The Zero Discharge of Hazardous Chemicals (ZDHC) Programme 2016 Annual Report
Since six brands joined forces in 2011 to align on tools and standards to eliminate hazardous chemicals from the textile, leather and footwear value chain, the ZDHC Roadmap 2020 Programme (ZDHC Programme) has come a long way. In 2015 the newly established ZDHC Foundation, based in Amsterdam began with four team members. Now our team comprises seven members in Amsterdam, Portland and Shanghai.

In terms of our Roadmap 2020 targets, the Foundation accomplished very important milestones such as the release of the ZDHC Wastewater Guidelines, organisational expansion to Asia, the setup of the ZDHC global training Academy including a robust accredited trainer programme and the development of ZDHC’s Gateway, including the

• **Wastewater Module** – to measure impact of the programme and reduce duplicative testing within the industry.

Both Gateway Modules were part of intensive piloting in 2016 and will be fully launched in 2017.

We started the work at the ZDHC Foundation with twenty-one Signatory Brands. The most significant change to our previous operation was opening the Programme to all relevant stakeholders within our industry including manufacturers; chemical companies; solution providers; and industry associations.

We are delighted to have had such a great support from the industry from the very beginning. Which in 2016 lead to substantial growth in the number of contributors committed to the ZDHC Programme with a total of fifty by the end of 2016.

Through our implementation strategy we are expecting to accelerate growth in the coming years. What drives us is the quality of collaborations and strategic partnerships; with industry leaders; relevant organisations and stakeholders for collective ZDHC Roadmap Programme impact.

• **Chemical Module** - to drive the substitution of hazardous chemistry with more sustainable alternatives.
The year 2016 was the first full year of operation for the ZDHC Board Directors and the Management team. We look back on successful financial and operational management that supports ZDHC’s path towards becoming a centre of excellence for responsible chemical management in the textile, leather and footwear industry.

On a personal note - a big thank you at this point: after starting the early champion pilots in China in July 2016 all pieces of the ZDHC standard and toolbox puzzle began to come to life. Every manufacturing facility that adopts ZDHC tools and standards constitutes an important asset that drive the significant and necessary transformation process we now see happening in the industry. These facilities, that truly move beyond legal compliance and do much more than just fulfilling customer requirements, contribute significant additional effort based on a deep trust in the value add of ZDHC tools and standards. Being part of this transformation process and working together with our partners in the industry is inspiring and I would like to thank everyone for their ongoing support. I am proud to reflect on the many milestones we achieved during 2016 and as a team we are looking forward to the privilege of further developing our work in the coming years.

Frank Michel
ZDHC Executive Director
Our Key Achievements Include:

Expanding Contributor Commitments to ZDHC

We broadened ZDHC's contributor base by opening the entirely new contributor category of value chain affiliates. In 2016, we welcomed seventeen value chain affiliates, five associates and Kering as an additional Signatory Brand taking our total number of contributors to fifty.

Standard setting, collaborative implementation and industry engagement are all key to driving the success of the ZDHC Programme forward. We’re encouraged to see growing support for ZDHC from a range of players across regions and sectors because we know that to achieve our goal requires industry support globally.

Read more >

ZDHC Expansion in Asia

We expanded our core team to include representation in Asia with the appointment of an Asia Director, based in Shanghai. This appointment, allowed us to focus our efforts on deepening our presence and communications across the Asia region starting in China with a focus on the implementation of ZDHC tools.

Highlights include an official collaboration agreement signed with the China National Textile & Apparel Coalition (CNTAC) and a joint ZDHC – CNTAC conference held in Shanghai and aimed at suppliers within the textile and footwear value chain.
Another highlight was the adoption of the ZDHC Manufacturing Restricted Substances List (MRSL) as the industry standard by the China Artificial & Synthetic Leather Committee of China Plastics Processing Industry Association (CPASL).

CPASL and the newly formed Synthetic Leather Green Supply Chain Industry Innovative Strategy Alliance started on the journey towards green synthetic leather manufacturing based on ZDHC tools and implementation.

In 2016, we completed the foundational analysis to understand implementation in practice resulting in the launch of the Early Champion Pilot in China.

ZDHC made milestone progress on engaging industry associations and local governments. The China Ministry of Industry and Information released its "Action Plan for the Reduction of Volatile Organic Compounds in Key Industries", which requests the reduction of solvents by 20% by 2018, compared with 2015.

Several Asian organisations joined the ZDHC Programme, bringing the contributors based in Asia to a total number of fourteen. From across the value chain, they include nine chemical companies, three textile manufacturers, one Associate and one Signatory Brand.

**Shifting our Focus from Tool Development to Implementation.**

Today, ZDHC offers a portfolio of tools and resources that drive the industry towards the achievement of zero use and discharge of hazardous chemicals. These include our MRSL, Chemical Guidance Sheets, and Wastewater Guidelines. We have additional tools that are in advanced stages of development, and will be released in 2017.

