

December 8 , 2011

Greenpeace's comments on the Draft Joint Roadmap: Towards Zero Discharge of Hazardous Chemicals (published for Consultation- November 15, 2011)

Recently Greenpeace investigations into the use of hazardous and persistent chemicals in the textile supply chain found alkylphenols (APEOs) and perfluorinated chemicals (PFCs) to be present in the effluent from two textile manufacturing facilities in China ([Dirty Laundry report](#)). Greenpeace also found alkylphenols to be present in garments made and sold in a number of countries ([Dirty Laundry II report](#)). This evidence formed the basis of the [Greenpeace Detox challenge](#) to global sportswear and fashion brands. A number of brands took up this challenge and made individual commitments to zero discharge of hazardous substances by 2020, taking responsibility for eliminating the use and release of such persistent, hormone-disrupting chemicals to the environment and aiming to prevent the further accumulation of these substances in the environment, people and wildlife. Six of these brands – adidas, C&A, H&M, Nike, Puma and LiNing – are now collaborating on the further development and implementation of the 'draft joint roadmap towards zero discharge of hazardous chemicals' launched in November 2011, which sets out the steps that they mean to take to achieve their commitments and invites others to partner in this endeavor. This paper sets out Greenpeace's response to this draft joint roadmap and encourages other brands to also make an individual public [Zero Discharge Commitment](#) and join the Roadmap.

The draft roadmap is currently under consultation; feedback is being solicited from a key group of stakeholders and is open for comments¹ from the public up to December, 31st, 2011.

Good potential - but too much 'wait and see'.

Greenpeace welcomes the fact that adidas, C&A, H&M, Nike, Puma and LiNing have begun a process to eliminate the use of all hazardous substances, globally across their supply chains, in response to the Greenpeace Detox challenge. They have met (or will meet) their individual commitments to publish their individual action plans² and have taken the next step in ownership of the zero discharge challenge by co-ordinating their joint actions in the form of a joint roadmap towards zero discharge of

¹ All comments on the draft joint roadmap can be directed to ztdi@sustainability.com. SustainAbility has been asked by the brands to solicit feedback from a key group of stakeholders.

² Puma: http://about.puma.com/?page_id=10

Nike: <http://nikeinc.com/news/nike-roadmap-toward-zero-discharge-of-hazardous-chemicals>

adidas: http://www.adidas-group.com/en/sustainability/assets/statements/aG_Individual%20Roadmap_November%2018_2011.pdf

H&M: http://about.hm.com/gb/corporateresponsibility/environment/hmengageswithgreenpeace_Greenpeace.nhtml

C&A will publish its individual action plan on 20-Jan-2012. LiNing will first focus on implementing the joint roadmap and is committed to publishing its individual action plan but a deadline has not yet been defined.

hazardous chemicals, (see the [joint roadmap](#)³ and the [statement on the public consultation phase](#)) which commits the brands to work together to tackle the hurdles to achieve zero discharge. By showing this leadership, obstacles to effectively implement the zero discharge commitment are removed, making it easier for other brands to join this commitment.

However to solve the problem of hazardous chemical pollution that Greenpeace has been highlighting in its Detox campaign, we need urgent action. The draft roadmap has the **potential to become** a real and effective action plan for zero discharge for the apparel/textile sector, with concrete deliverables and timelines however, as it lacks these objectives, this joint initiative is **not yet** sufficiently clear and measurable.

To be clear and measurable an action plan needs to include elements which can be easily verified by the public and Greenpeace, therefore guaranteeing that concrete and effective change is happening on the ground, where the pollution has been taking place for decades. To make sure that these companies are moving swiftly towards eliminating the use and release of hazardous chemicals they need to provide actions that can be independently verified. We strongly recommend that the need for “*deliverable timelines, including the setting up intermediate targets and milestones for subsequent phases*” - as identified in the roadmap - should be addressed in an urgent, clear and explicit way. This will demonstrate a commitment to action on the ground that will lead to an effective paradigm change, i.e. moving from a pollution ‘restriction’ approach to the ‘real elimination’ of the use and release of hazardous chemicals, with fast track implementation. Without these verifiable elements the draft joint roadmap is more typical of a ‘**wait and see**’ approach and is **not yet** a credible response to the reality of pollution by hazardous and persistent chemicals.

