

2013 ANNUAL REPORT

Ø ZDHC

ZERO DISCHARGE
OF HAZARDOUS
CHEMICALS PROGRAMME

adidas
GROUP



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Gap Inc.

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A Message from the ZDHC Group

We are pleased to share the 2013 results of the Zero Discharge of Hazardous Chemicals (ZDHC) Group in this Annual Report. The results represent the deep commitment of the ZDHC Group to the goal of zero discharge of hazardous chemicals as laid out in our Joint Roadmap. By implementing the Joint Roadmap milestones we continue to contribute to a cleaner environment and increased environmental accountability. Our priority is tangible progress, both through development of industrywide best practices and on-the-ground implementation. These results are and will continue to be publicly shared and reported.

The goal of zero discharge will demand the collective action of industry and other stakeholders; we cannot accomplish our aspirations alone. We are grateful to all of our stakeholders, whose vital partnership helps us advance our work.

We hope you also will join us in addressing this exciting challenge.

Warm regards,

adidas Group, Benetton Group S.p.A, C&A, Esprit, Gap Inc., G-Star Raw, H&M, Inditex, Jack Wolfskin, L Brands, Levi Strauss & Co., Li Ning, M&S, New Balance Athletic Shoe, Inc., NIKE, Inc., PUMA SE and PVH Corp.

In association with the Association of the German Sporting Goods Industry (BSI), European Outdoor Group (EOG) and GermanFashion Modeverband Deutschland e.V.

INTRODUCTION

The Zero Discharge of Hazardous Chemicals (ZDHC) Group has set an ambitious new standard of environmental performance for the global apparel and footwear industry. In 2013, the Group forged solidly towards the goal of zero discharge of hazardous chemicals across supply chains and product life cycles in the production of apparel, footwear and accessory goods by 2020. Through strong collaboration, the ZDHC Group updated the Joint Roadmap, the path forward for reaching this ambitious goal and accomplished critical near term actions.

This Annual Report outlines the ZDHC Group's progress during 2013 towards commitments made in the [Joint Roadmap](#) and identifies milestones planned for the coming year. Links throughout the report connect to additional information on programme efforts.

A core component of ZDHC work in 2013 involved implementing the goals set out in the Joint Roadmap. Results presented in this report are the result of intense collaborative efforts in Asia, Europe and North America.

During the past year, the ZDHC Group:

- Developed and issued a [Benchmarking Study and Final Report](#) – which provides critical insights about current discharge and future phase-out activities in the supply chain. The report includes testing and analysis results of approximately 150 analytes at 20 sites in Bangladesh, China, India, Taiwan and Vietnam.
- Integrated 11 new members.
- Developed and issued the ZDHC [Joint Roadmap, Version 2](#) – which sets a path for achieving zero discharge goals and identifies workstreams, mid-term achievements and near-term tangible actions for moving towards the 2020 goal.
- Developed and issued a [Framework for the Prioritisation of Hazardous Chemicals](#) – which will be used to assess chemicals for further action including phase out and research.
- Identified a draft list of hazardous chemical substances using the ZDHC Framework for Prioritisation.
- Continued to promote zero discharge to industry partners by delivering nearly 30 presentations at key global textile and chemical management conferences and events, reaching thousands of collaborators.
- Developed a ZDHC manufacturing restricted substances list (MRSL) and sought third party review to assess the proposed list of chemicals and levels of detection. The MRSL will be published in 2014.



- Initiated research on per- and poly-fluorinated chemical (PFC) alternatives.
- Co-hosted a [stakeholder meeting](#) on hazardous chemicals in Beijing with the China National Textile and Apparel Council (CNTAC) – the beginning of a landmark collaboration.
- Prepared a chemicals management training curriculum to be delivered in 2014 in China and other countries.
- Conducted research on right to know chemical disclosure methodologies, including Pollutant Release and Transfer Registers (PRTR), to be published in 2014.
- Developed the ZDHC Generic Audit Protocol and Audit Guidelines and conducted 22 pilot audits at supplier locations to assess facility/system performance.
- Initiated the development of a ZDHC Chemicals Management System manual. The complete manual will be published in 2014.
- Conducted more than 350 group webinars and workstream team meetings between ZDHC members, collaborators and technical advisory committee members.
- Conducted ongoing communication with stakeholders including the distribution of programme updates and deliverables to more than 400 stakeholders.

Outreach and engagement form the basis for 2013 activities. ZDHC-CNTAC hosted the Chemicals Management Forum.

ZDHC PROGRAMME HISTORY

Since the 1990s, apparel and footwear companies have worked to restrict the use of harmful substances in their products. In support of this, industry organisations have collaborated for the past decade to harmonise product standards and communicate these standards throughout the supply chain. While these efforts have achieved great progress, we recognized from the start that holistic system change is required to achieve this goal.