With the rapid growth of the Foundation, our focus has logically evolved quickly from the development of tools to their implementation. As more brands and retailers, suppliers and manufacturers, industry associations and solution providers have joined ZDHC, we are starting to see first-hand a shift in industry momentum.

**To support implementation, we have developed the following tools:**

Ø **ZDHC Gateway – Chemical Module**

The ZDHC Gateway – Chemical Module is the first data exchange platform that enables chemical formulators to securely share chemical formulation with brands and textile, footwear, and leather suppliers in-line with the ZDHC MRSL requirements. In 2016, four suppliers were invited to participate in a beta trial of this platform. It will soft launch in early 2017 and is poised to become the world's largest database of safer chemical formulations for the textile, leather and footwear industry.
The ZDHC Academy is an online portal for ZDHC chemical management training. The ZDHC Academy was launched at the end of 2016 and offers in-person training sessions. It is designed to empower brands and manufacturers to access certified training to improve their awareness, knowledge and practice of responsible chemical management and implement tools such as the ZDHC MRSL and the ZDHC Wastewater Guidelines. Further training modules will be developed in 2017 with the aim of offering training in up to twenty countries.

Read more >

In our Updated Joint Roadmap issued in 2015, Wastewater Quality was added as an additional Focus Area. This was born from an awareness that elimination of hazardous chemicals across the textile, leather and footwear value chain requires a holistic approach. Not only should our efforts focus on controlling the “inputs” of chemical management, but also the “outputs”.

In 2015, we conducted a literature review of wastewater quality discharge standards worldwide, which revealed that, despite efforts, there existed no single, uniform set of expectations regarding MRSL parameters, for suppliers who discharge industrial wastewater.

To address this, we worked with ZDHC contributors, NGOs, suppliers and a Wastewater technical advisory committee to develop a single, standardised wastewater guideline for the entire industry.

Read more >
2016 Overview of Achievements

MARCH
The Wastewater Focus Area meeting held at PUMA Headquarters.

MAY
The Data & Disclosure/Training Focus Area and MRSL Co-Lead Meetings held in Copenhagen.

JUNE
First potential ZDHC training providers selected to start Pro Bono training sessions.

JULY
ZDHC Wastewater Guidelines released for public consultation.

NOVEMBER
During the 4th Annual ZDHC-CNTAC Conference, with more than 600 suppliers, ZDHC & the China National Textile & Apparel Coalition (CNTAC) signed formal collaboration agreement.

DECEMBER
ZDHC Academy was launched and the first ZDHC Accredited Training Providers announced.

APRIL
Asia Director Lydia Lin joined ZDHC to drive implementation in Asia.

MAY
ZDHC Wastewater Guidelines released to SAC members and Planet Textiles and the development of the ZDHC Gateway - Chemical Module was announced.

AUGUST
ZDHC's Communications Coordinator Alisa Münsterberg joined and the China Synthetic Leather Industry engaged with ZDHC.

NOVEMBER
The ZDHC Annual Meeting was held. One outcome of the meeting is the merge of the MRSL and Research Focus Areas.

NOVEMBER
ZDHC Wastewater Guidelines released in English and Simplified Chinese.
The ZDHC Programme and Objectives

In 2011, the ZDHC Programme began as a coalition of six brands. This same year, those brands committed to the Joint Roadmap, which builds upon ZDHC successes and defines the path forward for the next few years.

In 2014, the ZDHC Manufacturing Restricted Substances List (MRSL) version 1 was released, along with Chemical Guidance Sheets. Updated in 2015, the ZDHC MRSL now also includes leather.

In 2015, the ZDHC Joint Roadmap was updated and ZDHC transitioned to management under a separate legal entity – the ZDHC Foundation and its team, along with an elected Board of Directors.

How we work

The operational plans for each Area cover three types of work as described in the box below. We have found that these three aspects of work are key to affecting industry change – not only for creating aligned guidance and tools, but for alignment on how to effect implementation on the ground.

Engaging a network of stakeholders also is important in mutually supporting and amplifying this change throughout the industry value chain.

1. Standard Setting Guidance
   Creating and maintaining ZDHC MRSL & Research, Audit Protocol, Wastewater Quality, Training and Data and Disclosure tools and guidance to achieve acceptance and use of ZDHC tools and processes as the industry standard.

2. Collaborative Implementation
   Creating action plans to ensure implementation, adoption and widespread industry acceptance of ZDHC tools, guidance and processes.

3. Engagement
   Identifying who and how we engage with key stakeholders to maintain the credibility of ZDHC tools, guidance and ensure adoption, implementation and widespread use.

