutting corners on the use of hazardous chemicals in its supply chain? To find out, Greenpeace bought 42 Items from SHEIN websites in Austria, Germany, Italy, Spain and Switzerland and 5 articles from a pop-up store in Munich, Germany, and sent them to independent laboratory BUI for chemical analysis. The findings prove SHEIN's careless attitude towards the environmental and human health risks associated with the use of hazardous chemicals, all in the interest of profit. Even worse, we found that SHEIN is breaking hard-won EU environmental regulations on chemicals and risking the health of consumers and the workers at the suppliers that make the products.

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Key findings

For products sold in Europe, strict concentration limits are set under the REACH Regulation for a range of hazardous substances (whether present as additives or contaminants) in clothing textiles, accessories and shoes (see table 1).¹¹ For specific details of the results of the product testing, see the Appendix.

Out of the 47 products bought, 7 contained hazardous chemicals in excess of EU regulatory limits. 12 That's 15% of the products.

All 7 of these products were made wholly or partly from synthetic, fossil-fuel based materials. 6 of these 7 products were boots or shoes.

Very high levels of phthalates were found in 5 boots or shoes (FT-17, FT-27, FT-15, FT-35, FT-42) at above 100,000 mg/kg, 100 times the requirement in the EU's REACH regulation of <1,000 mg/kg. The highest level of phthalates was found in the plastic print on a pair of black snow boots (FT-27) bought in Switzerland, at 658,000 mg/kg of DEHP (658 times the limit).











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Formaldehyde was found in a baby girl's colourful fancy dress tutu, at 130 mg/kg in purple tulle, which exceeds the REACH requirements, and 40 mg/kg in a green strap and purple tulle, above the EU Toys Directive limit of 30 mg/kg.¹³



The release of nickel above the EU REACH requirements of $<0.5~\mu g/m^2/week$ was found in a pair of red stiletto boots bought in Spain, at 1.5 $\mu g/m^2/week$.

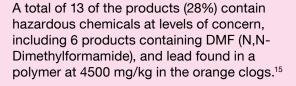


ONE OTHER PRODUCT CAME CLOSE TO EXCEEDING REGULATIONS.¹⁴



FT-21

A suedette moto jacket also bought in Spain was found to release 0.7 $\mu g/m^2/week$ of nickel and apparently breaches the REACH requirements for the release of nickel (<0.5 $\mu g/m^2/week$). However, there is a margin of uncertainty in the testing.



At least one hazardous chemical was quantified in 45 of the 47 products, although most were at relatively lower levels.





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Expedition to Macun Lakes, Switzerland. Greenpeace teams went to famous remote areas on three continents to collect water and snow samples and test them for PFCs, the hazardous chemicals used to make outdoor gear waterproof. They are already found deep in the ocean, on mountain tops, and in nearly all living creatures. Once released into the environment during industrial production, PFCs persist for millions of years and future generations will continue to be exposed via contaminated water, air and food.

The concern is not only that SHEIN products with illegal levels of hazardous chemicals are being widely sold in Europe, contravening EU regulations, with potential impacts on consumers. It also suggests that SHEIN has little oversight of hazardous chemical management within its supply chain. It is therefore exposing workers to these hazards when products are made. Its suppliers who make the fabrics and materials are likely to be impacting the environment and local communities by releasing these hazardous chemicals into the air and wastewater.

Greenpeace's Detox My Fashion campaign¹⁶ revealed the widespread use of hazardous chemicals like nonylphenols, phthalates and the "forever chemicals" PFAS¹⁷ that were routinely being discharged into waterways by textiles suppliers in East Asia, Southeast Asia and Central America. Many of these chemicals are persistent and do not break down, so they build up in the environment and leave a poisonous legacy for future generations. Chemicals don't only remain in the regions

where clothes are made; for example, persistent chemicals have been found globally, from polar ice caps to remote mountainous regions¹⁸, to the bottom of the sea.¹⁹

Many fast fashion products are manufactured in high volumes and made to be disposable - a party top is used on average 1.7 times before being discarded²⁰ - and recycling of textiles into new clothing is only a reality for less than 1% of clothes.21 Unsold or returned goods are also routinely destroyed - in Europe it is estimated that the products destroyed in 2020 alone would go around the world 1.5 times.22 So at the other end of the fashion cycle when clothes containing hazardous chemicals are thrown away, they will inevitably contaminate the truckload of textile waste which is either burnt or sent to landfill every second.23 Finally, if any fashion brand is serious about circularity, the first thing to do is address the hazardous chemicals problem, to prevent these chemicals recirculating in second hand clothing and contaminating recycled textile fibres for years to come.

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Product testing

A recent investigation in Canada found that out of 38 samples of children's, adult's and maternity clothes and accessories bought from three online retailers, including SHEIN, one in five items had elevated levels of hazardous chemicals — including lead, PFAS and phthalates — with a SHEIN jacket for toddlers containing 20 times the safe level set by Health Canada.²⁴ Likewise, in Europe, a documentary on French TV²⁵ analysed clothes bought from SHEIN which showed non compliance with REACH, with levels of lead in a polyester top 4 times higher than the REACH limits. These findings were clearly a cause for concern, adding to Greenpeace's alarm about the high volumes of SHEIN products being sold: we therefore decided to investigate the situation further.

Greenpeace bought 42 articles from SHEIN websites in Austria, Germany, Italy, Spain and Switzerland and five articles from a pop-up store in Munich, Germany, and sent them to independent laboratory BUI for chemical analysis.



THE PRODUCTS

A total of 47 textiles were purchased and sent to an independent laboratory for analysis. In September 2022, 42 products were bought from SHEIN's online website, 22 from Germany, with 5 from Austria, Italy, Spain and Switzerland respectively.

A further 5 textile products were bought at SHEIN's pop-up store during Oktoberfest in Munich in October.²⁶

THE METHODOLOGY

The products were divided into sub-samples according to their material and were analysed for alkylphenol ethoxylates, formaldehyde, heavy metals in metal parts, heavy metals/metalloids in plastics and coated materials, extractable nickel, VOC screening, total and extractable heavy metals, aromatic amines from azo dyes, PFAS (perfluorinated carboxylic and sulfonic acids), DMF (n-n-dimethylformamide), phthalates and other plasticisers, and PAHs.

For full details of the chemicals analysed and the results according to each product see Appendix, Table A1, and for the full results including details of the methods applied for each type of analysis, see the BUI Analysis Report.

THE RESULTS - SUMMARY OF MAIN FINDINGS:

- Alkylphenol ethoxylates (APEs): 43
 samples (from 43 products) were analysed
 for the alkylphenol ethoxylates NPE and
 OPE; 9 samples contained NPEs and 2
 contained OPEs (25%). The range was
 between 3 and 36 mg/kg, within the REACH
 requirement of <100 mg/kg.
 - Regulation and enforcement since 2015 has encouraged the substitution of the hazardous chemicals NPEs with safer alternatives throughout the industry, following Greenpeace findings of NPEs in products²⁷ which resulted in the closing of a loophole in EU regulation that allowed the presence of nonyl-

phenol ethoxylates in imported products. Therefore the fact that the levels of APEs found in the SHEIN products do not exceed the regulatory limits, shows the shift away from APEs resulting from Greenpeace's campaign.²⁸

- Formaldehyde: 45 samples were analysed, taken from 43 products (some products were divided up into more than one sample to target specific chemicals). Formaldehyde was found in 4 of the samples (3 products) between 5 130 mg/kg. The sample with 130 mg/kg exceeds the REACH requirement of <75 mg/kg. Another sample of the same children's dress contained 40 mg/kg, which exceeds the requirement of the Toys Directive.
- Heavy metals in metal parts: 18 samples were analysed, from 14 products. Nickel was detected in 14 samples, ranging from 6,000 mg/kg to 460,000 mg/kg. A Dazy swimsuit²⁹ also contained lead (20,000 mg/kg) and tin (700 mg/kg) which is possibly connected to organotins in a plastic part).
- Heavy metals/metalloids in plastics and coated materials: 33 samples from 22 products were analysed. Bromine, tin, cadmium and lead were detected in 6 samples: bromine was detected in 4 samples (50 400 mg/kg which could indicate inorganic bromine or Brominated Flame Retardants (BFRs) although levels are usually much higher with intentional use), tin in 2 samples (700 & 800 mg/kg) which is possibly connected to organotins, and both lead (4500 mg/kg) and cadmium (200 mg/kg) were found in 1 sample. The level of cadmium exceeds the REACH requirement of <100 mg/kg for cadmium in polymers.</p>
- Nickel release of suspected cases:
 6 samples of the metal parts of 6 products were analysed (6 samples in total) for release of nickel, which was found in 2 samples, at 0.7 and 1.5 µg/cm²/week, both in exceedance of the REACH requirements. However, there is a 'combined measurement uncertainty' for the sample with 0.7 µg/cm²/week.