In 2011, the ZDHC Group formed to catalyse positive change in the discharge of hazardous chemicals across the product life cycle by 2020. These efforts are focused not just on end-of-pipe controls, but on improving inputs and processes. ZDHC Group goals are to:

1. Eliminate or substitute hazardous chemicals in our members' products and their manufacture.
2. Develop a transparent process to screen and eliminate hazardous chemicals in the apparel and footwear industry.
3. Support facilities carrying out wet processing of textiles and leather with tools, training and capacity-building programmes.
4. Develop common, harmonised assessment tools to be used throughout the industry and clear guidelines on best practices for all supply chain stakeholders.
5. Develop a system of disclosure created in partnership with the supply chain that allows communities and consumers to access information about potential exposures to chemicals.
6. Engage the entire system of suppliers, brands, governments and NGOs through participation, innovation and fulfilment of their respective responsibilities to ensure the safe use of chemicals.
7. Develop a transparent and continuous stakeholder engagement process that builds trust and ensures strong alignment amongst all parties.

Current members include adidas Group, Benetton Group S.p.A., C&A, Esprit, Gap Inc., G-Star Raw, H&M, Inditex, Jack Wolfskin, Levi Strauss & Co., L Brands, Li Ning, M&S, New Balance Athletic Shoe, Inc., NIKE, Inc., PUMA SE and PVH Corp. and key influencers in the chemical industry. Three associate members were welcomed into the group in 2013, specifically BSI, EOG and GermanFashion. Our group continues to expand and welcome new members interested in contributing to these goals.

To achieve the zero discharge mission, the ZDHC Group developed the Joint Roadmap. Revised in 2013, the Joint Roadmap identified seven main categories of work:

- Workstream 1: Chemical Hazard Assessment, Prioritisation and Action
- Workstream 2: Training
- Workstream 3: Right to Know
- Workstream 4: Assessments and Audits
- Workstream 5: Management Systems Approach, Structure and Documentation
- Workstream 6: Stakeholder Partnering
- Workstream 7: Chemicals Management Best Practices Pilot

PROJECT SUMMARY: 2013 STATUS

Table 1 summarizes the progress of each workstream against the Joint Roadmap commitments. The following sections expand on those workstream details.

Table 1. Project Progress Across the Seven Workstreams

Action	Progress Tracker (%)				
	20	40	60	80	100
Workstream 1: Chemical Hazard Assessment, Prioritisation and Action					
■ Provide a list of chemical substances and prioritise for phase out or further research	<div></div>				
■ Increase awareness of chemicals targeted for elimination and substitution in the supply chain and provide recommendations	<div></div>				
■ Develop a key performance indicator (KPI) that each brand can use to track whether phase out has been achieved at a supplier location	<div></div>				
■ Define and develop the ZDHC Manufacturer Restricted Substance List (MRSL)	<div></div>				
■ Conduct a research project on durable repellency technologies	<div></div>				
Workstream 2: Training					
■ Establish partnership with a training organization and set up a near term curriculum outline	<div></div>				
■ Disseminate and promote training in first key market (China)	<div></div>				
■ Develop training capacity in two additional markets	<div></div>				
■ Promote ZDHC training within other international programs	<div></div>				
Workstream 3: Right to Know					
■ Define the criteria that will be included in the Right to Know performance rating mechanism	<div></div>				
■ Develop the process for creating the preferred list of chemicals and dyestuff	<div></div>				
■ Publish the extensive research conducted by ZDHC in 2012 on disclosure methodologies for managing chemical compliance, including pollutant release and transfer registers (PRTRs)	<div></div>				
Workstream 4: Assessments and Audits					
■ Develop a joint generic audit approach for environmental performance	<div></div>				
■ Develop a shared dyehouse audit protocol	<div></div>				
Workstream 5: Management Systems Approach					
■ Develop the ZDHC Chemical Management System (CMS) Manual	<div></div>				
■ Develop guidelines for brands, Tier 3 suppliers and mills	Not started				
■ Develop ZDHC CMS procedures	<div></div>				
Workstream 6: Stakeholder Partnering					
■ Engage with key influencers in the system through three regional stakeholder meetings	<div></div>				
■ Align stakeholders with relevant workstreams	<div></div>				
■ Obtain commitments to zero discharge from 20% of suppliers, representing the highest materials volumes	Not started				
■ Increase the number of partner brands to 20 signatory members in 2013	<div></div>				
■ Establish an external advisory board	<div></div>				
Workstream 7: Chemicals Management Best Practices Pilot					
■ Pilot best available chemistry practices at a set of supplier locations to determine which best practices have the most valuable outcomes and business case	<div></div>				

WORKSTREAM UPDATES

Joint Roadmap Workstream 1 Milestones

- Developed a chemical prioritisation framework for assessing chemical hazard that allows the use of publicly available, transparent hazard assessment tools.
- Developed and disseminated Benchmarking Report with results from 20 chemicals management and inventory assessments in five countries.
- Developed a draft list of chemicals for further research.
- Developed draft MRSL of chemicals for phase out or substitution.
- Developed chemical fact sheets for supply chain partner use.
- Issued an RFP, selected partners and initiated research on durable repellency technologies.

WORKSTREAM 1: CHEMICAL HAZARD ASSESSMENT, PRIORITISATION AND ACTION

Workstream 1 involves prioritising hazardous chemicals and planning actions to phase them out or restrict their use in the supply chain, and to encourage innovation for alternative processes and substitutes where there are limited or no alternatives currently available. These tasks and goals underpin the zero discharge mission. In 2013, the ZDHC Group focused significant attention to completing challenging tasks essential to meeting the 2020 goal.