In 2015, the Focus and Cross Cutting Areas were identified to optimise impact and complement the work of other industry associations and non-governmental organisations.
The Focus and Cross Cutting Areas

Manufacturing Restricted Substances List (MRSL) & Research

Composes two primary tracks of work; updates to the ZDHC MRSL and effective engagement to promote adherence to ZDHC MRSL chemical use restrictions.

Audit Protocol

Works towards harmonising the audit tool with SAC, finalising the audit conformance process and engaging industry groups to promote adoption of the audit tools.

Wastewater Quality

Intends to minimise chemical pollutants discharged into the environment through good process controls and effective chemical management by developing the ZDHC Wastewater Guidelines.

Data & Disclosure

To be effective, we work with other organisations to develop standardised chemistry management data in each of our Focus Areas.

Training

Training to support understanding, acceptance and use of ZDHC tools across the value chain. This includes in-person training and incorporating country/regional training needs.
With the aim of creating a way for organisations of different types and sizes to engage as a contributor within the ZDHC work activities, we opened up a new contributor category during 2016. The value chain contributor* category provides a way for players in the value chain - from the chemical industry, the manufacturing industry and solution providers - to engage in the ZDHC Programme. In 2016, ZDHC welcomed the following contributors, with an increasing geographic representation from Asia.

*the value chain category was formed in early 2016, three of the companies (Everlight Chemical, Jintex and Polyone) moved from the Associate category to the Value Chain – Chemical Industry Category.
“The goal of environmental sustainability is only attainable if we join forces and resources. The ZDHC Programme is the cohesive element that can bring together the experts, the brands, and the individuals necessary to effect change on a large scale.”
- Caroline Zapf, Chief Sustainability Officer at Sustainable Down Source.

"We are happy to join the ZDHC Programme as a contributor and are committed to the elimination of hazardous chemicals from the textile and footwear value chain. Being a part of ZDHC will help us to reinforce our efforts in this direction."
- Abhishek Bansal, Chief Sustainability Manager at Arvind.
At the opening of the event, ZDHC’s Executive Director Frank Michel reflected on ZDHC’s journey, starting in 2011 with six Signatory Brands and today, sitting at fifty contributors.

During the event, the ZDHC Gateway, the world’s largest open database of safer chemicals, was presented, demonstrating to suppliers from across the industry its ability to find safer chemistry.

Another key achievement presented during the conference was the development of the ZDHC Wastewater Guidelines. The Wastewater Guidelines present a single, unified expectation on wastewater quality for the entire textile and footwear industry.

And finally, the signing of the formal collaboration agreement between ZDHC and the China National Textile & Apparel Council (CNTAC) presented another key moment in ZDHC history.

On November 8, 2016, at the 4th ZDHC - CNTAC joint conference, over six hundred participants from across the value chain were exposed to the latest developments in hazardous chemical control and sustainable manufacturing.
In the future ZDHC and CNTAC will work together to promote global sustainable developments in the value chain.

The day also featured a debate with panellists from the China Textile Information Centre (CTIC), the United Nations Environmental Programme (UNEP), and the Sustainable Apparel Coalition (SAC), with conference participants invited to ask a range of questions and offer perspectives.

“Our hope is that suppliers left the event with a greater understanding of the challenges of hazardous chemical control and gained practical insights on how to overcome these. We believe ZDHC is an important force in sustainable development and hope that together, we can work to eliminate hazardous chemicals within the value chain.”

- Sun Ruizhe, CNTAC President.
Focus Area Update: MRSL & Research

Overview

The ZDHC MRSL is a list of chemical substances banned from intentional use in facilities that process textile materials and trim parts in apparel, leather and footwear.

It establishes acceptable concentration limits for these substances as impurities or by-products in chemical formulations used within manufacturing facilities.

Limits defined by the ZDHC MRSL are designed to eliminate the possibility of intentional use of listed substances.

It is the Programme's vision to have the ZDHC MRSL and conformity process guidance serve as the global textile, leather and apparel industry standard.

In the ZDHC Joint Roadmap Update, ZDHC Signatory Brands committed to defining and developing a Manufacturing Restricted Substances List (MRSL) for the textile and footwear industry.

In doing so, ZDHC brands recognised the value of addressing hazardous substances potentially used and discharged into the environment during manufacturing and related processes deep within the value chain - not just those present in finished products.

In 2014, ZDHC released its first MRSL and, in December 2015, Version 1.1 was released which expanded the scope to include leather.

"Building on the recently formed MRSL advisory group, ZDHC efforts to strengthen and support the use of MRSL compliant formulations across the textile and footwear industry has taken yet another step forward with launch of the Chemical Gateway and MRSL Conformity Guidelines."

- Dr. Nick Farrar, MRSL & Research Focus Area Co-Lead, Global Chemistry Director - Sustainable Manufacturing and Sourcing at NIKE, Inc.
MRSL & Research
There are two primary tracks of work related to this Focus Area, specifically updates to the ZDHC Manufacturing Restricted Substances List (MRSL) and the effective engagement for adherence to ZDHC MRSL chemical use restrictions.