- Heavy metals extractable: 45 samples (43 products) of material or printed material were analysed for extractable heavy metals, which were detected in 42 samples. Antimony was detected in 41 samples (between 0.1 20 mg/kg) and nickel in 9 samples (9 products) (between 0.1 1.3 mg/kg). There is no REACH requirement for either extractable antimony or nickel in material or printed material, (unlike the requirements for nickel release from metals above).
 - Previous Greenpeace studies tested for antimony in polyester clothing; a 2014 report³⁰ tested 36 polyester items, all contained antimony, in the range of 14-293 mg/kg. Antimony is commonly used as a catalyst in polyester production, although alternative catalysts are available.
- PFAS perfluorinated carboxylic and sulfonic acids: 8 samples of swimwear were analysed for PFAS, and were not detected in any of the samples. PFAS are added at the finishing stage when clothes are manufactured, for waterproofing. SHEIN doesn't publish a Restricted Substances List, so it is unclear whether the absence of PFAS is the result of efforts to replace PFAS with environmentally friendly alternatives, or of simply skipping the waterproofing process to save costs or time.
- Aromatic amines: 44 samples (from 43 products) were analysed for aromatic amines, which were found in 3 products, between 6.5 and 110 mg/kg. The sample with 110 mg/kg of p-PDA is not included in the restrictions according to REACH on carcinogenic amines, although it has allergenic potential.
- VOC screening: 65 samples (46 out of the 47 products) were screened for VOCs. The presence of a range of chemical compounds were detected in all but 4 of the products. Based on the results of this VOC screening, further targeted analysis of some samples for DMF, phthalates and other plasticisers and PAHs was undertaken.

- DMF (N,N-Dimethylformamide): DMF was quantified in 6 products between 35 and 1200 mg/kg, within the REACH requirement of <3000 mg/kg.
- Phthalates and other plasticisers: 10 products were analysed (13 samples altogether), and phthalates were found in 8 products. In 6 products, phthalate concentrations exceeded REACH requirements of <1000 mg/kg each/in combination.
- PAHs poly aromatic hydrocarbons: one sample was analysed for PAHs, and 18 PAHs were found, ranging from 0.2 to 17 mg/kg, with a sum of 68 mg/kg.

It's also useful to compare the findings to the OEKO-TEX Standard 100 (Annex 6)³¹ limits for hazardous chemicals in products, which are more ambitious than the REACH limits. Of the 47 products tested, 7 could exceed the various limits in the Standard 100 chemicals list, including exceedances of other chemicals in 3 of the products already exceeding REACH. The exceedances of the Standard 100 limits were for:

- aromatic amines (product sample number FT-7),
- phthalates (FT-15, FT-31),
- PAHs (FT-22),
- lead (FT-35) and metallic lead (FT-39) and
- DMF(N,N-Dimethylformamide), with one of the products that contained DMF (FT-10) exceeding the Standard 100 limit of <0.05 - <0.10.

Further details are in the Appendix, Table A1.

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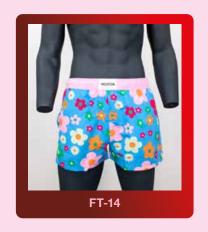
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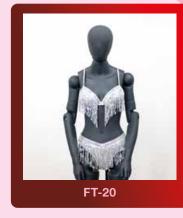




















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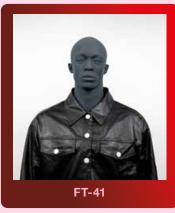
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Orange bucket hat

https://m.shein.com/de/ EIMERHUT-p-10808020cat-1772.html

FT-43

Overall dress with ribbon, buckle, without blouse

https://m.shein.com/de/ OVERALL%20KLEID%20 MIT%20BAND,%20 SCHNALLE,%20OHNE%20 BLUSE-p-11197639-cat-1727. htm-

I?ici=&ref=m&rep=dir&ret=mde

FT-44

Sweater with polo collar, drop shoulder, letters graphic

https://m.shein.com/de/ PULLOVER%20MIT%20 POLO%20KRAGEN,%20 DROP%20SHOULDER%20 BUCHSTABEN%20GRAFIK-p-7722202-cat-1773.html

FT-45

SHEIN X Penelope Ping PU leather blazer with lapel collar, eyelets and asymmetrical trim

https://m.shein.com/de/PU%20LEDER%20 LAZER%20MIT%20REVERSKRAGEN,%20 %C3%96SEN%20UND%20ASYM-METRISCHEM%20BESATZ-p-2696714cat-1739.html?ici=&ref=m&rep=dir&ret=mde

FT-46



Jeans with rips

https://m.shein.com/de/ JEANS%20MIT%20RISS-p-2420834-cat-1989.html?ici=&ref=m&rep=dir&ret=mde

FT-47



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Table 1: EU Regulations for chemicals analysed for product testing of textiles

Chemicals analysed for product testing of textiles, October 2022	Requirements REACH ³² mg/kg	Requirements Toys Directive ³³ mg/kg	OEKO-TEX Standard 100 Annex 6, ³⁴ for comparison mg/kg
Ethoxylated alkylphenols	<100³⁵		<50
Formaldehyde	<75 ³⁶	<30	nd (baby) In contact with skin <75
Lead in jewellery products	<500 ³⁷		
Lead in metallic material			<90
Lead in plastic, coatings			<75
Cadmium in polymers	<100 ³⁸		<40 total content
Organotin compounds, Sn in articles	<100039		<0.5
Nickel release	<0.5 µg/cm²/week 40		Same as REACH
Extractable heavy metals: Cd, Cr VI, As, Pb for clothing, accessories and footwear	Each <1 ⁴¹		Cd <0.1 Cr VI <0.5 As <0.2 Pb <0.2 Sb <30 Ni <1
Aromatic amines	Each & sum < 30 ⁴²		<20
VOC screening: DMF, N,N-Diemethylacetamid	<300043		<0.05 - <0.10
DMF (dimethyl formamide)	<300044		<0.05 - <0,10 w-%
Phthalates: DPP, DMEP, DIPP, DnHP, single or in combination with DIBP, DBP, BBP, DEHP	<1000 ⁴⁵		
Phthalates: DIBP, DBP, BBP, DEHP, single or in combination	<100046		
Phthalates: DINP, DIDP, DNOP (toys and articles for babies, that can be put in the mouth)	<1000 ⁴⁷		
Phthalates - all			<0,010-w-% Sum <0,025 w-%
PAHs	<148		<0.5 - <10



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BOX 1: ABOUT THE CHEMICAL VILLAINS ANALYSED IN THE PRODUCTS

CHEMICAL VILLAINS - the hazardous chemicals	Examples of uses /func- tions ⁴⁹	Examples of hazards to environment and human health (see note*) and relevant regulation. Impacts occur from their use in the supply chain, their presence in the final product during use and their disposal.
Alkylphenols/alkylphenol ethoxylates (APs/APEs), including nonylphenols/ nonylphenol ethoxylates (NPs/NPEs)	Detergents and auxiliaries	APs: toxic to aquatic life, persistence, bioaccumulation, endocrine disruptors. Heavily regulated in the EU. APEs break down to APs
Formaldehyde	Water-, oil-, stain- and wrinkle-resistant coatings	Legislation in major markets around the world restricts the presence of formaldehyde in finished products. At high exposures formaldehyde is classified as a probable human carcinogen. It is an irritant which can affect the eyes, nose, and throat. 50 Individuals who are sensitised to formaldehyde can develop an allergic response (eg allergic contact dermatitis) when they are exposed to formaldehyde.
Heavy metals: cadmium, lead, mercury and chromium (VI). Also antimony and nickel	Dyes and colourants; additives in some plastic coatings	Some can bioaccumulate in the body over time and are highly toxic, with irreversible effects including damage to the nervous system (lead and mercury) or the kidneys (cadmium). Cadmium is also known to cause cancer.
	Antimony can be used as a catalyst in the production of polyester	Antimony shows many similarities in its chemistry and toxicity to arsenic. Trivalent antimony, such as is present in antimony trioxide, is a more toxic form of antimony compound. Antimony compounds have been associated with dermatitis, irritation of the respiratory tract, and interference with the immune system.
	Nickel can be found in pigments, dyes, metal alloys, metal coatings and in metal-complex dyes. ⁵¹	Nickel: The most common effect of exposure to nickel is an allergic reaction and sensitization effect caused by direct and prolonged skin contact with nickel.
Tin - could arise from organotin compounds	Antibacterial and anti-mould agents;	Some organotins are persistent, bioaccumulative, and can affect immune and reproductive systems. Consumer products containing more than 0.1% of some organotin compounds are banned in the EU.
Bromine - could arise from inorganic bromine or Brominated flame retardants (BFRs)	Fire retardant textiles	Many BFRs are persistent and bioaccumulative. Some PBDEs, a type of BFR, are endocrine disruptors and are banned under EU law.
Per- and polyfluorinated chemicals (PFCs) (also referred to as PFASs - polyfluorinated alkylated substances)	Water-, oil-, stain- resistant coatings	Many PFCs are persistent and bioaccumulative - and are known as "forever chemicals". Some can affect the liver or act as endocrine disruptors, altering levels of growth and reproductive hormones.