Greenpeace has identified three main areas where these intermediate targets and milestones need to be made more concrete:

Action on Disclosure: There is no convincing element in the joint roadmap on disclosure of very specific and detailed data on discharges and uses of hazardous chemicals by the textile facilities themselves. Disclosure, which means locally accessible web based information on the pollution from key supplier facilities (‘PRTR style’⁴) is a key element to make the commitment credible. Without this step the

³ The Joint Roadmap is available on the companies’ websites:

Puma: http://about.puma.com/?page_id=10

Nike: <http://nikeinc.com/news/adidas-group-ca-hm-li-ning-nike-and-puma-partner-to-reach-zero-discharge-by-2020>

adidas: <http://www.adidas->

[group.com/en/sustainability/statements/2011/Joint_Roadmap_Zero_Discharge_Nov_2011.aspx](http://www.adidas-group.com/en/sustainability/statements/2011/Joint_Roadmap_Zero_Discharge_Nov_2011.aspx)

H&M:

http://about.hm.com/gb/corporateresponsibility/environment/actionplantohelpourindustrytozerodischarge_Action_plan_zero_discharge.nhtml

C&A: <http://www.c-and->

[a.com/uk/en/corporate/fileadmin/templates/master/img/fashion_updates/International_Press_Releases/11118_StatementJointRoadmap-EN.pdf](http://www.c-and-a.com/uk/en/corporate/fileadmin/templates/master/img/fashion_updates/International_Press_Releases/11118_StatementJointRoadmap-EN.pdf)

LiNing: <http://www.li-ning.com/info/info.html?swf=news.swf> (If accessing in China), for the commitment and the company’s statement in Chinese

⁴ ‘PRTR style’ refers to the level of transparency and accountability provided by the existing “**Pollutant Release and Transfer Register**”(PRTR) systems that already exist in many ‘global North’ countries such as Canada, Japan, USA and the EU.

These systems provide online interfaces to access information (easy public access) on the quantities of releases (discharges to water and air) and transfers (i.e. in wastes and sometimes products) of individual hazardous chemicals, or hazardous chemical families (own list defined by each scheme, quantities available per chemical or chemical family i.e. disaggregated) on a regular basis (at least yearly) with a clear identification (contacts, address, location etc) of the facility responsible.

public has no tools to easily and simply track the progress made by the brands to zero discharge. C&A and H&M's individual commitments - disclosure of the first data – facility by facility - by the end of 2012 - would need to be added to the joint roadmap with a clear scope (chemicals and numbers of facilities) in order to provide a credible first step on greater transparency.

Action on Elimination: For the Zero Discharge committed brands it makes sense to get rid of the worst well known hazardous chemicals⁵ as soon as possible, i.e. those that have already been banned and regulated in apparel and apparel related uses in other parts of the world. It is disappointing to see that there are no clear action points here. Given that all of them are already restricted by the committed brands (to varying degrees via the companies Restricted Substances Lists (RSLs)), this should be possible by the end of 2012 – including chemicals such as APEOs and PFOS/PFOA.

There are also no clear 'next steps' as to how the next family of chemicals for phase-out will be chosen and no milestones for the introduction of non-hazardous alternatives - 'green chemicals'. The overall scope of this elimination phase - and how it will roll out in the supply chain - should be clarified and it should include elements to make it verifiable.

Phase-in timeline for substitution with green chemicals: The joint roadmap does include a process to establish a generic inventory of all chemicals (hazardous and not hazardous) used by the textile industry by the end of 2012 as well as a plan to develop a new hazardous chemicals screening tool.