This workstream is very complex for the following reasons:

- There is often little publicly available toxicological data on chemical substances. Many are not well tested and studied, which leads to an incomplete data set and difficulty in assessing all of the hazardous endpoints associated with the chemical substance.
- Global volume of use data is difficult to obtain. Determining the volume of a specific chemical used in the apparel and footwear supply chain is even more challenging.
- In many cases, a chemical has multiple functions and can be used both upstream (e.g., in the manufacture of chemical formulations) and downstream in the facilities where we manufacture our products. For example, toluene is widely used as a chemical feedstock and as a solvent. Because of this, ZDHC members will need to work together to determine the best approach to phase out a chemical substance.
- Challenges will be overcome by researching additional data and generating additional toxicological data, reviewing usage data and by meeting directly with suppliers to identify the best approach to eliminating the most hazardous chemicals from our supply chains.

This workstream is divided into three separate tracks:

Part 1: Hazard Assessment and Prioritisation Actions. Develop a transparent, validated process to prioritise hazardous chemical substances used in the apparel and footwear supply chain for further action, based on inherent hazard, and prioritise them for action based on the overall human health and environmental impact.

Part 2: Phase Out Actions. Develop key actions against hazardous chemical substances identified for elimination or substitution in the supply chain, including substances in the 11 priority chemical classes and MRSL.

Part 3: Research Actions. Encourage research and development of safer and more sustainable chemicals and processes for the prioritised chemical substances that do not have current viable technological or economic alternatives.

Part 1: Hazard Assessment and Prioritisation

Prioritisation Framework

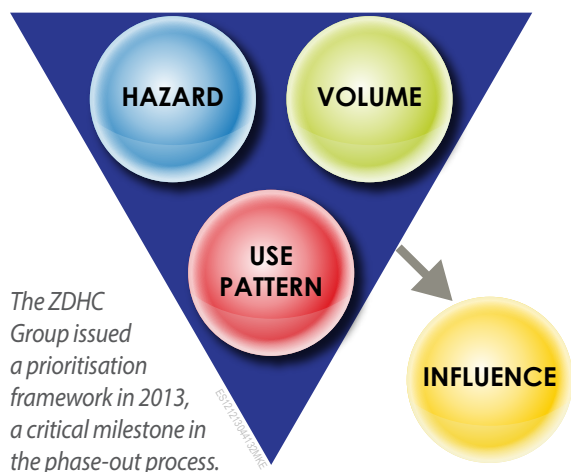
In partnership with the Outdoor Industry Association (OIA), the ZDHC Group developed a chemical hazard assessment approach specific to the apparel and footwear industry. Based on this approach and using existing frameworks and guidance, in 2013 the ZDHC Group created a prioritisation framework to assess chemicals used in the industry and prioritise them for further action. The framework describes the overall process of assessing chemical hazard and allows the use of publicly available, transparent hazard assessment tools. Using this framework and available resources, the ZDHC Group will address and eliminate the most critical environmental and human health impacts for each chemical substance targeted for action.

Benchmarking Report

As part of its foundational work in 2012, the ZDHC Benchmarking Project team conducted site visits at 20 supplier locations to observe chemicals management practices, and to note chemical inventories and to test influent, effluent and sludge discharges. The testing protocol covered chemicals across 11 classes which have been targeted for restriction and/or elimination in the supply chain. Results were compiled and analysed for inclusion in the final Benchmarking Report.

2013 Workstream Progress - Part 1

- Issued the [Benchmarking Report and Addendum](#). From an analysis of the site assessments, the group identified:
 - Key chemical classes found in the observed effluent and sludge
 - Focus areas for future ZDHC support of chemical management and information
 - Laboratory infrastructure weaknesses for consideration
 - Facility training deficiencies
- Developed a comprehensive database of restricted chemical substances used in the apparel and footwear supply chain using several existing industry lists, including the REACH Candidate List of Substances of Very High Concern (SVHC), bluesign® System Substances List (BSSL), International Chemical Secretariat's Substitute It Now (SIN) list used in textiles, additional textile chemicals identified by Swedish Chemicals Agency (KEMI), the Government of China and brand restricted substances lists (RSLs).



- Developed and published a transparent, validated prioritisation framework to assess hazardous substances for further action, based on filters for hazard, volume and use in the supply chain. Influence was included as a fourth filter to further assess priority by the ability of ZDHC members and its partners to act on the chemical substance once it had been identified.
- Applied the prioritisation framework to the restricted chemical substances database to identify a list of chemicals for further action beyond the 11 classes of chemicals identified as priorities in the Joint Roadmap.
- Built a continuous improvement capability into the database and the prioritisation process to allow regular updates to the list as more data become available or as global legislation changes.

Next Steps

- Publish research list of chemical substances.
- Review the research list annually for additional chemicals of concern.

Part 2: Phase Out

The phase out component of Workstream 1 involves developing key actions against hazardous chemical substances identified for elimination or substitution in the supply chain. These actions include specific steps the ZDHC Group will take to achieve successful elimination or substitution of the prioritised chemical substances identified in the assessment and prioritisation process.