Aromatic amines: Azo dyes with cleavable carcinogenic amines	Dyes and colourants	Azo dyes release chemicals known as aromatic amines, some of which are carcinogenic. Certain azo dyes (those that can release carcinogenic amines) are banned by the EU in textiles that come into contact with human skin.
DMF - N,N,dimethylfor- mamide	Used in the production of polyurethane (PU) coated materials such as synthetic leathers, also in process coatings, adhesives, plastics, acrylic fibres, PU resins, or as a cleaning solvent. 52	DMF is classified as toxic to reproduction and is a Substance of Very High Concern under REACH. Also toxic to the liver from either acute or chronic exposure.
Phthalates	Softeners in plastic coatings	Some phthalates are classed as reprotoxic, others are known for other types of toxicity. Under EU REACH legislation many phthalates are listed as Substances of Very High Concern.
PAHs - polyaromatic hydrocarbons	Added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings. Can be an impurity in textile dye. They are impurities in low-grade raw materials. ⁵³	Legislation in major markets around the world restricts the presence of PAHs in final products. Some PAHs can be very toxic to aquatic organisms and, above certain exposure levels, may cause long-term adverse effects in the aquatic environment. Long-term exposure to some PAHs may result in the development of particular cancers.

*hazards to environment and human health include: persistence (they do not readily break down in the environment); bioaccumulation (they can accumulate in organisms, and even increase in concentration as they work their way up a food chain); and toxicity

Some types of toxicity make it difficult to define 'safe' levels for substances, even at low doses, for example, substances may be:

carcinogenic (causing cancer), mutagenic (able to alter genes) and/or reprotoxic (harmful to reproduction); or endocrine disruptors (interfering with hormone systems)

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The flow of waste water containing alkylphenol ethoxylates from a discharge pipe in China. This pipe leads into the Huangshali Channel, and is located northeast of the Guotai Dyeing Factory or the "Well Dyeing Factory Limited" (English name). The factory is in Gaoping Industrial Park, Sanjiao town, Zhongshan City, situated on the Pearl River Delta.

EU and European regulations

HAZARDOUS CHEMICALS AND REACH

The EU's regulation on hazardous chemicals, known as REACH, puts the responsibility for providing information on the hazards of chemicals used for production and in products with chemical producers and manufacturers of products containing chemicals.54 Though registration such as this may not apply directly to brands selling articles, it depends on the volumes and concentrations of hazardous chemicals and their likely fate.55 All companies (both manufacturers and brands) therefore need to be fully aware of the chemicals used by their suppliers, and take responsibility for

eliminating their use, their presence in products, their impacts and any discharges; including those into water.

The REACH Regulation is based on the principle⁵⁶ that it is the responsibility for manufacturers, importers and downstream users to ensure that they manufacture, place on the market or use only such substances that do not adversely affect human health or the environment. Its provisions are underpinned by the precautionary principle.

REACH-ING BEYOND THE EU: THE CASE **OF NPES**

The 2006 REACH regulation was a major development for the control of hazardous chemicals, and came about after years of

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campaigning by Greenpeace and other public interest groups, who presented evidence about the problems from hazardous chemicals ranging from wastewater discharges to waterways, to consumer products such as toys and fragrances and the presence of chemicals in household dust. Nevertheless, there was a significant loophole, uncovered in 2012 by two Greenpeace International reports which found high levels of NPEs in branded clothing and revealed how they were washed out into European waterways when washed by consumers.57 While the EU already banned the use of nonylphenol ethoxylates (NPE) in textiles manufacturing within its own borders, it allowed garments containing NPE to be imported. This revealed the universal use of NPEs by manufacturers in East Asia and other Global South countries which were discharging this hazardous chemical into their waterways.

In a major success for Greenpeace's campaign, EU member states closed this loophole in REACH by voting to ban the import of clothing containing NPE in July 2015.⁵⁸ As the EU is an important market for clothing, this measure has had a global impact, resulting in the progressive elimination of the use of NPEs and the group APEs throughout the textiles supply chain. This example shows the importance of the paradigm shift from consumer safety towards taking responsibility for impacts in the supply chain, in this case, zero discharges of hazardous chemicals through eliminating their use by suppliers.⁵⁹

The European Commission is currently engaged in an ongoing process to update the REACH regulation⁶⁰ as part of its Chemicals Strategy for Sustainability. However, public interest groups have accused the European Commission of "inexcusable short-termism" for delaying the crucially needed reform of the REACH – originally expected by March 2023 at the latest – until late next year.⁶¹ This strategy provides an action plan⁶² to:

- Ban the most harmful chemicals in consumer products – allowing those chemicals only where their use is essential.
- Pay attention to the cocktail effect of chemicals when assessing chemical risks.
- Phase out per- and polyfluoroalkyl substances (PFAS) in the EU, unless their use is essential.
- Boost investment and innovative capacity for the production and use of chemicals that are safe and sustainable by design throughout their lifecycle.
- Promote the EU's supply and sustainability of critical chemicals.
- Establish a simpler "one substance, one assessment" process for assessing the risks and hazards of chemicals.
- Play a leading role globally by championing and promoting high chemical safety standards and not exporting chemicals banned in the EU.



Detox Mannequins in Zhejiang Province 'witnessing' the Qiantang River pollution. The Greenpeace investigatory report; "Toxic Threads: Putting Pollution on Parade" (2012) revealed that effluent from the Linjiang WWTP contained various toxic chemicals including carcinogens.

BOX 2: E-COMMERCE REGULATIONS

When it comes to companies selling online, enforcing regulations, including REACH, becomes more difficult. A recent report by the European Chemicals Agency⁶³ assessed the compliance of a range of products (including textiles) with EU regulations, and found out of 776 articles, 25% were non-compliant with REACH restrictions. The Swedish Chemicals Agency also found a higher risk of non-compliance with European chemicals legislation: "Shopping online, especially from companies outside the EU and EEA, can pose a risk to both health and the environment if consumers are not sufficiently conscious and informed and sellers are not knowledgeable and honest. This risk is higher when buying from companies without physical stores in the EU and from market-places based outside the EU, as consumers may purchase products that do not comply with the requirements of the European chemicals legislation".⁶⁴ In a first for France, the website Wish has recently been "un-referenced" because of the non-compliance and hazards of the products it was selling.

The EU Safety Gate system (formerly Rapid Information System-RAPEX)⁶⁶ which was set up to identify products posing a serious risk to the health and safety of consumers, has also drawn attention to the problem of dangerous products being sold online.⁶⁷ The OECD publishes global statistics that show that 68% of products that were identified as banned or recalled were supplied online, and has also carried out a global campaign to raise awareness about this issue.⁶⁸

In recent years more effort has been made through the Safety Gate system to include products sold online through tracing systems, international cooperation as well as a voluntary Product Safety Pledge which the EU has asked online retailers to sign. This contributes to the faster removal of dangerous non-food consumer products offered for sale online and sets out actions by online marketplaces to strengthen product safety, such as providing a clear way for customers to notify dangerous product listings. The most recent report in May 2022 lists eleven online marketplaces as signatories of the Pledge, including Amazon; however, SHEIN is not listed among them.