Greenpeace welcomes both of these steps: by recognising that the current approach, based on the lists of the already regulated hazardous chemicals, is not sufficient to achieve zero discharge of all hazardous chemicals by 2020 it acknowledges the need for a new more ambitious approach.

The aim is to use this tool to establish a comprehensive sector-wide hazardous chemicals list and provide the basis to do a gap analysis on the existence of alternatives (but it does not foresee any deliverable date).

The roadmap needs to speed up the process and include a detailed plan specifying dates for the setting of elimination targets, in order to work towards 100% by 2020 – for example x% or X hazardous chemicals should be replaced by green chemistry alternatives by Y date. We believe that the joint resources of the committed companies are sufficient to complete the inventory, the new sector-wide hazardous chemicals list and the gap analysis within 18 months – by mid-2013. This deadline will enable the companies to set specific objectives by the end of 2013, such as elimination targets that x% or X number of hazardous formulations will be replaced by end 2014, y% or Y by end 2015, etc.

Many PRTR's allow the data to be searched by common denominators (e.g. a chemical or location) and some also provide geographic location visuals (e.g. using google maps). For more information see: <http://www.prtr.net/>

⁵ The 11 priority groups of well-known hazardous chemicals used in the sector would appear to be a logical starting point.

Namely: 1. Phthalates; 2. Brominated and chlorinated flame retardants; 3. Azo dyes; 4. Organotin compounds; 5. Chlorobenzenes; 6. Chlorinated solvents; 7. Chlorophenols; 8. Short chain chlorinated paraffins; 9. Heavy metals, cadmium, lead, mercury and chromium (VI); 10. Alkylphenols; 11. Perfluorinated Chemicals.

More specifically Greenpeace has **10 concrete recommendations** for making the draft joint roadmap into a substantial **sectoral Zero Discharge Action Plan**:

1. Overall transparency and ambition level on scope.

The roadmap says (ch 3.1):

“We distinguish between the scope for pilot studies and the scope for the actual roll-out. Our pilot studies will be designed with the purpose to be relevant, comprehensive and scalable, but with the smallest possible number of suppliers or other entities in order to achieve the purpose.

We do not intend to conduct pilot studies at hundreds of suppliers. Such an approach would not be effective. When a pilot study is proposed, the intent will be to create a better tool or add knowledge that can increase the effectiveness and speed of adoption of a broader rollout. The output of the studies will also inform and help set the performance standard needed for the industry as a whole. In this way focused efforts will have maximum, scalable effect.”

(ch 3.4) : *“The initial pilot/program will be designed to cover a relevant portion of the business volumes for our brands, and we will look to target facilities shared by our brands”.*

Greenpeace recognises that there is a difference between pilot studies for learning purposes and actual roll out (presumably the so called ‘100% supply chain coverage’ in the summary table on page 10). Whilst the former are necessary the action plan should also contain targets, timelines and scope to ensure that the pilots will lead to credible roll out. To make the scope of the roll out ‘100% supply chain coverage’ verifiable, statements such as ‘a relevant portion of the business volume for our brands’ need to be translated into some concrete metrics (numbers); for example facilities/suppliers that represent 60-80% of global sales/production and where they are (regions/countries) or other credible proposals. The roadmap itself recognises that strategic supplier groups such as directly contracted and integrated suppliers are important starting points. These suppliers often represent significant chunks of global sales/production – for example the Taiwan based supplier Yue Yuen (according to Sporting Global Intelligence (SGI), the world’s largest branded athletic and casual footwear manufacturer, holding approximately 18% of the branded wholesale athletic and casual footwear markets combined) represents a substantial part of the Nike and adidas global shoe production ⁶.

Regarding scope it should also be clear that in line with the company commitments, all products and licensees should be covered, i.e. apparel, footwear, etc., right from the start. For different companies (e.g. Nike compared to H&M) footwear or other types of products can represent the lion’s share of their global production; a joint roadmap that assigns later implementation timelines to different types of products will be significantly lacking in credibility.