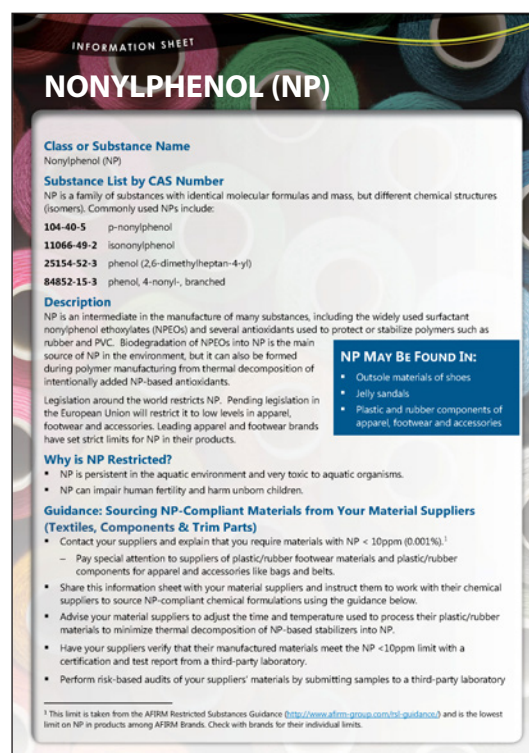
2013 Workstream Progress - Part 2

Providing supply chain partners with specific chemical use information to increase the awareness of chemicals targeted for elimination and substitution is critical to the success of the chemical phase out. To initiate this action, ZDHC Group accomplishments include:

- Development of a series of informative fact sheets focusing on priority chemicals. These reference guides address the products in which the substances are most often found, present guidance for sourcing compliant formulations with material and chemical suppliers and provide suggestions and resource lists for safer alternatives. Draft fact sheets for nonylphenol, phthalate, long-chain perfluoroalkyl acids, nonylphenol ethoxylates and toluene phase out were developed and final versions will be issued to brand collaborators following the release of the ZDHC MRSL.
- Conducted extensive analyses and developed a draft MRSL.

Next Steps

- Finalise, translate to relevant languages and distribute chemical fact sheets in 2014; additional fact sheets will also be developed.
- Assign MRSL permitted limits within a chemical formulation and specify the test methods for detection.
- Issue final MRSL.
- Issue the MRSL to the chemical industry to allow them to submit positive alternative formulations within their portfolio that meet the MRSL.
- Provide facilities (e.g., dyehouses) with tools and alternative formulations to help them meet the MRSL.
- In conjunction with Workstream 4 (audits and assessments), audit/test facilities' use of the MRSL, thus stopping intentional use of chemicals prioritised for phase out.



Chemical fact sheets will provide suppliers critical guidance.

Part 3: Research

As leaders in advancing environmental responsibility, ZDHC Group is committed to supporting innovation in the textile industry. Workstream 1, Part 3, will advance research and development of safer and more sustainable chemicals and processes for prioritised chemical substances for which there are no alternatives available nor research underway. In 2012 and 2013, the ZDHC Group collaborated with the OIA, the EOG and representatives from the chemical industry to research and identify opportunities, challenges and limitations for eliminating repellency technologies associated with perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). As a result, the research report, *Durable Water and Soil Repellent Chemistry in the Textile Industry*, was developed and released on the [ZDHC website](#). Findings from the report include the following:

- Repellency technologies containing short-chain fluorinated chemistries are currently promoted by the chemical industry as viable alternatives to long-chain chemistry.
- Short-chain fluorinated chemistries are associated with substances that may be of concern, particularly in cases where their use can result in widespread dispersion in aquatic environments.
- The move from fluorinated to non-fluorinated repellency technologies is more challenging than the move from long-chain to short-chain chemistries.

- There is limited information available on alternatives to long-chain repellency technologies, particularly on performance, with much of the information being provided by the chemical industry.
- In-depth research into non-fluorinated durable water repellent (DWR) alternatives is required.
- Future research should include:
 - Investigating the practical application of non-fluorinated DWR finishes on textile products
 - Identifying if non-fluorinated repellency technologies meet the requirements of the textile industry, including meeting defined performance levels
 - Investigating the potential environmental and human health impacts of the alternatives

2013 Workstream Progress - Part 3

In 2013, the ZDHC Group with the EOG, OIA and BSI developed and issued a Request for Proposal (RFP) to conduct research. These groups sought proposals from universities, research institutes, technical consultancies and test laboratories that would provide technical assistance, research and analysis to support the elimination of chemicals and materials from their products that may contain or degrade into long-chain perfluoroalkyl acids (PFAAs) or to eliminate fluorinated repellency chemistries entirely using safer alternatives. This RFP, through the implementation of the following projects, addressed durable repellency technologies, including water, oil and soil repellency and stain release technologies in the outdoor and fashion industries (including apparel, footwear and equipment). Actions included in the RFP:

- Creation of a categorisation scheme for products in the outdoor and fashion industry that currently require repellency.
- Development of guidance for brands and suppliers on substitution of repellency technologies in their products.
- Development of recommendations for collaboration between brands on repellency technology assessments.
- Identification and collection of performance data for non-fluorinated repellency technologies.
- Identification and collection of performance data for short-chain fluorinated repellency technologies.
- Data gathering and assessment of the potential environmental and human health impacts of the non-fluorinated repellency technologies.
- Data gathering and assessment of the potential environmental and human health impacts of short-chain fluorinated repellency technologies.