<table>
<thead>
<tr>
<th>1</th>
<th>Standard Setting</th>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSL Textiles, Leather, Synthetic Leather V.2</td>
<td>Update MRSL as needed</td>
<td>ZDHC MRSL recognised as industry standard</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>Collaborative Implementation</th>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and align on conformance process</td>
<td>Publish MRSL conformance Guidance</td>
<td>Harmonise test methods for MRSL conformance and develop ISO standard for methods</td>
<td>Widespread industry adoption of ZDHC MRSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop list of accepted certifiers</td>
<td></td>
<td>Seat MRSL &quot;advisory group&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>Engagement</th>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify and engage stakeholders</td>
<td>Continue to identify and engage with key industry stakeholders</td>
<td>Third, party stakeholders support MRSL and industry considers it standard business practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engage Chinese leather industry associations</td>
<td>Continue to engage Chinese leather industry associations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form alliances with further industry associations</td>
<td></td>
<td></td>
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</tbody>
</table>
Changes

The ZDHC Focus Areas Manufacturing Restricted Substances List (MRSL) & Research were historically designed to function together. While the chemical substances on the ZDHC MRSL already have alternatives with established reporting limits available, the Research list consisted of chemical substances for which alternatives are not yet widely available or for which limits are not yet established.

During 2016, these two Focus Areas, MRSL & Conformity Guidance and Research, worked alongside each other to develop the ZDHC MRSL Conformance Guidance and the mechanism and process to update the ZDHC MRSL. During the course of the year it became clear that merging these Focus Areas made the most sense in order to be more efficient and effective.

Further development e.g. finalisation of the mechanism for updating the MRSL, requires even closer coordination between those two Focus Areas, therefore as a consequence, these areas merge in 2017 as the MRSL & Research Focus Area.

Tasks specifically related to this part of the MRSL Focus Area will be:

- The development of a platform in the ZDHC Gateway to display alternative chemicals to those currently on the research list (Innovation Section).
- Finalising the DMF Research and publishing this research request to test the process. Completing the ZDHC MRSL update process and mechanism.
Achievements and Next Steps

ZDHC to Issue MRSL Conformance Guidance

The ZDHC MRSL Conformance Guidance assists brands and their value chain to assess whether chemical formulations conform to the ZDHC MRSL with reference to third-party certifiers.

It provides guidance as to which chemical formulations meet, or conform to, the ZDHC MRSL limits and is intended for use by chemical suppliers, brands, material suppliers, product finishers, and certification bodies.

By providing an indication of conformance to the ZDHC MRSL, suppliers can be assured that banned chemicals are not intentionally used during production.

This document is set to further drive conformance to the ZDHC MRSL and drive the industry towards safer chemical substitution.

The ZDHC MRSL Conformance Guidance has been approved by ZDHC Contributors for release with the ZDHC Gateway - Chemical Module in 2017.

- ZDHC MRSL Conformance Guidance Integration into the ZDHC Gateway - Chemical Module.
- Publishing a MRSL Principles and Procedures document that will describe the process and criteria for updating the ZDHC MRSL.
- Formally establishing a brand-independent advisory group, consisting of industry-leading experts, to support updates to the ZDHC MRSL.
- Updating the ZDHC MRSL to include additional key chemical substances in the industry.
- Working with the ZDHC Training Cross-cutting area to provide training on the ZDHC MRSL and its implementation.
- Continued efforts to raise awareness about the ZDHC MRSL within the industry.
Focus Area Update: Audit Protocol

Overview

The ZDHC Audit Protocol Focus Area was developed to facilitate and ensure consistency in environmental auditing across the value chain as well as sharing of audit findings.

The ZDHC Audit Protocol tool provides brands with the capability to initiate, and self-assess and improve safe handling of chemicals with objectives at foundational, progressive and aspirational levels. Supported by the ZDHC Chemical Management System (CMS) Guidance Manual, the ZDHC Audit tool has been used by ZDHC Contributors since its release.

In 2015 ZDHC decided to pursue convergence of the ZDHC Audit Protocol tool with the Sustainable Apparel Coalition (SAC) Higg Facility Environmental Module (FEM). Since that time we have had a singular focus on working collaboratively with SAC and others, such as the Outdoor Industry Association (OIA) as part of this process. Our aim is to ensure the creation of one consistent set of chemical management assessment protocols to evaluate manufacturers' chemical management across their value chains.
1 | Standard Setting

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test converged FEM 3.0 indicators</td>
<td>Agree with SAC converged FEM 3.0 framework</td>
<td>Agree converged FEM 3.0 indicators</td>
<td>Establish CMS Manual as industry standard</td>
</tr>
</tbody>
</table>