2. Definitions – setting a clear ‘template’ for a robust common understanding

The definitions used in the zero discharge commitments are important to ensure that the depth of the paradigm change from ‘pollution control’ to ‘pollution prevention

⁶ http://www.yueyuen.com/annual/2010/e0551_110128_ar.pdf

(elimination at source)' is fully understood by all those implementing and joining the Zero Discharge commitment.

During the dialogue surrounding the development of the current Zero Discharge commitments it became clear that some definitions needed extra clarity, as reflected in the most recent commitments. Greenpeace has developed a [template for future Zero Discharge commitments](#) with the needed level of clarity on definitions such as the Precautionary Principle, Zero Discharges and Right to Know. To make sure all companies implementing the roadmap are on the same level of ambition and clarity these definitions should be used by the roadmap.

In particular it is important that all companies understand that:

- the Zero Discharge concept - elimination of all releases, via all pathways of release, i.e. discharges, emissions and losses, from our supply chains and our products – should not be undermined by loopholes regarding 'background levels'. Zero should mean 'non detectable', to the limits of current technology. The only background levels acceptable are naturally occurring ones. All other levels should be documented and the responsible parties identified. Ultimately – to avoid distraction - the Zero Discharge commitment should not be qualified to permit certain levels for whatever reason. The focus should be on the substitution of the hazardous chemicals altogether – from the whole manufacturing lifecycle – as is in fact reflected in the level of ambition in the roadmap annex: *“ We expect that impurities and cross-contamination from byproducts (such as, for example, cleaning chemicals or lubricants) will potentially result in very low concentrations of hazardous chemicals which were never intended for use in the textile industry but nevertheless have to be eliminated to achieve the goal of zero discharge.”*
- the Precautionary Principle in the context of persistent hazardous chemicals means that “some hazardous substances cannot be rendered harmless by the receiving environment (i.e. there are no 'environmentally acceptable'/'safe' use or discharge levels)”. For example persistent and bioaccumulative chemicals are likely to build up in the environment, even if used in a closed system with no intended exposure.
- the Right to Know principle in the context of transparent disclosure of hazardous chemical discharges requires a breakdown of data to be made available to the public at regular intervals: at least chemical-by-chemical, facility-by-facility, year-by-year.

3. Disclosure 'PRTR style' - first steps.

The roadmap states:

“- In 2012, we will convene a cross sector group to explore the best ways to encourage sector wide supplier chemical disclosure. We will also deliver a study based on data collection from a select group of facilities”

The need for a PRTR style project to disclose facility level data is fundamental to enable credible public verification that the elimination of the use of hazardous chemicals is being implemented. The companies have committed to Zero Discharge

and to respect the Right to Know of the public - local and otherwise – and to implement the necessary changes.

Furthermore, as recognised by the roadmap itself⁷ the system for data disclosure accompanying the purchase of chemical formulations is grossly insufficient concerning the hazardous chemical content (see below under *New tools for information exchange*). This undermines the ‘input’ verification procedures and makes it necessary to have the ‘output’ control.

Arguing that national PRTRs have taken decades to set up and achieve reductions is neither correct nor helpful. It is true that regional super-PRTR systems such as the US based Toxics Release Inventory (TRI) have achieved outstanding reductions in hazardous chemical releases and transfers (61%) in over 2 decades - tackling nearly 600 individual chemicals, from 19 different manufacturing sectors (including apparel) and 8 other key sectors. However, it is equally true that the national Japanese PRTR system (still covering more than 450 chemicals over 25 sectors) has registered a reduction in hazardous chemical releases of almost 25% in just 7 years.⁸

However, these far reaching multi sectoral national and regional examples are not comparable to one sector implementing PRTR style disclosure, for the following reasons:

- initially limited scope of suppliers (covering only 10’s-100’s of facilities shared across committed companies);
- limited geographic scope;
- limited chemical scope;
- possibility to focus initially on strategic suppliers such as directly contracted and integrated suppliers, where the companies have significant leverage to require quick elimination of hazardous chemicals in practice.