- Launch of new research and development on non-fluorinated technologies.
- Development of recommendations for whether and how brands can effectively pool and share their repellency technology performance test data.
- Creation of a streamlined data collection and dissemination system for data collected in and beyond this project.
- Documentation of the project work to create a model for future projects.

Accomplishments in 2013:

- Issued RFP and selected project partners – DeMontfort University and SUPFES.¹
- With DeMontfort University, initiated development of a guideline that will provide an overview on DWR technologies and reflect the typical use and longevity of a waterproof garment.
- With DeMontfort University, developed a questionnaire for end consumers. Results of the questionnaire will be incorporated at an individual brand level.
- With DeMontfort University, commenced evaluation of the performance of commercially available DWR for the outdoor industry. Results will be used to develop a guideline on standardised test methods for performance of DWR technologies.
- In cooperation with SUPFES, initiation of a new research project on PFC alternatives for textile manufacturing. The aim of this project is to help the industry find alternatives that can replace fluorinated chemicals, since they are harmful to the environment. Scientists and industry will collaborate to assess the risks associated with using alternative chemicals and to ensure that these alternatives provide the desired function.

Next Steps

- Support the work of DeMontfort University.
- Draw conclusions from PFC studies and apply those to other chemical evaluations that require additional research.
- Develop general guidelines on how to proceed with chemicals that are deferred to the Research List from the Prioritisation Framework.

¹ SUPFES is a coalition between a number of academic and industrial partners, with the aim of helping industry find alternatives that can replace fluorinated chemicals which are harmful to the environment.

Joint Roadmap Workstream 2 Milestones

- Signed agreement with training provider in China.
- Developed the first chemical management training module.
- Identified additional training needs, including new markets and topics.

WORKSTREAM 2: TRAINING

Supply chain training, capacity building and information exchange form the basis of this workstream and is essential to zero discharge implementation.

2013 Workstream Progress

In partnership with the Institute of Sustainable Communities (ISC), in 2013 the ZDHC Group developed a foundational chemical management curriculum. This course will be delivered to Environment, Health and Safety (EHS) managers of wet processing mills in the textile industry. This interactive classroom training, with case studies and discussion, will be delivered during a 2-day period.

ZDHC Chemical Management Supplier Training Outline:

- Day 1—Foundation Module
 - Need for professional chemical management; classifications of dangerous goods and hazardous chemicals; risks of chemicals by class, use and discharge
 - Chemical labelling and MSDS; regulatory requirements frame for chemical management; chemical inventory
 - Chemical purchasing and transportation; chemical storage, use and handling
 - Chemical waste disposal; chemical hazard communication
 - Training and personnel competency; emergency preparedness and response
 - Internal inspection; audit and incident investigation and root cause analysis
- Day 2—ZDHC Specifics and Interactive Sessions
 - Introduction to the ZDHC Group; our expectations of suppliers
 - ZDHC MRSL; MRSL compliance and positive list
 - Chemical management baseline
 - Course outputs
 - Interactive sessions: exercises and questions



Workstream 2 developed supplier training modules, pilot testing them in January 2013.

Next Steps

- Pilot test the chemical management modules in China.
- Create a long-term training plan and develop a comprehensive curriculum by exploring new country/regional and training needs to strengthen the infrastructure and certification of training participants.
- Coordinate with other workstreams to address training needs, such as chemical phase out actions in Workstream 1.

WORKSTREAM 3: RIGHT TO KNOW

Right to Know (RtK) is a ZDHC guiding principle that promotes transparency through public access to environmental information. This principle involves sharing information on the use, discharge and transfer of hazardous chemicals released to the environment. The goal of workstream 3 is to determine what and how to disclose chemical information to the public, including communities near textile facilities, and to consider whether disclosure includes audit results or other factory-specific information.

To incentivise suppliers to disclose information, the ZDHC Group intends to draw on best practices developed in other workstreams to create a supplier rating mechanism. The rating system will be based on criteria such as: compliance with the ZDHC MRSL, compliance with local/national standards for discharge of effluent, reporting of discharge data and use of the ZDHC formulation list.

2013 Workstream Progress

The ZDHC Group is focused on creating a system to eradicate any intentional use of the group's prioritised hazardous chemicals. In 2013, Workstream 3 collaborated with a number of stakeholders, including the United Nations Environment Programme, Chemicals in Products project team and the Pollutant Release and Transfer Register (PRTR) Working Group, in conducting research on disclosure methodologies.

2013 Completed Actions:

- Completed a comprehensive disclosure methodology research report that is currently under peer review.
- Held a series of face-to-face meetings in Europe to drive progress towards defining a risk rating methodology for right to know disclosure and to meet other workstream deliverables.
- Collaborated with stakeholders to test an approach for developing a MRSL compliant list of commercial chemical formulations/products. This approach includes a test protocol and detection limits.

Next Steps

- Complete development of a compliance framework to verify chemical formulations from the industry and a mechanism to disclose nonconformances.
- In conjunction with Workstream 1, continue to work with the major testing institutes on common sampling protocol/test methods/reporting for chemicals, water and more.
- Finalise disclosure methodology to ensure transparency, while observing conformance to antitrust legislation.
- Engage/meet with NGOs to investigate potential PRTR partnerships.
- Develop the disclosure system.
- Collaborate with Workstream 7 on chemicals management best practices.