SHEIN - an "under the radar" catastrophe

After the scandals of recent years, with hundreds of people dying in disasters, from the collapse of Rana Plaza factory in Bangladesh to the fire at Ali Enterprises⁷⁰ in Pakistan, along with the scandalous treatment of suppliers by some big brands during the COVID pandemic, fast fashion is rarely out of the headlines. As a result of this, and the campaigns of public interest groups, there is a growing movement towards longer lasting, alternative and second-hand fashion such as renting, largely driven by women.⁷¹ Yet in the last few years, under the radar, SHEIN, a

company that most people over 30 years old have never heard of, has been strategically targeting vulnerable consumers as young as 9 years old72 with its new system of ultra fast fashion. Away from checks and balances of civil society, SHEIN has taken its fashion directly to its young customers through social media such as TikTok, taking advantage of children who could not be expected to be aware of the huge social and environmental impacts that are concealed behind the glamourous facade of its cheap and super-disposable fashion. With its smart but profit at all costs strategy SHEIN is undermining years of progress on tackling the toxic impacts of the global fashion industry. And even more concerning, this could just be the beginning.

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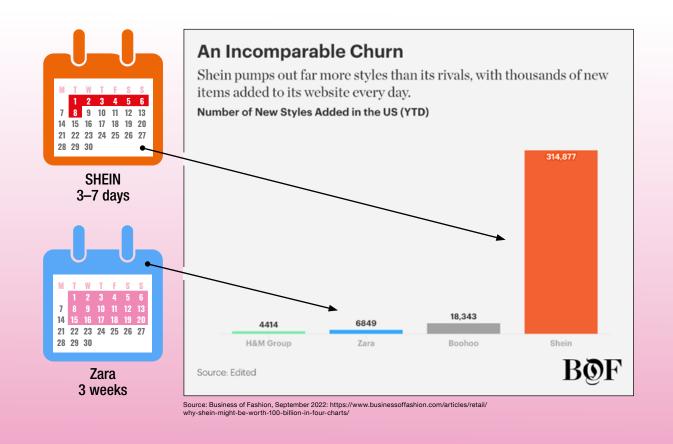
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CHEAPER, FASTER, MORE CHOICE ... **MORE WASTE**

If you are looking for new men's shoes for 7 euros or wedding dresses for 8 euros to wear once only, you will find them at SHEIN. Every day, the company puts an apparently unbelievable 6000 new articles online, with some of the styles and designs even stolen from designers, artists and other brands, with legal challenges a regular occurrence.73 These products are made at breakneck speed, using 5000 small and large factories in Guangdong, China, which are said to produce directly for the company.74

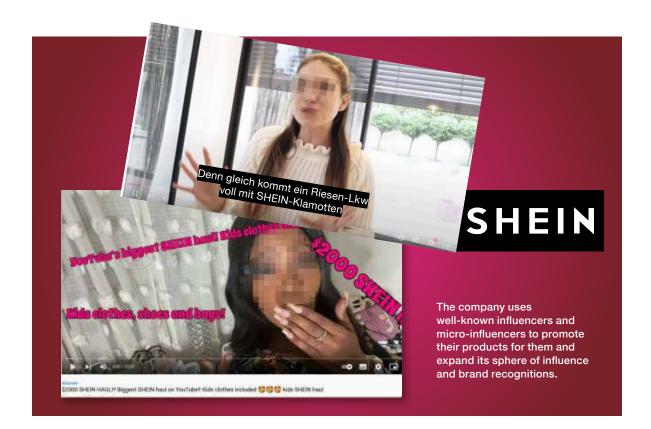
It normally takes a fashion brand about three months to plan a garment and bring it to market: SHEIN has arguably shortened the process to as little as 3-7 days,75 ahead of its nearest competitor Zara, which takes two⁷⁶ to three weeks.77

With the exception of occasional pop-up stores,78 announced at the last minute to generate excitement - like the one during Oktoberfest in Munich where Greenpeace bought some products for this report, and the recent announcement of its first showroom in Tokyo⁷⁹ - SHEIN sells almost exclusively online. So instead of maintaining expensive stores, SHEIN delivers directly to its customers, gathering real-time customer feedback from the app and sharing it with its suppliers to control the production of goods.80 New designs are made in very small quantities, as little as one or two hundred pieces or less; if the product is popular SHEIN orders more batches, usually with the same supplier.81 SHEIN is also one of Google Trends' biggest customers and uses live searches to identify rising trends in different countries and predict the colours, fabrics and styles that will be popular.82 All of this increases the probability of "hitting the nail on the head", with 50% of its products in high demand, and only 10% relatively less popular.83



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INFLUENCERS AND GEN Z

SHEIN relies heavily on influencers for its marketing, who are rewarded with free products in return for their efforts at promoting SHEIN's products amongst their young followers. For example, in Germany, this is as one example done with the help of Bianca "Bibi" Claßen, through the 5.9 million subscribers to her YouTube channel Bibis-BeautyPalace⁸⁴ and her 7.8 million Instagram followers,85 where she presents SHEIN-sponsored content and gambling.86 In Austria mi9chelle has 80.1K followers on TikTok.87 By using country-specific accounts on Instagram, SHEIN is able to finesse its local influencer strategies and create more relevant connections with consumers in each of those markets.88

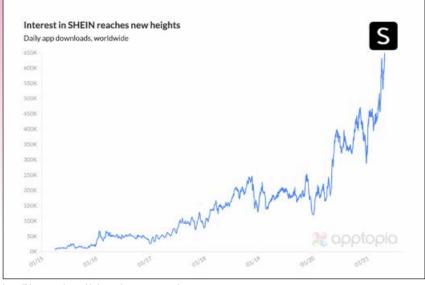
SHEIN promotes its services on platforms like Instagram, and is especially popular with young Gen Z shoppers on TikTok and

YouTube, where it has become a trend for users to post \$1,000 SHEIN "hauls," or large purchases. And it works: the hashtag #SHEINhaul has a massive 4.3 billion views on TikTok alone, and on Youtube there are thousands more videos thousands of views each like the marketing works through events like the SHEIN Together Fest – officially a charity event for the WHO, supported by the United Nations Foundation – where world stars like Katy Perry or Lil Nas X perform.

This strategy has been incredibly successful for SHEIN; its website is the most visited for fashion and clothing worldwide, 94 with sometimes twice as many visits as its competitors from H&M, Zalando or Adidas, while in 2021 its app was the most downloaded shopping app in the world, far ahead of Amazon, 95 and has already been downloaded over 100 million times from Google Play alone. 96,97

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https://blog.apptopia.com/shein-accelerates-app-growth

SHEIN's app is experiencing record-breaking activity, achieving new lifetime highs for single-day downloads and daily active users.

A MASTER OF MANIPULATION

SHEIN has been called the most manipulative fashion company ever by marketing experts, 98 and is a master at using so-called "dark patterns", such as concealing hidden costs, making a customer feel bad if they don't buy, hidden advertisements, time-limited offers with a countdown, and much more. Anything to persuade its customers to buy more than they need. In an analysis of the exposure of Swiss consumers to "dark patterns" SHEIN took the top spot by far, with 18 out of 20 "dark patterns".99

The app works in a similarly manipulative way. It contains features such as mini-games, wheels of fortune and raffles, discount vouchers, free offers and loyalty points. These are intended to encourage people to use the app for longer, to keep checking it, and above all, to make purchases.¹⁰⁰

With consumers 2 to 4 times more likely to perform a specific action in an environment containing dark patterns, 101 such tactics are the key to SHEIN's success. One survey shows that 33% of German shoppers intentionally buy more than they ultimately want to keep. 102 Purchases for thousands of dollars are extremely popular internationally. 103

Such excesses show that despite its low prices, SHEIN is not really interested in providing useful products to people on low incomes. In fact, 39% of the people buying SHEIN products in Germany have a high income and are by no means needy people acting out of necessity.¹⁰⁴ And with dark patterns as "the lubricant in the engine of the online fast fashion industry", ¹⁰⁵ it's not surprising that this business model is whipping up ridiculous levels of overconsumption, with serious consequences for people and the planet.