Disclosure of facility level data would be a logical and feasible starting point - starting with the 11 priority groups of hazardous chemicals that Greenpeace has already identified as being banned or targeted for elimination in regulation (i.e. chemicals that should already have been either eliminated or severely reduced).

As mentioned above (in paragraph 1.), a significant volume – possibly up to 50% of global production and more for some companies – is often covered by a smaller number (10’s- 100) of directly contracted/strategic suppliers and sometimes also integrated suppliers. This allows companies to – through their direct or indirect contractual obligations – require and pressure these suppliers to disclose their data. The key focus - as identified by the roadmap - is the Asian region, in particular China but also the Philippines, Taiwan, Bangladesh, Thailand, India and Indonesia.

⁷ Ch2 “To maximize our impact, we must understand and positively impact a broad list of challenges that include: ... Limited visibility into the formulation of preparations (mixtures of chemicals) used by suppliers, in particular incomplete information on hazardous ingredients in MSDS (Material Safety Data Sheets).”

⁸ In Japan under the Japanese Pollutant Release and Transfer Register , which was established in 2001, covering 462 hazardous chemical substances in 23 sectors and 34,830 facilities, the Japanese PRTR has shown a reduction of 24.5% (2001-2008) in releases (and waste transfers) of hazardous substances.

Equally revealing is that for industrial facilities that are not required to disclose their releases (just maintain data sheets) no significant reduction was observed.

See The Pollutant Release and Transfer Register (PRTR) in Japan and Korean Toxic Releases Inventory (TRI) – an evaluation of their operation by Shigeharu Nakachi, Toxic Watch Network, Japan, September 2010. [www.toxwatch.net/en/pdf/PRTR in Japan full final 4.pdf](http://www.toxwatch.net/en/pdf/PRTR%20in%20Japan%20full%20final%204.pdf)

Given these boundaries and the fact that there are now six companies collectively engaged, there is no reason why the roadmap could not commit to disclosure of the first data by the end of 2012 – as clarified in the H&M and C&A commitments⁹. It should be feasible – given the 1000’s of directly contracted suppliers that the roadmap professes to cover - for the six companies to collectively commit to disclose releases of the 11 groups of chemicals, in China, for 50- 100 facilities (including integrated ones with relevant wet processes) or approximately 25% of global sales/production, facility by facility, using an online interface. This initial ‘PRTR test project’ could then be refined and rolled out throughout the supply chain in the following years.

A ‘cross sector exploration group’ and publication of a ‘study’ by the end of 2012, apparently based on some data from investigative pilot facilities without any clarity on the type of data to be published, the scope of the facilities and chemicals, is completely insufficient to meet the Right to Know commitments and the need to drive a swift change of culture in the supply chain.

4. Elimination of the 11 ‘obvious’ hazardous chemical groups – the already restricted 9 plus major uses of APEOs.

Commitments such as “*we will benchmark and verify whether the above nine classes of chemicals are not in discharge to water or sludge*” and developing a clean-up plan for proper elimination by mid-2013 (with no deadline for achieving the elimination), although recommendable and comprehensive on the release pathways (water and sludges) simply do not reflect the need for urgency and the decades of chemical management focus that these companies have. Process commitments (very common in CSR policies) are easily disputable in terms of progress and ambition levels. To be credible in terms of ambition level - and perhaps most important, send strong signals to the supply chain and chemical suppliers - commitments need to be ambitious, concrete and verifiable.

The roadmap makes it clear that 9 of the 11 groups are already restricted in the supply chain. Given this state of play it should be possible to commit to ensuring their elimination (uses and discharges) by mid-2012 and additionally eliminate at least the major uses (scouring, degreasing and detergents) of APEOS by end of 2012.