Joint Roadmap Workstream 3 Milestones

- Conducted extensive research into disclosure methodologies.
- Developed draft summary report.
- Developed test approach for developing a MRSL compliant list.

Joint Roadmap Workstream 4 Milestones

- Developed pilot audit protocol version 1.0 and guidance document.
- Delivered pilot audit protocol at 22 supplier sites and a further three are expected in February 2014.
- Compiled 21 facility audit reports.

WORKSTREAM 4: AUDITS AND ASSESSMENTS

This workstream is creating assessment and audit approaches that promote strong environmental performance and continuous improvement throughout the supply chain. Developing and using a generic audit platform will help avoid duplication of auditing efforts and promote collaboration. Audits will be designed to be conducted by accredited persons, either from third-party service providers or from internal team members. The ZDHC audit process is designed as a risk-based assessment which will enable facilities and stakeholder to prioritise audited factors like:

- Geographical area
- Sensitivity of local environment/ecosystems
- Employment site function
- Energy use
- Emissions to air, land and water
- Hazardous substance use and storage
- Waste management
- Pollution prevention
- Major incident prevention and management
- Environmental nuisance
- Licences and permits
- Level and type of local regulatory monitoring
- Management competence
- Types of processes undertaken at the facility
- Number and type of accidents and incidents and/or previous audit results

The audit protocol is designed in discrete modules, such as emissions, management systems and hazardous materials and chemicals, using a generic protocol as the basis for all audit types. The protocol format is question and answer with response ratings based on facility responses and support materials provided. More detailed audit protocols for dyehouse audits, printer audits and others will be added as stand-alone modules in the future. Consistently applying these audit protocols will promote the harmonisation needed to make environmental performance improvements in the textile supply chain.

2013 Workstream Progress

In the ZDHC Joint Roadmap, Version 2, ZDHC member brands committed to define and develop a joint generic audit approach for environmental performance (including chemicals management) with the possibility for brands to, within legal confines, share supplier results. Based on this objective, in 2013, the workstream:

- Developed version 1.0 of the generic audit protocol.
- Reached out to SAC and GSCP to provide peer review of the audit protocol and to initiate alignment.
- Developed and pilot tested the audit protocol at 22 locations in Bangladesh, China, India, South Korea, Taiwan, Turkey and the United States.
- Conducted pilot audits at dyehouses, finishing, wool and washing facilities.
- Currently collecting and analysing audit data for audit report to be published in 2014.
- Developed an audit procedure to support the brands with audit setup.
- Developed auditor guidance to support the brands and auditors onsite when conducting an audit.
- Mapped service providers and platforms for sharing audit information.

Next Steps

- Revise audit protocol (version 1.0) to include external feedback from SAC and GSCP.
- Develop a system to effectively communicate audit locations to avoid duplication of auditing efforts and promote collaboration.
- Issue version 2.0 of the Audit Protocol.
- Develop a short form, chemicals-focused audit protocol.
- Develop a training module based on finding of audit report and auditor feedback.
- Develop dyehouse audit module if needed.
- Work with SAC to determine future synergies regarding platform sharing.

Joint Roadmap Workstream 5 Milestones

- Initiated the development of a management systems approach manual, guidelines and procedures.

WORKSTREAM 5: MANAGEMENT SYSTEMS APPROACH, STRUCTURE AND DOCUMENTATION

This workstream focuses on creating the approach, structure and documentation needed to support a ZDHC management system that the group believes is an effective framework for ensuring continuous improvement towards the 2020 goals. Workstream 5 will provide the ZDHC Group and suppliers with a chemical management manual, in line with ISO 14001, that will correlate to and support the ZDHC audit protocol.

2013 Workstream Progress

This workstream milestone challenges us to understand a variety of chemical expertise levels across a diverse supplier base. In 2013, the Workstream 5 team developed an outline for the Management Systems Approach manual. Manual sections will include chemical management system commitments, assessment, planning and prioritisation, chemicals management, monitoring and management review. The pilot audit summary report being developed by Workstream 4 will provide information about the expertise levels encountered to better target our educational direction. Content also will be gathered from Workstream 2 (training) and Workstream 7 (best practices) milestones.

Next Steps

- Develop Management Systems Approach manual content that meets the ZDHC Audit Protocol minimum requirements.
- Develop interactive/instructive manual.
- Update manual as needed to retain its usefulness long term.

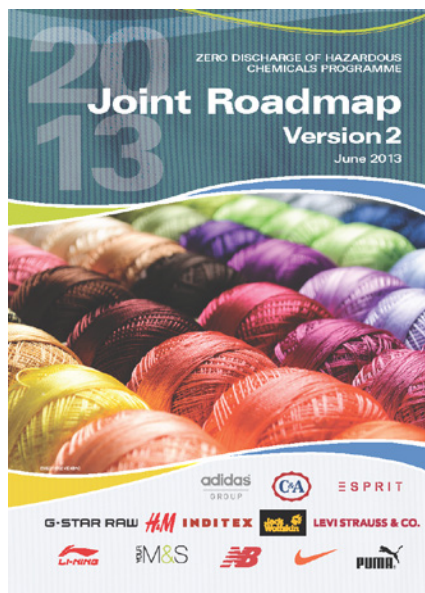
WORKSTREAM 6: STAKEHOLDER PARTNERING

Stakeholder workstream activities cross cut and support the work of other ZDHC workstreams to build partnerships and achieve stakeholder support for zero discharge. Because the apparel and footwear industry is a complex, interconnected dynamic system, with a number of systemic barriers to be overcome in order to shift the system to more sustainable practices and achieve zero discharge, galvanising participation and support throughout the supply chain is essential to our success.