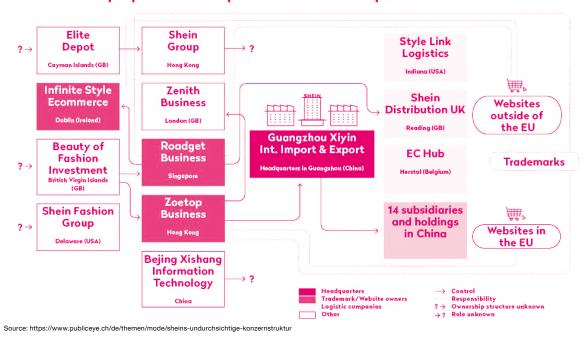
THE RAPID RISE OF SHEIN

SHEIN has appeared as if from nowhere, from a small company with only 50 employees in 2013¹⁰⁶ growing to 10.000 by 2016, with 800 staff responsible for design and prototypes.¹⁰⁷ Along with other online retailers, SHEIN's sales were boosted at the start of the pandemic, jumping from 7% of the market in January 2020 to nearly 30% by June. 108 While the growth of its fast fashion competitors has stalled since the pandemic, SHEIN's revenue has soared, with a turnover of nearly \$16 billion in 2021.109 The company also benefited from the online shopping boom during the pandemic: sales tripled to around \$10 billion. This makes SHEIN the largest online fashion retailer in the world. It is in talks with investors for a funding round that would value it at \$100 billion - more than H&M and Zara combined.110

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Its growth has been driven by the exploitation of tax loopholes that were created during the trade war between the US and China, which enables SHEIN to avoid paying tax on its exports.111 In the US, the market where SHEIN first tested its appeal,112 it also avoids the need for import taxes, and can undercut its competitors by roughly 24%, giving it an enormous competitive advantage.¹¹³ SHEIN's business model depends on its lack of transparency in all areas, for example, old versions of the website state that it was founded in New Jersey.¹¹⁴ The corporate structure is also non-transparent and tax-optimised, making use of tax havens in the British Virgin Islands, the British Cayman Islands, Delaware in the USA and in Dublin, 115 with other companies belonging to the group, such as ZZKKO Inc in Delaware.¹¹⁶ A SHEIN Corporation also appears in the Panama Papers.¹¹⁷

Opaque and tax-optimised: Shein's corporate structure



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Brands sold via shein.com

SHEIN EMERY PROSE



SHEIN CURVE

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DAZY

Brands also or exclusively sold via their own website

SHEGLAM MOTF

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Source: https://www.publiceye.ch/de/themen/mode/sheins-undurchsichtige-konzernstruktu

CONSEQUENCES - HUMAN RIGHTS

SHEIN might look shiny and glamorous in the digital world, but unfortunately the way it runs its business has real-world consequences. Much has been written about the catastrophic working conditions at its thousands of suppliers in Guangdong, with working hours of 11 hours a day, 29 days a month, 118 or 12-14 hours in its main warehouse in Foshan, 119 and as long as 18 hours a day at two cut and sew suppliers, as revealed in a recent undercover investigation by Channel 4.120

These conditions don't only violate SHEIN's own code of conduct, they are also illegal in China. The low wages, penalties for mistakes or for missing targets, lack of employment contracts or social security contributions¹²¹ all put enormous pressures on workers to perform and work very long hours. The lack of attention to health and safety is also dramatic, with many emergency exits blocked in production facilities and upper floors repeatedly barred.¹²² It's not only the supply chain in China that is affected: employees at its former logistics centre in Liège, Belgium, also complained of inhumane working hours.¹²³

In the UK, SHEIN was found to be in breach of the Modern Slavery Act 2015, which is a prerequisite for selling clothes on the British market. This requires certification to prove, for example, that no child labour is being used. SHEIN's claim to be "proudly in compliance with strict fair labour standards set by international organisations like SA8000" turned out to be fictitious, with no such certification available.¹²⁴

... AND THE PLANET

SHEIN's products are mostly made of plastic. In the case of women's clothing alone, nearly 60% are made of polyester¹²⁵ with many other products made of nylon, acrylic, PU, spandex or other materials derived from petroleum. The fashion industry uses as much oil each year as the whole of Spain, a dependency which is fuelling the war in Ukraine, as the two major suppliers of polyester are sourcing their oil from Russia. ¹²⁶ Its clothing and shoes are therefore adding to the global plastics crisis, including the release of microplastic fibres when the clothes are washed - every year 0.5 million tonnes of microplastic fibres are released into

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the ocean from washing synthetic clothes; this accounts for 35% of the primary microplastics that are released.¹²⁷

Experts and NGOs universally have a negative assessment of the company's sustainability: "SHEIN scores zero points in our sustainability assessment", says Remake, an NGO that examines the environmental compatibility and working conditions of fashion brands.¹²⁸ The site "Good on You", summarises its assessment as follows:129 "SHEIN's environment rating is 'very poor'. [...] There is no evidence that it has taken meaningful action to reduce or eliminate hazardous chemicals. There is no evidence it reduces its carbon and other greenhouse gas emissions in its supply chain. There is no evidence it has a policy to minimise the impacts of microplastics." And according to the Fashion Transparency Index, published by Fashion Revolution, the company is in the worst possible category, scoring below 5% overall.130

SHEIN also received a poor ranking on the Chinese NGO IPE's databases CITI (Corporate Information Transparency Index) and CATI (Corporate Climate Action Transparency Index) databases. For CITI, SHEIN scored 3.15 out of 100 points, ranking 92nd among a total of 124 companies in the fashion industry. For CATI, SHEIN received zero points out of 100, ranking 133rd among 155 fashion companies (although, with its recent announcement on cutting 25% of Scope 3 carbon emissions by 2030, SHEIN's CATI score could be boosted in next year's ranking).¹³¹

SHEIN claims to do its best to use recycled materials, but it performs even worse than the fashion industry average on this count;¹³² a check of its website found that out of 55,000 items of women's clothing, only 237 were made using recycled polyester (0.43%), with only 2 containing recycled cotton.¹³³

There's Greenwashing – and then there's SHEIN-washing

"Circularity" has become the buzzword among global fashion brands trying to clean up their image. But circularity is virtually non-existent in the fashion industry; while less than 1% of clothes are recycled into new clothes, garment production volumes are growing by 2.7% annually. Every second a truckload of garments is burnt or sent to landfill. Helped by newer online retailers like SHEIN, the destructive fast fashion fad is speeding up, not slowing down - coupled with a corresponding increase in greenwashing. A recent screening of sustainability claims in the textile, garment and shoe sector suggested that 39% could be false or deceptive. 136

Fast fashion brand H&M has recently been called out by the Norwegian Consumer Authority for its greenwashing, because the scorecard it was using for its sustainable clothing - called its Conscious Collection portrayed products as being better for the environment than they actually were, with even some apparent instances where the information about the sustainability of a product was completely opposite from the truth.¹³⁷ The scorecards were created based on the Higg Material Sustainability Index (MSI) by the Sustainable Apparel Coalition (SAC), which has paused the use of the scorecards and is reassessing their methodology. Experts are warning that "the industry cannot rely on trade associations as the arbiters of sustainability or eco-impact scoring," pointing out that there is a "huge conflict of interest", and that brands that want to be credible must use more independent, rigorous systems with integrity.138

Since then, the Netherlands Authority for Consumers and Markets (ACM) has also sought reparations from Decathlon and H&M for making what it considers "unclear and insufficiently substantiated sustainability claims", part of a growing crackdown on greenwashing, which includes the UK Competition and Markets Authority's investigation into

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claims made by ASOS, Boohoo and George at Asda, as part of a larger effort to develop its Green Claims Code. 140

While these brands have finally been caught out by the authorities for their greenwashing because they relied on inaccurate industry information for their marketing, SHEIN is taking greenwashing to a new level, aiming for maximum kudos, while at the same time avoiding of the need to tackle problems at their source or to provide evidence to back up its claims.

"At SHEIN, we believe it's our responsibility to create fashion of the future while accelerating solutions to reduce textile waste," said Adam Whinston, Global Head of ESG at SHEIN, announcing SHEIN's latest initiative in the US, a new second hand community SHEIN Exchange, where customers can swap their used SHEIN clothes. But promoting the reuse of clothes, while continuing to make excessive volumes of clothes that are made to be disposable, is worse than greenwashing as it makes no sense at all. ThredUp, one of the world's largest



Textile and plastic waste at Dandora dump site in Nairobi. Greenpeace visits places of textile production, distribution, markets and waste disposals. Used and new clothes are sent to Kenya from Europe and China to be sold as so called "Mitumba" but often they end up being dumped in landfills due to the huge volumes that are imported.