We note that identification of the uses of APEOs such as detergents/scouring/degreasing being able to yield a reduction of up to 50% of APEO/NPE in Apparel/Footwear supply chains and the identification of a ‘positive list’ of APEO/NPE-free detergents and the remaining sources (including ‘non intentional uses’) of APEOS uses in 2012 (recognising the challenges of MSDSs), are necessary additional steps to allow for a shift to 100% elimination of APEOS.

5. Elimination of the 11 ‘obvious’ hazardous chemical groups – ... the most hazardous PFCs.

The roadmap reads: “- *By the end of 2012, we will confirm, or set timelines for the elimination of products that are associated with PFOA and PFOS. This program will*

⁹ H&M: http://about.hm.com/gb/corporateresponsibility/greenpeace_Greenpeace.nhtml
C&A: http://www.c-and-a.com/uk/en/corporate/fileadmin/templates/master/img/fashion_updates/International_Press_Releases/C-and-A_Commitment_to_Zero_Discharge.pdf

initially focus on replacing C8 fluorinated water repellent chemistry with alternative technologies including short-chain fluorochemical water repellents approved by global regulators (e.g. fluorotelomer-based C6 technology)."

Intelligence gathered from sector and regulatory experts indicates that the phase out of the most hazardous PFCs (per fluorinated chemicals - *fluorinated water repellent chemistry*) based on the C8 chemistry (e.g. PFOS and PFOA) is already well underway if not already achieved. There is no reason why it should not be feasible for the roadmap to commit the sector to eliminate C8 based PFC formulations and establish a concrete timeline for eliminating the remaining PFCs (including fluorotelomer-based C6 technology) by the end of 2012.

6. Elimination of the 'next 11', and 7. Shift to timelines for the roll out of 'prescribed/green-listed' formulations

Following on from the 'low hanging fruit' of the initial well known hazardous chemicals (starting with the 11) and building on the new comprehensive sector-wide hazardous chemicals list it should be possible to take two subsequent steps:

- 1) define the next priority chemical groups (the 'next 11') for phase out. If the sector-wide hazardous chemicals list (or if necessary use the 'existing sector hazardous chemical lists' (blacklists e.g. those created by Bluesign, Ökotex, GOTs etc.)) is available by the end of 2012, it should be possible to define this group and its elimination timeline by the end of 2013
- 2) based on the comprehensive sector-wide hazardous chemicals list it should be possible to identify quantified intermediate goals and milestones as a transition to the use of intrinsically non-hazardous green (also called 'preferred') chemicals, also by the end of 2013, setting the first targets for the end of 2014.

The roadmap establishes its intention to define the next group of chemicals in "*future roadmap updates*" but gives no timeline for when it will do this and does not mention the use of existing sector relevant blacklists, if necessary.

Regarding the second step – the shift to timelines and targets for green chemistry phase-in – the roadmap states (ch. 4.5 and 4.6) :

"– Beginning in early 2013, we will determine a plan to evaluate the chemical inventory by intrinsic hazard and establish a sector wide list of hazardous chemicals. This list will be used to do a gap analysis and identify the alternative (greener) chemical formulations that are needed.

...

- We will expand our current efforts of prescribing alternative (greener) chemistries to be used on our products. Current examples include water-based adhesives and water-based inks."

The roadmap should however speed up the process and include a clear delivery date for the gap analysis report and when clear intermediate milestones can be set – for example when x% or X hazardous chemicals should be replaced by green chemistry alternatives, working towards 100% by 2020. For example, with the collective resources of the committed companies it should be feasible to aim for the inventory, the new sector-wide hazardous chemicals list and the gap analysis (if necessary using existing sector backlists) within 18 months – i.e. by mid-2013. It

should also be possible, by the end of 2013, to set objectives such as x%/number of hazardous formulations will be replaced (targeting those where alternatives are available e.g. on existing certification system Green lists) by end 2014, x by end 2015 etc.