2 | Collaborative Implementation

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZDHC approval of training and verification frameworks for FEM 3.0</td>
<td></td>
<td>ZDHC implementation of training and verification for chemical management in FEM 3.0</td>
<td>Widespread use of FEM 3.0 for chemical management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZDHC, SAC, OIA utilisation of FEM 3.0 Chemical Module</td>
<td></td>
</tr>
</tbody>
</table>

3 | Engagement

<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage with SAC and OIA to converge FEM 3.0</td>
<td>Engage with SAC and OIA to converge FEM 3.0</td>
<td>Engage with key stakeholders on the CMS Chemical Standard</td>
<td>Key stakeholders advocate for use of FEM 3.0 and any CMS Chemical Standard within the textile and footwear value chain</td>
</tr>
</tbody>
</table>
Achievements and Next Steps

Converge the ZDHC Audit Tool with the SAC HIGG Facilities Environmental Module

Over the last twelve months, ZDHC has focused intensively on the framework and detail for the convergence of the Audit Protocol tool into the update of the HIGG SAC Facilities Environmental Module (FEM) 3.0, anticipated to be launched at the end of 2017. Our efforts have concentrated on chemical management in the Chemical Management Module and other relevant modules in FEM 3.0. Speaking the same ‘language’ in regards to chemical management assessment is incredibly important and our organisations have partnered together to make sure that there is a single tool for chemical management performance assessment available to our industry and our value chain.

Develop and maintain a single industry standard for chemical management

The ZDHC Roadmap has always supported the development of a single industry standard for chemical management. Our Chemical Management System (CMS) Manual has been publicly available on our website for over a year now and continues to be adopted by both ZDHC contributors, and others, to understand and implement chemical management practices.

Going forward, in order to spread adoption beyond ZDHC Contributors, we plan to develop the CMS Manual into an industry standard.
Re-focus the ZDHC Audit Protocol Focus Area
to drive implementation

Our aim is to support our contributors and the industry, to continuously advance towards zero discharge. Now we know what chemical management is and how we can monitor it, the time has come to start refining our efforts and implement chemical management best practices in a consistent manner across brands and the value chain.

To be able to drive progress, we need to re-focus by:

1. Creating a clear process for ZDHC Contributors that identifies clear, simple steps for what to do when they join;
2. Providing an open forum for sharing experiences about challenges and opportunities related to implementation activities in our value chains;
3. Developing these experiences and lessons learned into case studies to provide updates to our tools and to share with the greater community, and;
4. Capturing and sharing data produced by value chain players in order to reduce duplication of effort and talk publicly about our progress.
Focus Area Update: Wastewater Quality

Overview

Well-designed, properly functioning wastewater treatment plants, good process controls and effective chemical management are key to minimising chemical, physical and biological pollutants discharged into the environment.

Our goal in the Wastewater Quality Focus Area (added to the ZDHC Programme in 2015) is to minimise chemical pollutants discharged into the environment through good process controls and effective chemical management.

In 2015, ZDHC conducted and published a literature review of current wastewater discharge quality standards applicable to the industry. This study revealed that there existed no unified set of expectations for suppliers that discharge industrial wastewater and also established the baseline on which to develop a revised global industry guideline.

Subsequently, the ZDHC Wastewater Guidelines set a unified expectation on wastewater quality for the entire textile and footwear industry and are available on the ZDHC website.
## Collaborative Implementation

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Secure technical expertise by appointing a Technical Advisory Committee</td>
</tr>
<tr>
<td>2017</td>
<td>Draft and roll out training to suppliers on ZDHC Wastewater Guidelines</td>
</tr>
<tr>
<td>2018-19</td>
<td>Determine approach and industry implementation partners <em>(e.g. SAC, bluesign®, and other third-parties)</em></td>
</tr>
<tr>
<td>2020</td>
<td>Widespread adoption of ZDHC Wastewater Guidelines</td>
</tr>
</tbody>
</table>

- Convene working group on transparency strategy - explore funding options and models for local community access to data supporting Right to Know
- Provide guidance to mills on best practice implementation
- Develop laboratory acceptance criteria
- Implement ZDHC Wastewater Guidelines and provide public access to data in key regions
- Harmonise laboratory test methods and begin ISO standard process
- Roadmap and list of activities to scale transparency strategy in key regions
- 80% of suppliers sign onto the ZDHC Wastewater Guidelines

## Engagement

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Identify and engage stakeholders</td>
</tr>
<tr>
<td>2017</td>
<td>Convene a supplier group to advise, include representatives to be on the initial committee</td>
</tr>
<tr>
<td>2018-19</td>
<td>Third-party stakeholders support process guidance and consider it business practice</td>
</tr>
</tbody>
</table>

- Convene a supplier group to advise, include representatives to be on the initial committee
- Third-party stakeholders support process guidance and consider it business practice
Achievements and Next Steps

ZDHC Wastewater Guidelines Released

The ZDHC Wastewater Guidelines were published in November 2016, and are designed to create a unified expectation on wastewater quality for the entire textile and footwear industry.