2013 Workstream Progress

Achieving a significant brand signatory and associate membership increase combined with considerable stakeholder support at workstream levels resulted in a substantial increase in the size and depth of the ZDHC community in 2013. Building on this momentum, ZDHC Group hosted Europe- and Asia-based stakeholder events, focusing on zero discharge issues, including chemical use and management, that have resulted in contributions and support at technical and policy levels. Further, the group organized stakeholder partnering activities along geographic fronts – Europe/Americas and Asia – allowing for more tailored focus, planning and outreach to strategic groups.

In 2013, the ZDHC Group continued to actively collaborate in a number of venues, successfully engaging with key influencers in the supply chain system to improve understanding of joint opportunities for collaboration and partnership.



Joint Roadmap, Version 2, Consultation

Committed to collaboration and transparency, during development of the Joint Roadmap, Version 2 in 2013, the ZDHC Group implemented a formal stakeholder consultation and public comment process. The group sought broad stakeholder input to determine the path forward, and to initiate discussions about the technical challenges, solutions and complexities towards zero discharge.

All comments and recommendations received from external stakeholders were carefully considered by the ZDHC Group in

finalising the updated Joint Roadmap and were published on the programme web site. This process succeeded in leveraging the knowledge and expertise of a broad range of stakeholders and helped promote new partnerships for the ZDHC group.

Joint Roadmap Workstream 6 Milestones

- Eleven new members were added to the ZDHC Group in 2013 - including eight signatory brands and three associate members.
- Partnered with external stakeholders in workstreams to expand expertise beyond the capabilities or resources of members.



In 2013, the ZDHC Group continued to engage suppliers across Asia.

Collaboration with the China National Textile and Apparel Council

In partnership with the China National Textile and Apparel Council, the ZDHC Group co-hosted a Stakeholder Meeting on Hazardous Chemicals in the Textile Industry in August 2013 for approximately 300 participants.

Stakeholder sessions addressed the Joint Roadmap and workstream efforts, government expectations and trends in regulation, industrial and NGO perspectives and initiatives, best practice sharing by the chemical industry and textiles dyeing and printing. Subsequent panel sessions and discussions demonstrated how the entire supply chain could be connected and aligned to implement ZDHC zero discharge goals.

Expanding Outreach to Key Stakeholders

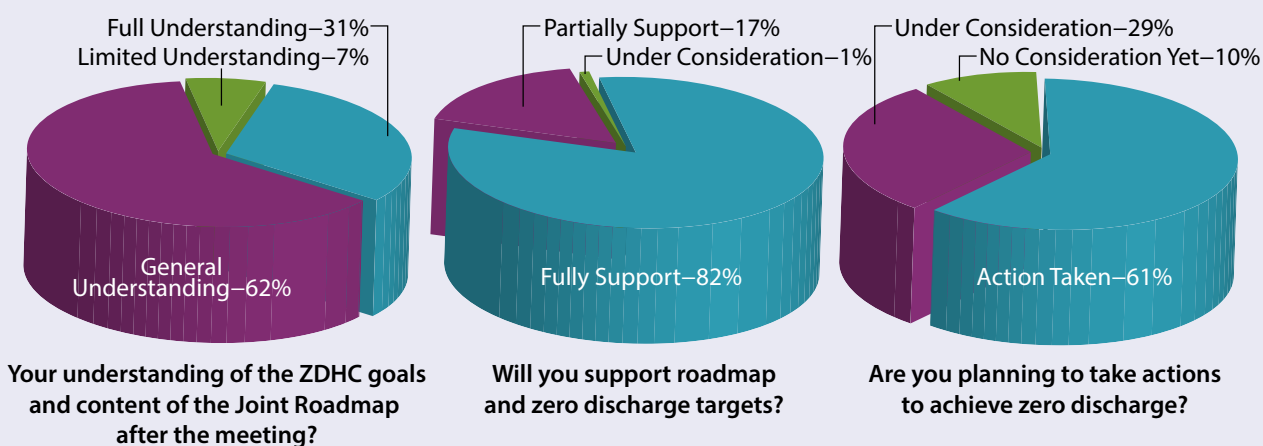
Key to completing and achieving workstream goals is leveraging input and support from critical stakeholders. In 2013, the ZDHC Group experienced a surge in support and commitment from likeminded brands and socially responsible brand leaders. Brand membership increased from 9 to 17 members, with the onboarding of Benetton Group S.p.A, Esprit, Gap Inc., Inditex, L Brands, M&S, New Balance Athletic Shoe, Inc., and PVH Corp. In this same year, the group also welcomed three associate members, BSI, EOG and GermanFashion. In support of the 20 ZDHC member organizations, the group continued to receive advisory and technical assistance from representatives of the chemical industry who form the Technical Advisory Committee (TAC) and further welcomed, aligned and integrated key industry stakeholders into workstream meetings and actions. These key collaborators provided expertise and resources essential to the hazard assessment and prioritisation, audit and assessment and management systems workstreams. These 2013 technical advisors and key supporters include Archroma (Clariant), BASF, Bayer Material Science, CEFIC, CHT, Dow Corning, DuPont, DyStar, ETAD, GSCP, Huntsman, OIA, SAC and Verband TEGEWA.