8. A clear shift from a risk based to a precautionary `intrinsic properties based` approach?

We note that there is some ambiguity on the roadmap as to whether the hazardous chemicals targeted for elimination will be selected based on intrinsic hazardous properties and replaced with less and preferably non-hazardous alternatives based on the same intrinsic properties assessment. There are several mentions of the hazardous chemical screening tool to be developed and in parallel the identification of a sector wide hazardous chemicals list (based on intrinsic properties). But it is not made clear that:

- a) the hazardous chemicals screening tool is the tool that will be used to identify hazardous chemicals based on intrinsic properties, and not risk factors¹⁰ (i.e. a clear shift from the risk based management approach),
- b) that alternatives will also be screened for intrinsic hazards and the chosen replacements will be preferably non-hazardous and if still hazardous (although less so) only be used while a non-hazardous formulation is being sought (e.g. the case of C6 and C4 PFC chemistry).

9. New tools for information exchange on chemicals in the supply chain.

The roadmap recognises the serious deficit in the information exchange on chemicals and formulations between suppliers and the chemical industry.

Ch 2., challenges: “– *Limited visibility into the formulation of preparations (mixtures of chemicals) used by suppliers, in particular incomplete information on hazardous ingredients in MSDS (Material Safety Data Sheets)*”, and recognises that this is a tough issue to tackle: “ *Furthermore, many chemical formulations and products are subject to proprietary information. Therefore, the committed companies expect it may take some time to convince chemical companies to disclose the full recipes and content of dyeing chemicals or other typically used chemical products.*” (annex) .

Existing certification systems in the sector have managed to get around the proprietary information challenge (by setting up confidential exchange platforms) – and some of it will be overcome by REACH in the future. Given the importance of solving this critical barrier to elimination and innovation it is important to lay down some concrete steps to tackle the `data deficiency`, building on the new sector-wide hazardous chemical list – for example, by establishing a phase-out of all formulations that do not provide full intrinsic properties data regarding PBT, vPvB, CMR and equivalent concern properties such as EDC¹¹ (`no data, no use` approach). Where it

¹⁰ For example the statement in ch 4.4: “*Screening for hazard and their use (fate) will help determine how chemicals should be managed or when necessary targeted for elimination*” could mean that some uses of hazardous chemicals e.g. in non-water discharging processes, low volumes, etc., could be acceptable and not targeted for elimination which is not in line with the commitment to zero discharges in Greenpeace’s understanding. Hence the necessity to clarify the Zero discharge definitions.

¹¹ Chemicals that cause particular concern when released into the environment display one or more of the following properties:

is absolutely necessary to respect data confidentiality, it would be feasible to set up a confidential data exchange platform.

10. Concrete timelines and scope of auditing of suppliers.

Some specific auditing steps are identified - like establishing and rolling out a new dye-house protocol. While this is a useful 'hot-spot' approach, as wet processes including dyeing are suspected to be among the most chemically intensive processes in the supply chain, there is also the need for some horizontal enforcement activities to be undertaken – for example a commitment to audit x% or numbers of facilities in the initial elimination and disclosure roll out projects. Some companies already publish such numbers for their current auditing (based on mainly product focused Restricted Substances Lists)¹².

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**. Chemicals with these properties are described as **PBTs (persistent, bioaccumulative and toxic substances)** or very persistent and bioaccumulative (**vPvB**).

Despite initial dilution in large volumes of water or air, such pollutants can persist long enough in the receiving environment to be transported over long distances, to concentrate in sediments and organisms, and some can cause significant harm even at what may appear to be very low concentrations.

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) (**CMRs**) ; or **endocrine disruptors** (interfering with hormone systems) (**EDCs**).

¹²
http://about.hm.com/gb/corporateresponsibility/environment/milldevelopmentprogramme_milldevprograme.nhtml and p.37

http://www.hm.com/filearea/corporate/fileobjects/pdf/en/CSR_REPORT2010_PDF_1302846254219.pdf