The ZDHC Wastewater Guidelines were finalised following an extensive process of collaboration between ZDHC Contributors, NGOs, suppliers, and a technical advisory committee. The public was invited to provide input and a total of 295 comments were received. To promote transparency, responses to each were made available for the public - download them here.

They are intended to ensure brands and suppliers work to the same set of expectations by adhering to a single, harmonised set of wastewater parameters, limit values and test methods.

The Guidelines were released in both English and Simplified Chinese and were endorsed by the Sustainable Apparel Coalition (SAC).

"To achieve meaningful, long-lasting impact, we adopted and follow the ZDHC Wastewater Guidelines as an industry standard. This is supporting our entire supply chain in reducing the number of unnecessary testing, and instead, working towards improving the quality of sludge and wastewater discharged"
- Germán García Ibañez, Wastewater Focus Area Co-Lead, Environmental Sustainability Manager at Inditex.
ZDHC Contributors and their value chain have been invited to participate in a mini pilot planned for early 2017. The aim of this pilot is to:

1. Understand if the suppliers comprehend and can meet the testing and reporting expectations set forth in the ZDHC Wastewater Guidelines;
2. Understand laboratory capabilities to comply with the applicable standard methods and to accurately measure the chemical parameters in accordance with the ZDHC Wastewater Guidelines;
3. Pilot the ZDHC Gateway – Wastewater Module in terms of supplier registration, and the wastewater analysis data upload process; and,
4. Understand sludge testing.
Cross-Cutting Area Update: Training

Overview

A well-informed and educated value chain is a precondition for implementing ZDHC tools and to reach the ZDHC Programme’s goal. The objective of this cross-cutting area is to plan, develop and launch chemical management training throughout the industry value chain. Training supports the understanding, acceptance and implementation of ZDHC process guidance tools across the entire value chain.

Working in close partnership with the Focus Areas and the Data & Disclosure Cross Cutting Area, the training team is developing a long-term training plan and comprehensive curriculum package that aligns training modules across all ZDHC tools. Training packages will be updated as necessary to maintain harmonisation. The initial training focus is on in-person training to allow for interaction and collaborative workshops. Going forward, if the need arises, online training will be assessed as another mode of available training.
1 | Standard Setting

Develop strategic plan to support Focus Areas

Develop procedures for trainer selection, approval and evaluation

Support Focus Areas on topic-specific training

Review training KPIs

Develop/update and extend topic training as needed

Update training strategy

Accredit Training Providers to meet industry demand in priority countries

Accredit additional training providers to meet demand in other countries

Accredit addi-tional training providers to meet demand in other countries

Curriculum recognised as industry standard

2 | Collaborative Implementation

Scale up basic/foundational training in the five prioritised countries

Initiate tender process and conduct trainings

Develop and pilot progressive trainings

Measure training success through KPIs

Update training as recommended by KPIs

Measure training success through KPIs

ZDHC trainings are well attended and recognised industry standard

3 | Engagement

Training providers

Continue Accreditation process to expand outreach

Continue to engage these organisations

Stakeholders scale-up trainings throughout industry and suppliers seek training and build capacity for business innovation in chemical management

Align with other industry organisations (SAC, GIZ, CNTAC)
Achievements and Next Steps

Launch of the ZDHC Academy

In 2016, we launched the ZDHC Academy, an online portal for ZDHC chemical management training.

The launch of the ZDHC Academy*, is designed to empower brands and manufacturers to receive certified training to improve their knowledge and practice of responsible chemical management and implement tools such as the ZDHC MRSL and the ZDHC Wastewater Guidelines.

The ZDHC Academy is an industry wide tool which allows learners the opportunity to search for a training session in their region.

The online portal allows learners to register for training courses while at the same time giving them the possibility to complete feedback surveys, exams and download their certificate of completion.

In the first part of 2017, ZDHC training will be offered in India, Bangladesh, Vietnam, Turkey and Italy.

The ZDHC Academy will further expand with additional courses and e-learning possibilities to support the implementation of ZDHC standards and tools.

“ZDHC is entering a critical phase of collaborative implementation. Developing safer chemical management standards is one thing, but to truly eliminate hazardous chemicals, the next step is to educate and support those working in mills, factories and even within brands, to understand how to implement these standards.”

- Carmen Chan, Training Cross Cutting Area Co-lead, Senior Corporate Responsibility Manager at TESCO.

*powered by the FTA Academy.
To offer ZDHC approved training sessions, we developed a ZDHC Training Accreditation Programme. Via a tender several service providers delivered assessed pro bono training sessions throughout 2016 to demonstrate their competency to deliver ZDHC training.