In June 2022, SHEIN made headlines when it announced a donation of \$15m to an NGO working with textile waste workers in Ghana, describing it as an "extended producer responsibility fund".141 While Or Foundation's work is certainly needed, it should not be dependent on donations. Following the 'Polluter Pays' principle, producers like SHEIN should be made financially responsible for the cost of cleaning up the environmental and health damage caused throughout the supply chain, wherever it occurs. And if products contain hazardous chemicals - as shown in this report – cleaning up the pollution comes with greater costs and difficulties. But the biggest priority is SHEIN's ongoing role in creating the problem of post-consumer textiles waste - not least the poorly made, disposable clothes and their promotion of overconsumption.

world's largest online resale platforms, even asked its customers to pledge not to shop at SHEIN's pop-up shop in San Francisco, citing SHEIN's "thousands of brand-new styles every day, encouraging endless consumption and creating disposable fashion waste - the antithesis of circularity."143

In its defence, SHEIN promotes

its modern production techniques and the fact that it limits excess inventory and has less production waste, 144 which is described as part of "an innovative and unique business model approach that has enabled us to be a more sustainable company since our founding." 145 But if this is so, why are industry experts concerned that its low-cost, high-volume approach to fashion is fuelling wasteful overconsumption and "becoming the biggest threat to its continued success". 146

In the "latest in a series of initiatives to address criticism of the company's environmental and social impact",¹⁴⁷ SHEIN recently announced targets to reduce its supply chain emissions of greenhouse gases by 25% by 2030, outlining projects to drive greater energy efficiency and support a transition to renewable power among its manufacturers.¹⁴⁸

Unfortunately, this target is well below the 45% reduction that the UN says is needed by 2030 to limit warming to within 1.5 degrees, or the Fashion Industry Charter for Climate Action to halve emissions by the end of the decade. Tackling supply chain emissions of GHGs would be a "game changer" for the impact of corporate climate action,149 with textiles one of the eight sectors making up 50% of supply chain emissions. However, SHEIN has zero credibility on the transparency of its supply chain, which will make it impossible for it to move beyond the first recommended step of transparency. It will need to publish its supplier's list - and especially its wet processing factories, which are the most energy-intensive part of the textiles supply chain - as well as all the relevant GHG emission data, to even establish a baseline that can be independently verified.

Its clothing and shoes are completely dependent on fossil fuels for their raw materials. Its recent announcement of a recycled clothing line evoluSHEIN is a long way from circularity.¹⁵⁰ The recycled polyester is made from bottles from the food industry, a practice that even the European Commission recently highlighted as greenwashing in its Textiles Strategy.¹⁵¹ SHEIN gives the initiative a positive spin by supporting Vital Voices - womens' leaders who are taking on challenges such as the climate crisis and economic inequities, when perhaps it would be better focusing on the pay and conditions for workers in its supply chain, a more ambitious target for reducing greenhouse gases, or - using less fossil fuel based plastic.

However, its hazardous chemical problem reveals its true lack of credible action on the environment. In response to a recent customer complaint about lead being found in its clothing in Canada, SHEIN states on Twitter: "SHEIN is committed to product safety. Suppliers must abide by our Restricted Substance List and strict product safety standards that are based on international regulations. We regularly test products and take action when non-compliance is found, including terminating suppliers."

This sounds like SHEIN is taking hazardous chemicals seriously, but it doesn't publish any Restricted Substances List, (let alone a MRSL - which is the basic requirement for good chemical management in the supply chain - see Box 4) and provides no information about how it manages hazardous chemicals, which are mentioned only briefly in its 2021 Sustainability Report, its Suppliers' Code of Conduct, Responsible Sourcing Policy¹⁵³ and its Environmental Impact Statement.154 It also doesn't publish a suppliers list, which would need to include its wet process suppliers, where hazardous chemicals are most likely to be used and discharged, although such a list does seem to exist.155 These are just the basics of a responsible chemicals management policy - if SHEIN truly wants to tackle its hazardous chemical problem, Greenpeace would expect to see its suppliers and their wastewater discharge data published on the Chinese NGO IPE's Green Supply Chain map, as well as the ZDHC's Detox Live system, and working with the ZDHC on a programme to eliminate the use and discharge of hazardous chemicals.156

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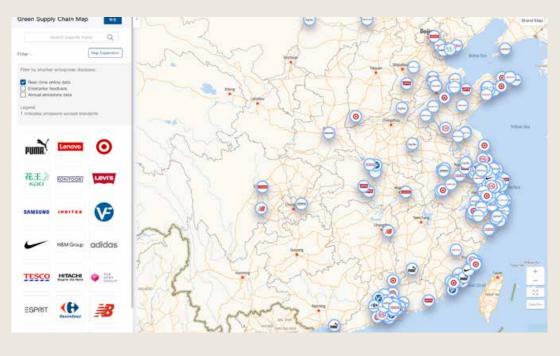
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BOX 3: IPE AND TRANSPARENCY OF SUPPLY CHAIN DATA

A core demand of Greenpeace's Detox My Fashion Campaign is the publication of wastewater data from the analysis of hazardous chemicals being discharged by suppliers. Brands that committed to Detox were asked to ensure that their suppliers publish this data on the public platform of the Institute for Public & Environmental Affairs (IPE), and later on the ZDHC's (Zero Discharges of Hazardous Chemicals Foundation) Detox Live map¹⁵⁷ – a commitment which all of them delivered on. The data on IPE's Green Supply Chain map¹⁵⁸ is publicly accessible (login is required) and shows the brands, their suppliers lists, and environmental data for their suppliers in China, with a pop-up window to show companies' wastewater data. This gives communities living by the discharge pipes, civil society or consumers the Right to Know about hazardous chemicals being released into our waterways. In addition, some brands are going all in with transparency and are publishing the wastewater data of their suppliers on their own websites.



Source: https://www.detox.live/

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BOX 4: RSLS, MRSLS AND THE DIFFERENT KINDS OF MRSLS¹⁵⁹

RSL. Restricted Substances List. This sets limits for the presence of hazardous chemicals in the final product.

MRSL. A Manufacturing Restricted Substances List (MRSL) is the core element of the Detox roadmap, developed and implemented by all Detox committed brands and companies. It sets a black list of chemicals, starting with the 11 Detox priority hazardous chemical groups. The Detox commitment requires that these are banned at all stages of production, with specific reporting limits for discharges to wastewater, used as target levels. To implement, brands check manufacturing facilities for compliance with the reporting limits, by testing the wastewater before treatment and residual sludge from the wastewater treatment plant.

A MRSL is a binding and evolving document that translates the ambition of a brand's Detox roadmap in terms of its scope, (at least the 11 Detox priority groups, expanding to all textile-related hazardous chemicals) and its limits, that should reflect the lowest technically achievable levels (technical zero).

Current examples of best practice MRSLs, both for scope and limits, are:

- The ZDHC MRSL (inputs and wastewater guidelines, used by the majority of brands: some brands add other chemicals and chemical groups to this list.
- Individual MRSLs, used by some brands, eg. Inditex, Miroglio, Valentino, as well as the Detox Committed suppliers in Italy CID (Italian Detox Consortium).
- The OEKO-TEX® STeP/DETOX TO ZERO Chemicals List, used by some German retailers (eg. Kaufland) and also the Detox Committed supplier Utenos, a manufacturer of textile products complying with Greenpeace's Standard for its own textiles procurement.

ZDHC, whose signatory brands currently include 20 Detox brands and 13 other brands, set a common MRSL in 2015 (version 1.1) and have recently published version 3. Wastewater guidelines were added in 2017 which set limits for MRSL chemicals in wastewater and sludge.

Detox Live, ZDHC's platform for brands and suppliers to add their wastewater data, currently includes data from 52 brands, representing 6983 suppliers around the world.

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After the haul - the hangover

What happens after your package from SHEIN arrives? You may be overjoyed with the products - many are. Nevertheless, overconsumption has been shown to have adverse effects on the well-being of young consumers. A 2017 Greenpeace report¹⁶⁰ looked at the psychological effects of shopping on consumers in East Asia, Germany and Italy, and showed that people already own too much and they know it. Around 50% report that their shopping excitement wears off within a day, with one third feeling even more empty and unfulfilled afterwards. It's understandable that people will seek out that feeling of excitement again, regardless of the need for the clothes, perhaps unaware of the consequences.

Maybe something doesn't look so good in real life, or as good on you as it did on the model on the website, it doesn't fit, or it falls apart at the seams? You might realise you've ordered more than you actually needed, and feel regret. And what If it has a strong smell of chemicals? You'd be wise to think twice – especially if you bought the product for your baby or child. No problem – you can make an online return.