In updating the Joint Roadmap in 2013, the Group recognized the potential value of integrating an independent external advisory board into the work. This group would be comprised of representatives from the chemical industry, NGOs, suppliers, academia and international development organizations. The remit of the external advisory board would be to provide strategic advice to the ZDHC Group, evaluate progress against roadmap goals and to provide expertise that complements the expertise within the membership group. In 2013, preparatory work necessary to establish the advisory board was completed.

Accomplishments in 2013:

- Increased brand signatory members from nine to 17 and added three new associate members.
- Conducted a formal stakeholder consultation and public comment process to gather stakeholder feedback and develop and finalise the Joint Roadmap, Version 2. Comments were gathered through several webinars, a face-to-face meeting and a survey issued to more than 300 external stakeholders representing textile industry associations and NGOs, suppliers, regulatory agencies in Asia, Europe and the United States, environmental and social NGOs, the chemical industry, international development organizations, entrepreneurs and academic institutions.
- Initiated landmark collaboration with the China National Textile and Apparel Council, co-hosting stakeholder meeting in China with approximately 300 participants representing the Government of China, NGOs, brands, industrial associations, suppliers (from the entire supply chain including garment, fabric, dyeing and finishing and chemical suppliers) and service providers.

CNTAC-ZDHC Meeting Participants Expressed Support and Understanding for the ZDHC Goals.



- Expanded outreach to key stakeholders in conferences and events in Asia, Europe and North America through presentations and other collaborative opportunities, to gain interest, input and support for the zero discharge mission. The ZDHC message was delivered at the following events:
 - American Apparel and Footwear Association (USA)
 - American Association of Textile Chemists and Colorists (AATCC) (USA)
 - Apparel and Footwear International RSL Management (AFIRM)
 - bluesign® Conference (Switzerland)
 - ChemSec (Sweden)
 - Chemicals Management Summit (Sweden)
 - CNTAC-ZDHC Event (China)
 - German Federal Institute for Risk Assessment, Leather Working Group (Germany)
 - German Textile Finishing Association (Germany)
 - ICCA/Cefic Responsible Care Annual Meeting (Holland)
 - Intertek Supplier Event 2013 (China)
 - Outdoor Show (DWR Session) (Germany)
 - Planet Textile (China)
 - Society of Dyers and Colourists, Colour Trends 2013 Conference (India)
 - TEGEWA Technical Conference (Europe)
 - Textile Exchange Conference (Turkey)
 - UNEP Chemicals in Products Conference (USA)

Next Steps

- Advance the programme's reach and impact by onboarding new brands and increasing signatory and associate membership.
- Support implementing workstream milestones, including conducting training, audits and assessments in Asia and collaborating with Asia-based organizations and governments to develop transparent and accessible chemical disclosure reporting.
- Continue to share ZDHC Group progress and discuss challenges with system participants at events, conferences and webinars.
- Continue to seek and engage collaborators whose vision and mission align with the zero discharge goal to support and participate in workstreams.
- Finalise and implement an engagement strategy for Bangladesh, China, India, Taiwan and Vietnam.

WORKSTREAM 7: CHEMICALS MANAGEMENT BEST PRACTICES PILOT

This workstream is focused on piloting best available chemicals management practices at a select group of supplier locations to determine which best practices create the most valuable outcomes and business case. Though there are current best practices established for chemicals management, treatment and water stewardship, the impact of applying these best practices at supplier sites, and the associated business case for doing so, is unclear.

The ZDHC Group objective for this workstream is to assist brands and mills in their understanding of the costs and business benefits from moving to more sustainable, less hazardous chemicals and processes.

2013 Workstream Progress

- Developed a detailed operational plan with guidelines for identifying best available technologies.
- Established project teams and initiated outreach to partners such as ChemSec.
- Began identification of five mills that will be able to provide access to their existing processes and declare current key performance indicators (KPIs) for analysis of best practices.

Next Steps

- Engage five mills and other stakeholders to map out best practices.
- Evaluate the volume of hazardous chemical discharge a facility can avoid when they:
 - Use chemicals that do not intentionally contain any of the 11 priority chemicals
 - Comply with the most stringent ZDHC Group RSL/MRSL
 - Optimize resource use through best available technology and processes
- Determine best practices from the pilot study and take this work to scale throughout the supply chain.
- Provide training on how to implement these best practices.

Joint Roadmap Workstream 7 Milestones

- Developed plan and path forward to support pilot activities.
- Initiated discussions with mills who may be pilot participants.

To Our Stakeholders

Having completed two years of work, the ZDHC Group has laid a solid foundation for and begun to make real improvements in the textile supply chain environmental performance. We are eager to continue this momentum, taking on known and unknown challenges and pushing towards zero discharge. Our 2020 goal is ambitious but attainable if you join us in this effort.

For those interested in following our progress, you can reach out to us with specific questions, or join our mailing list to stay apprised of our activities at info@roadmaptozero.com. To keep you up-to-date, we also will continue to post information on www.roadmaptozero.com. Thank you for your interest, your input and your support!