In 2016, a total of eleven pro bono training sessions were held in six different countries, as a result, three service providers became ZDHC Accredited Training Providers. Those trainers will be delivering ZDHC certified training as of January 2017.

The next round of Pro Bono sessions to accredit training providers starts in February 2017.
Overview

Since the early days, the ZDHC Programme and its value chain participants, including mills, chemical companies and third-party service providers, have been further exploring challenges in data capturing and reporting relating to chemical management. Data touches all parts of the work we do, from MRSL and conformance within formulations, to measuring improvement in wastewater quality.

Data exchange provides the dashboard for showing progress. If we are to leverage information, and share and report efficiently between different platforms, a common language for data is essential.

In 2014, the ZDHC Programme began developing a universal set of standards to organise the way in which key chemical data should be collected and shared for the benefit of all stakeholders.

As individual brands begin to work towards using the data standards in their value chains, the ZDHC Programme will work with other organisations to develop effective means for sharing standardised chemistry management data.
<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018-19</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>**1</td>
<td>Standard Setting**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete MRSL data standards</td>
<td>Publish annual updates to schema; add schema from other Focus Areas</td>
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</tr>
<tr>
<td>Complete data standards for chemical companies to publish their MRSL compliant formulations</td>
<td>Release ZDHC Gateway - Chemical Module</td>
<td></td>
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<tr>
<td>Incorporate use categories for leather and synthetic leather</td>
<td></td>
<td></td>
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<tr>
<td>Commence development of the MRSL into electronic format</td>
<td>Release electronic MRSL</td>
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<tr>
<td>**2</td>
<td>Collaborative Implementation**</td>
<td></td>
<td></td>
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<tr>
<td>Complete pilot; review and document pilot learnings</td>
<td>Use pilot insights to further develop tools</td>
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<tr>
<td>Explore ZDHC role in the information sharing platform (registry)</td>
<td>Formally publish best practices in data management</td>
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<tr>
<td>Continue collaboration with chemical companies to simplify data inputs</td>
<td>Pilot additional elements to schema</td>
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<tr>
<td></td>
<td>Align ZDHC data schema with other chemical management industry standards</td>
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<tr>
<td></td>
<td>Drive strategies with insights gained from data management efforts</td>
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<tr>
<td></td>
<td>Proliferate data standards beyond ZDHC</td>
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<tr>
<td>**3</td>
<td>Engagement**</td>
<td></td>
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<tr>
<td>Explore harmonisation opportunities with SAC</td>
<td>Continue to align schema and encourage adoption with support of key stakeholders (e.g. IPE, CNTAC, OIA, SAC)</td>
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<tr>
<td>Begin formal data schema collaboration with CNTAC</td>
<td>Continue to engage with CNTAC</td>
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<tr>
<td>Engage service providers to test interoperability of data schema</td>
<td>Continue to work with service providers</td>
<td></td>
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<tr>
<td></td>
<td>Explore additional partnerships to align confidential versus public disclosure key performance indicators</td>
<td></td>
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<tr>
<td></td>
<td>Seek broader adoption through cross-industry collaboration (e.g. automotive, electronics)</td>
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Achievements and Next Steps

Development of the ZDHC Gateway – Chemical Module

Mills, chemical suppliers, brands and various other players involved in the industry value chain, enabled us to understand stakeholders’ data needs. In response, we developed the ZDHC Gateway - Chemical Module in 2016. This platform supports safer chemistry substitution through a simple online platform.

The ZDHC Gateway - Chemical Module is an open database that encourages the use of safer chemistry by assisting suppliers and manufacturers when making chemical sourcing decisions. This platform will be soft launched in 2017. This database lists chemical product and company information, and presents levels of confidence on the ZDHC MRSL conformance.

"The ZDHC Gateway - Chemical Module will be invaluable in providing clear, easily-accessible information on whether a chemical conforms with the ZDHC MRSL. It will help the whole industry to choose safer options available on the market. We’re really excited for the next phase of testing and are looking forward to the launch in 2017."

- Graham Storrie, ZDHC Board Director and Data & Disclosure Cross Cutting Area Co-Lead, Director at TEXOLOGY LIMITED Sustainable Textile & Innovation Consultancy.
In order to provide transparency to wastewater testing and make data available to the public; reduce duplication of testing across shared suppliers and in time to enable data sharing capabilities with other industry organisations such as the Sustainable Apparel Coalition (SAC), the Outdoor Industry Association (OIA) and the Institute of Public & Environmental Affairs (IPE). ZDHC obtained funding from the C&A Foundation to develop the Wastewater Module of the ZDHC Gateway. This tool will be piloted in early 2017, and the initial release is planned for July 2017.
Ambition and Long-Term Strategy

We are working on continuously advance towards our zero discharge goal and establishing ZDHC as a global centre of excellence for chemical management.