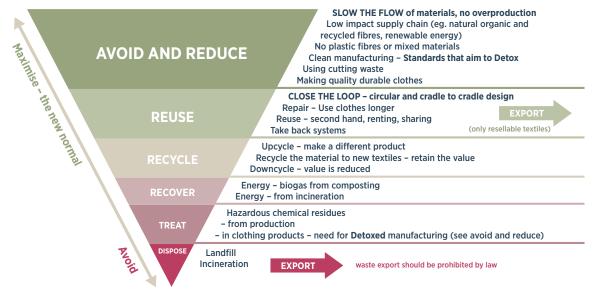
ONLINE RETURNS

Over the last few years, the disposable clothes made by ultra fast fashionbrands have increasingly become part of the ever growing pile of textile waste. In the UK the CEO of clothing recycling charity Traid reports that while they used to get more high quality clothing that would stay in the circular loop, now there's a high proportion of fast fashion clothes that are not built to last. The quantities of low quality disposable clothes from SHEIN have dramatically increased over the last couple of years, with some of them still brand new.¹⁶¹

According to Public Eye¹⁶² SHEIN used to have a returns processing centre for Europe known as the "EC Hub" next to the airport in Liège, Belgium. But in the summer of 2021 it was closed from one day to the next. Although Public Eye could not get official confirmation, the Chinese Company Yun Express Belgium, 163 situated just next door, now seems to be handling returns.

At its peak, 30,000 returns were said to arrive at the EC Hub every day. Former workers describe how customer returns are reimbursed regardless of the state of the piece of clothing, because they often have faults when they leave the factory. Employees were processing up to 1,500 faulty products a day that SHEIN no longer had any use for.

FASHION WASTE HIERARCHY



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Source: https://www.greenpeace.de/publikationen/report-vergiftete-geschenke

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SHIPPING

To begin with, employees could take these clothes home. Later on, faulty returns were assigned to charities, and finally they were sold per kilo to a trader who removed the SHEIN labels and sold the clothes "somewhere outside Europe". 165

According to a market analysis by Euromonitor, 230 million new garments are shredded every year. 166 In response, some European countries are implementing laws to ban the destruction of new goods. For example, France implemented an anti-waste and circular economy bill in 2020 that forbids the destruction of unsold goods, including clothing,167 and requires producers, importers and distributors, including online firms, to donate unsold non-food goods except those that pose a health or safety risk.¹⁶⁸ In Spain, the destruction or disposal of unsold surplus non-perishable products such as textiles, toys, electrical appliances in landfills is also prohibited,169 while there is a proposal for such a ban in Scotland.¹⁷⁰ In the EU, the European Commission's Sustainable Products Initiative proposes regulation that includes measures to ban the destruction of unsold non-perishable goods.¹⁷¹ There is also a transparency obligation in the proposal of the new ecodesign regulation that was published by the Commission in March 2022.¹⁷²

In Germany, there is a duty of care for producers to take responsibility for products that are taken back or returned, to ensure that their fitness for use is maintained and that they do not become waste.¹⁷³ However, regulations to implement the law are pending and there is no ban on the destruction of goods; online retailers such as Amazon continue to destroy products.¹⁷⁴

PACKAGING WASTE

Of course every single product also comes with its own packaging, made of plastic, which brings the same problems of recyclability and non-biodegradability as its plastic products. While SHEIN is starting to advertise its efforts on sustainable packaging, and has introduced 50% recycled plastic into its polybags for the European market in August 2022,¹⁷⁵ it's not clear how and if these can be collected and recycled.

The amount of plastic packaging waste generated by SHEIN is also not known, however, we can compare data collected about Amazon's packaging: 599 million pounds of plastic packaging waste were generated by Amazon in 2020, a 29% increase on 2019. It's also estimated that up to 23.5 million pounds of Amazon's plastic packaging waste entered and polluted the world's waterways and oceans in 2020, the equivalent of a delivery van payload of plastic being dumped every 67 minutes.¹⁷⁶

In Austria, a new programme from the Austrian postal service will offer reusable packaging starting in 2023.¹⁷⁷ Other examples exist in Germany, however, there's no general requirement for reusable packaging. Greenpeace Germany is campaigning for a law to require reusable packaging.

In China, the Central Government set a goal in 2020 that by the end of 2022, postal mail services and express delivery services in two big cities and four big provinces (including Guangdong, where most of SHEIN's manufacturing capacity is located) must stop the use of single-use plastic bags.¹⁷⁸ In 2021, China's 14th Five Year Plan on the circular economy set a target of putting 10 million reusable packaging boxes on the market for express delivery.¹⁷⁹

Recommendations

Fast fashion, and its unruly offspring, the recent, more damaging ultra fast fashion trend, has turned clothes into throwaway items like disposable packaging, non-degradable because many are made of plastic and mixed materials, which are not even recyclable, and equally harmful to the environment and biodiversity. But it's not only the waste which is a problem. The toxic system starts with oil based synthetic materials, and continues with the catastrophic and often irreversible environmental damage from supply chain factories in regions like East Asia, ending with the flood of textiles waste dumped in Global South countries. The problem of these toxic linear business models needs to be solved, and there is no way around the need to massively slow down fast fashion.

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Greenpeace Germany's 2021 report "Self-regulation: a fashion fairytale" has clearly demonstrated that while there is a trend for global fashion brands to talk about circularity, very few of them actually have effective measures in place to become circular and even less or none of them are taking steps to slow down the flow of materials. This is why global regulation is necessary and the report explains in detail the key points that are needed.¹⁸⁰

Global fashion brands simply cannot greenwash their way around the issue, and must instead completely change their linear business models and become service providers instead of only producers. They need to start producing fewer clothes that are designed to be better quality, long lasting, repairable and reusable and take responsibility for establishing take-back systems and services to maintain, repair and share items of clothing. This has to become the new normal; Greenpeace is demanding a target of only about 40% of clothes to be newly made, with 60% from alternative systems such repair, secondhand, renting and sharing by 2035 at the latest.181

In the face of the planetary climate and biodiversity crisis – as well as a recently added third crisis of chemicals¹⁸² – we clearly cannot afford to continue this mad and destructive system. The choice is change, or die out.

WHAT SHOULD SHEIN DO?

A destructive system such as the one being spread around the world by SHEIN should not be permitted to exist. However, if SHEIN honestly wants to address its environmental and social impacts it should start with the following urgent steps:

Firstly, SHEIN needs to urgently address its hazardous chemical problem. It won't be enough to just make a few changes when 'problem' products are highlighted. As long as hazardous chemicals are used by its suppliers, there will continue to be scandals. SHEIN needs to Detox its supply chain, 183 with a public commitment to Detox, including an individual action plan with an ambitious timeline for the following key steps:

- Setting up a Manufacturing Restricted Substance List (MRSL)¹⁸⁴ including all hazardous chemicals to be eliminated in the entire supply chain;
- Elimination policies for priority chemical groups such as Alkylphenols (APs) and Alkylphenol Ethoxylates (APEOs), per and polyfluorinated chemicals (PFCs) and phthalates;
- Publishing the wastewater testing results of wet process facilities regularly on a public platform;¹⁸⁵
- Publishing a suppliers list, including wet process facilities;
- Regular Detox progress reports;
- Publish a list of its suppliers and ensure that upstream wet processing factories are included and clearly identified.

To facilitate the above, SHEIN should become a member of the ZDHC and participate in its Roadmap to Zero programme, 186 which has many tools on eliminating the use of hazardous chemicals and their discharge into wastewater, including an MRSL and wastewater guidelines.

With the same urgency, SHEIN also needs to work towards creating slow, circular fashion that respects environmental boundaries and the rights and wellbeing of people. This is a much more fundamental change, which involves re-inventing its business model, where success is not defined by the volumes that are produced and sold, but by the high standards in supply chains and the innovation in alternative ways to engage with customers on fashion, beyond the model of buying new. This is not an optional extra: if companies don't act voluntarily to change their business models to adapt to the reality of the climate crisis, ultimately the courts or governments will be forced to intervene, as in the recent cases in the Netherlands and France.187

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Recommendations for regulators

EU TEXTILES STRATEGY

Recently the new EU textile strategy has been approved and after many years of pressure from environmental groups like Greenpeace it finally addresses some of these key points, such as:

- A vision that "by 2030 textile products placed on the EU market are long-lived and recyclable, to a great extent made of recycled fibres, free of hazardous substances and produced in respect of social rights and the environment";
- 2. Plans for binding requirements on durability, recyclability, repair and reuse;
- Extended Producer Responsibility (EPR) schemes that will be dedicated to waste prevention measures and preparing for reuse:
- 4. Commitment to develop specific EU level criteria to make a distinction between waste and certain second-hand textile products to avoid waste being labelled as secondhand goods, and thereby preventing companies sidestepping the EU's proposal for tighter rules on exporting textile waste to non-OECD countries;
- 5. A proposal for a transparency obligation, requiring large companies to publicly disclose the number of products they discard and destroy, including textiles, and the intention to introduce a ban on the destruction of products, including as appropriate, unsold or returned textiles. However, the definition of what is "appropriate" or not has not been made clear yet;
- 6. Commitment to introduce a "Digital Product Passport for textiles based on mandatory information requirements on circularity and other key environmental aspects". But unfortunately full supply chain mapping and facility disclosure is not included;

Unfortunately it also does not include:

- A strategy to Detox the textiles supply chain and prevent chemical pollution of Global South waterways;
- 8. A phase out of synthetic fibres in the production of textiles; products should be biodegradable and compostable (Cradle to Cradle) and free from hazardous chemicals to prevent end of life impacts.