In this 2016 Annual Report, we have reflected on the achievements of each focus and cross cutting areas against the Programme's Joint Roadmap. Below, we describe how the ZDHC Foundation is working to have a lasting impact on the textile, leather and footwear industry.

Developing the ZDHC Toolbox and Focusing on Implementation

Going forward we will continue to maintain ZDHC tools and develop supporting guidance. We believe that tool implementation is fundamental to driving change. Therefore, we will be assisting brands and the global value chain to implement ZDHC standards in a way that minimises duplicative efforts, drives efficiency and keeps momentum towards our ambitious goal.

Expanding the ZDHC Team and Geographic Scope

In 2017, the ZDHC Programme will focus on expanding and deepening its engagement and impact in the Asian and European regions. Further we plan to extend our Management Team and Board of Directors.

Collaborating with Contributors and Engaging Key Stakeholders

As we continue to ask critical questions to pave the way forward, we will deepen our collaboration with existing ZDHC Signatory Brands as well as increasing the number of contributors to the ZDHC Programme, who, together, drive the success of our work.

Our contributor model enables organisations of different sizes and types to engage in the Programme; shape ZDHC standards; and implement them in their respective value chains. In addition, we will explore new collaboration models for how we can engage with strategic stakeholders in a way that leverages and maximises synergies in chemical management practices.

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**MRSL and Research**

To facilitate implementation of the ZDHC MRSL, we will support and help the industry with the ZDHC MRSL Conformance Guidance. This is to be released in 2017, and will support facilities to implement the use of chemical formulations that meet the requirements of the ZDHC MRSL. For all substances on the ZDHC MRSL, there are safer alternatives available for use. It is our mission to ensure the list of ZDHC MRSL-conforming products is easily accessible for the value chain.

Currently, we are encouraging the development of safer alternatives, or to define limits on contaminant levels, for nine prioritised chemical substances.

**Audit Protocol**

The Audit Protocol Focus Area will re-focus its scope to the implementation of ZDHC tools. Also we will be working on maintaining the Chemical Management Standard, which we will continue to advance and align into industry tools like the HIGG. Further we plan to develop the CMS Manual into an industry standard. This will drive our efforts further than ever before, and continue to cement ZDHC as the centre for excellence on chemical management.

**Wastewater Quality**

In 2016, the ZDHC Wastewater Guidelines were added to the ZDHC Programme’s toolbox. These guidelines focus on ZDHC MRSL chemical substances and conventional wastewater parameters (e.g. COD, metals, solids) equally to reduce or eliminate the risk of releasing ZDHC MRSL-banned substances.

The development of a single, unified discharge guideline and standardised analytical methods for monitoring wastewater quality will benefit the textile industry greatly and will drive momentum driving towards the Programme’s zero discharge goal.

**Training**

New training content will be developed and made available via the ZDHC Academy. This content will support the industry in tackling the top 10 audit issues faced by the industry, and additional training material will be developed to support the implementation of ZDHC tools and standards.

As needed, we will continue to accredit additional training providers to reach all areas of the value chain: brands, chemical suppliers, manufacturers and other intermediaries.

**Data and Disclosure**

In 2016, we initiated the development of the ZDHC Gateway. In 2017 we will continue with the testing; and launch the ZDHC Gateway, both Chemical and Wastewater Modules.

Further, we will be working on an online version of the ZDHC MRSL to facilitate and strengthen industry accessibility.
# Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ANSI</td>
<td>American National Standards Institute</td>
</tr>
<tr>
<td>CMS</td>
<td>Chemical Management System</td>
</tr>
<tr>
<td>CNTAC</td>
<td>China National Textile &amp; Apparel Coalition</td>
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<tr>
<td>COD</td>
<td>Chemical Oxygen Demand</td>
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<tr>
<td>CPASL</td>
<td>China Artificial &amp; Synthetic Leather Committee of China Plastics Processing Industry Association</td>
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<tr>
<td>CTIC</td>
<td>China Textile Information Centre</td>
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<tr>
<td>EOG</td>
<td>European Outdoor Group</td>
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<tr>
<td>FEM</td>
<td>Facility Environmental Module</td>
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<tr>
<td>FTA</td>
<td>Foreign Trade Association</td>
</tr>
<tr>
<td>GIZ</td>
<td>Deutsche Gesellschaft für Internationale Zusammenarbeit</td>
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<tr>
<td>IPE</td>
<td>Institute of Public &amp; Environmental Affairs</td>
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<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
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<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
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<tr>
<td>LWG</td>
<td>Leather Working Group</td>
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<tr>
<td>MRSRL</td>
<td>Manufacturing Restricted Substances List</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisations</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>OIA</td>
<td>Outdoor Industry Association</td>
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<tr>
<td>SAC</td>
<td>Sustainable Apparel Coalition</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environmental Programme</td>
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<tr>
<td>VCA</td>
<td>Value Chain Affiliates</td>
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