We welcome the positive developments in the EU textile strategy, but for them to be successful they need to be implemented effectively on the ground through legally binding measures.

Also, the implementation of the EU's textiles strategy is partly dependent on the Product Environmental Footprint (PEF). However, public interest groups are concerned about the current development of the PEF and "believe there is a risk that the PEF-CR for apparel and footwear will give a limited and unholistic picture of product impact. As such, it is our view that the PEF-CR for apparel and footwear should not be used as a standalone method for underpinning labelling, green claims made in marketing, or any other EU policy measures announced as part of the EU Strategy for Sustainable and Circular Textiles".

EU DUE DILIGENCE DIRECTIVE -SUPPLY CHAIN RESPONSIBILITY

In February 2022, the Commission adopted a proposal for a Directive on corporate sustainability due diligence. This binding EU law would ensure that companies are held accountable and liable when they harm - or contribute to harming - human rights and the environment or undermine good governance. Due diligence would require companies to identify, address and remedy their impact on human rights and the environment throughout their supply chain. Sanctions for non-compliance and legal support for victims of corporations in third countries would apply. The legislative proposal has not yet been formally adopted.

EU proposed legislation needs to avoid these weaknesses, to ensure that anyone who makes global profit must also assume global responsibility, and also include both environmental protection and social justice aspects as well as requirements for verification and sanctions by regulatory bodies.

The Greenpeace Detox My Fashion campaign demonstrates that implementing an ambitious supply chain or due diligence law is possible. Experience with implementing Detox commitments shows that a global brand can take responsibility for its supply chains, clean them up, and implement high environmental standards in a publicly transparent way. The following elements are key for success and need to be included in legislation for supply chain responsibility or due diligence:

- Transparency and the Public's Right to Know: Public disclosure of suppliers¹⁸⁹ by companies (to the raw material level, including all manufacturing steps, using a unique identification number for facilities). Public disclosure of testing and auditing results;¹⁹⁰
- Institutional support for global harmonised platforms and reporting systems (such as the IPE or ZDHC disclosure platforms,¹⁹¹ although the latter is still missing public data access);
- Best practice needs to be specified to ensure the highest standards and proper accountability (eg. best practice laboratories and testing requirements).

CHEMICALS SUSTAINABILITY STRATEGY AND REVISION OF REACH:

As revealed by this report, even the REACH regulation that has already been adopted is not being fully enforced or respected. Therefore, as a priority, the process of revising the regulation should include:

 Allowing citizens or civil society groups to alert competent authorities when they uncover evidence of high concern or of non-compliance, such as the evidence presented in this report - and to access justice in case the authority does not follow through on such reports;

 Require the application of severe sanctions in the case of non-compliance, such as the ones that are applied for in cases of illegal commercial practice.

In addition, the current promises made by the Commission must be followed through in the updated Regulation, as follows:

- Allowing the EU institutions and States to use a fast track process to quickly ban hazardous groups of chemicals from consumer and professional products, to fully implement the approach to regulate chemicals as groups and not chemical by chemical;
- Banning the export of chemicals where their use is banned in the EU;
- Ban the use of some of the most hazardous groups, such as PFAS and endocrine disruptors.

A further requirement on the most hazardous groups of chemicals, in particular those which are toxic, persistent and bioaccumulative, is that REACH and other EU regulations on, for example, water pollution and waste, need to take the following into account:

 The need to remediate the legacy pollution from these hazardous chemicals and implement the Polluter Pays Principle.



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Appendix

Table A1: Overview of chemical testing results, per product: key findings

Product number (prefaced by L 6777)	Product name and image, links are below	Cate- gory	Materials (as described on SHEIN website)	Country of online order	Chemical analysed, according to positive findings (1)	Findings mg/kg	Exceedances of REACH, other EU regulations	Exceedances of OEKO-TEX® Standard 100 Annex 6 (where REACH is not already breached)	
FT-1	Toddler girls halter dress, fish scales colourblock, mesh panel with headband	Baby articles	100% Nylon	Italy	Volatile Organic Compounds (VOCs) (2)	Detected			
					Formaldehyde In green strap & purple tulle	40	Toys Directive<30		
					In purple tulle (second analysys)	130	REACH<75		
					Extractable heavy metals, various parts printed top - anti- mony	0.3			
					mixed sample - antimony - nickel	1 0.1			
					accessory/trim - antimony	0.4			
FT-2	Toddler girls colourful tutu skirt and wing	Baby articles	100% Poly- ester	Germany	Volatile Organic Compounds (VOCs)	Detected			
	headband				Extractable heavy metals, various parts - antimony	0.3			
FT-3	Baby Christmas print mesh yoke gown dress	Baby articles	Material:Satin Composition: 100% Poly- ester	Germany	Volatile Organic Compounds (VOCs)	Detected			
					Extractable heavy metals, various parts - antimony	2.8			

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	FT-45	Sweater with polo collar, drop shoulder, letters graphic https://m.shein.com/de/PULL-OVET%20MIT%20POLO%20 KBAGEN,%20DBOP%20SHOUL-DET%20BUCHSTABEN%20 GRAFK-p-7722202-cat-1773. html?ici=&ref=m&rep=dir&ret=mde	Jumper	95% Polyester 5% Elastane	Pop up Store Munich	Alkylphenols OPE Volatile Organic Compounds (VOCs) Extractable heavy metals, printed area antimony	21 Detected 0.2	
	FT-46	SHEIN X Penelope Ping PU leather blazer with lapel collar, eyelets and asymmetrical trim https://m.shein.com/de/ PU%20LEDER%20LAZER%20 MIT%20REVERSKRA- GEN.%20%C3%96SEN%20 UND9&20ASYM- METRISCHEM%20BESATZ- p.2696714-cat-1739.htm- l?ici=&ref=m&rep=dir&ret=m- de	Jacket	40% Polyester 60% Poly- urethane	Pop up Store Munich	Volatile Organic Compounds (VOCs) Extractable heavy metals, main material Antimony nickel	Detected 0.1 0.1	
	FT-47	Jeans with rips https://m.shein.com/de/ JEANS%20MIT%20RISS- p-2420834-cat-1989.htm- 12ici=&ret=m&rep=dir&ret=m- de	-1Jeans	80% Cotton, 20% Polyester	Pop up Store Munich	Alkylphenol ethoxylates NPE Volatile Organic Compounds (VOCs) Nickel in metal parts Extractable heavy metals, main material Antimony nickel	Detected 65000 0.1	
						monor	J. I	

Notes

- (1) This table shows the key highlights of the results for each product. For a full list of all chemicals tested in each product, the methods used and the Limit of Quantification or Detection Limits, please see the BUI Analysis Report in this Appendix.
- (2) Screening for Volatile Organic Compounds (VOCs) identifies the likely presence of VOCs, which need to be followed up by further tests to be confirmed.
- (3) Although 0.7 μ g/m²/week exceeds the REACH limit for the release of nickel, the Analysis Report notes that "Due to the combined measurement uncertainty of 46% given in the DIN standard used, the limit value according to REACH Regulation Annex XVII of 0.5 μ g/m²/week is exceeded only from a nickel release of 0.88 μ g/m²/week."

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Links to products on SHEIN website

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- FT-15: https://de.shein.com/Rubber-Block-Heel-Slip-On-Rain-Boots-p-11298659-cat-1748.html
- FT-16: https://de.shein.com/Rhinestone-Closed-Toe-Pull-On-Booties-p-11310170-cat-1748.html
- FT-17: https://de.shein.com/Men-Buckle-Decor-Lace-up-Front-Combat-Boots-p-11188657-cat-2094.html
- FT-18: https://de.shein.com/Baby-Rainbow-Letter-Graphic-Bodysuit-p-11278440-cat-2838.html
- FT-19: https://de.shein.com/Simple-Plain-Tights-p-2327152-cat-3290.html
- FT-20: https://de.shein.com/Contrast-Sequin-Fringe-Push-Up-Bikini-Swimsuit-p-10066851-cat-1866. html
- FT-21: https://de.shein.com/Lapel-Neck-Zip-Up-Belted-Suedette-Moto-Jacket-p-864164-cat-1776.html
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