



**Levi Strauss & Co.  
Chemical Playbook on  
ZDHC Commitments &  
Programs**

**LEVI STRAUSS & CO.**

# Content

Topic	Page no
Purpose of Playbook	3
Our Approach	4
Key to Success	5
ZDHC MRSL and Gateway Chemical Module	6
ZDHC Wastewater Guidelines	8
ZDHC Gateway Wastewater Module	10
ZDHC Academy	13
ZDHC Chemical Management System	15
ZDHC Leader Program: Supplier to Zero Program	17
ZDHC Performance Incheck and ClearStream Reporting	19
ZDHC MMCF Guidelines	22
ZDHC Air Emissions Guidelines	23
Compliance Incentives	24



# Purpose of Playbook

The purpose of the LS&Co. Chemical Playbook is to communicate our Screened Chemistry strategy and guidance for suppliers and factories conformance with the Zero Discharge Hazardous Chemical Foundation (ZDHC) requirements. The LS&Co. Chemical Playbook is a public document that shares our commitment to ZDHC requirements and our approach and goals to safe and sustainable chemistry across our supply chain. Specifically, the Playbook outlines the chemical management system elements that must be adhered to by our suppliers and factories to meet LS&Co. goals and targets. The Playbook will be reviewed and updated periodically.

## **Vision**

Zero discharge of hazardous chemicals.

## **Goal**

All strategic garment manufacturing and fabric mill factories use certified chemicals and Screen Chemistry program that remains in alignment with evolving ZDHC requirements.

## **Scope**

Scope for implementation of certain parts of the program might be different and is defined in following sections of the guidance; hence suppliers were divided into two categories: “in scope factories” and “strategic factories”.

LS&Co. defines “in-scope factories” as Tier 1 (including subcontractors) and Tier 2 wet finishing factories producing apparel, accessories, leather and licensee products. Wet finishing is defined as an operation that requires chemical use and/or generates industrial wastewater.

LS&Co. defines “strategic factories” as “in-scope factories” representing 80% of annual product units.

LS&Co. “MMCF factories” are described in separate section of the Playbook



# Our Approach

LS&Co.'s approach focuses on the elimination and substitution of hazardous substances in chemicals. To this end, we have and will continue to collaborate with other companies, scientific toxicological experts, and industry to develop straightforward, accessible methods and chemical management systems for and with supplier factories. Through collaboration, we can have an outsized impact on safer chemical management beyond our own products, as our shared factories apply many of these preferred chemicals to the garments they produce for other, non-LS&Co. brands.





# Key To Success

## Screening

Unique to the LS&Co. Chemical Playbook is our commitment to Screened Chemistry. This document outlines the need for continuous hazard screening of chemicals to support the adoption of cleaner chemistries. Our aim is to continuously increase the use of higher scored Screened Chemistry chemicals across the supply chain. Screened Chemicals are those that have been screened by LS&Co.'s appointed toxicological profiler organizations and can be found in the ZDHC Gateway and/or the LS&Co. distributed Preferred Chemical List.

## Compliance

This document sets forth the steps required for our in-scope and strategic factories to comply with ZDHC's requirements. Our aim is to continuously implement and drive for higher conformity level across selected ZDHC programs (Brands to Zero, Supplier to Zero, Formulation to Zero, Wastewater, MMCF, Air Emissions).

## Requirements

The Playbook outlines requirements for the use of chemical management systems for our supply chain factories. Our aim is to continuously expand the data management IT tools (i.e. Cleanchain, Intellex) across our supply chain to enable transparent and high-quality hazardous substances traceability. Additionally, factory manufacturing requirements for chemical inputs, processes, and outputs are included in the Playbook. Through the required increased adoption of the Screened Chemistry hazard assessment program and improved conformance with ZDHC MRSL, we can ensure that chemicals and their impacts are proactively assessed and minimize or eliminate the use of hazardous substances.



# ZDHC MRSL and Gateway Chemical Module

**LS&Co. is committed to implementing the ZDHC MRSL Conformance Guidance and the ZDHC Gateway Chemical Module to LS&Co. strategic factories.**

The ZDHC Gateway Chemical Module is an online search tool that provides public access to information on more sustainable chemistry and helps apparel companies and manufacturers identify and utilize safer alternatives. The ZDHC Gateway rates chemical products' conformance with the [ZDHC Manufacturing Restricted Substances List \(MRSL\)](#).

LS&Co. strategic factories are required to adopt a chemical procurement plan and policy with goals for ZDHC MRSL conformant procurement including the expansion of Screened Chemistry.

## **Long Term Commitments**

- 1) LS&Co. will engage with in-scope factories to implement ZDHC's chemical management tools to ensure that manufacturing facilities are utilizing ZDHC MRSL-compliant chemistries
- 2) LS&Co. will engage with in-scope factories to request Screened Chemistry certifications from their chemical suppliers and register the certifications in the ZDHC Gateway if applicable.
- 3) LS&Co. will encourage that in-scope factories cascade the above requirements to their chemical suppliers and subcontractors involved in the manufacturing of LS&Co. products.

# ZDHC MRSL and Gateway Chemical Module

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>• LS&amp;Co. will announce chemical management supply chain goals and communicate to factories accordingly.</li><li>• LS&amp;Co. will monitor progress and publish the number of wet finishing factories and ZDHC Gateway Chemical Module registered factories, as well as ZDHC MRSL conformance of the supply chain.</li></ul>	<p>Factories are required to:</p> <ul style="list-style-type: none"><li>• Register in the ZDHC Gateway and be linked to LS&amp;Co. and grant access to Chemical Inventory.</li><li>• Adopt a policy with goals on ZDHC MRSL conformant chemicals procurement.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.



# ZDHC Wastewater Guidelines

**LS&Co. is committed to the implementation of the ZDHC Wastewater Guidelines to LS&Co. strategic factories. Our aim is to work with factories that meet at least the foundational level of the ZDHC Wastewater Guidelines.**

The Guidelines facilitate the application of industry best practices to address and minimize wastewater impacts on human and ecosystem health.

## Long Term Commitments

- 1) LS&Co requires in-scope factories to implement the [ZDHC Wastewater Guidelines](#).
- 2) LS&Co. encourages in-scope factories to progress towards zero liquid discharge (ZLD) or the Aspirational (highest) level of performance on the ZDHC Wastewater Guidance to achieve meaningful, lasting impact.



# ZDHC Wastewater Guidelines

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>• LS&amp;Co. will monitor progress and publish the number of factories generating wastewater and ZDHC Gateway Wastewater Module registered factories.</li></ul>	<ul style="list-style-type: none"><li>• Factories are required to register in the ZDHC Gateway Wastewater Module and be linked to LS&amp;Co. and grant access to Corrective Action Plans.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.



# ZDHC Gateway Wastewater Module

**LS&Co. is committed to implementing the ZDHC Gateway Wastewater Module to LS&Co. strategic factories.**

The Gateway is a digital platform to track verified wastewater data and test results against the ZDHC Wastewater Guidelines.

## **Long Term Commitments**

- 1) LS&Co. encourage in-scope factories to test, sample, and report their wastewater and sludge test results twice per year in line with the latest ZDHC Wastewater Guidelines and requirements.
- 2) LS&Co. in-scope factories are encouraged to create supplier profiles in the ZDHC Gateway and ensure that ZDHC-accepted labs upload test data to the ZDHC Gateway Wastewater Module.

# ZDHC Gateway Wastewater Module

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>LS&amp;Co. will monitor progress and publish the numbers related to wet finishing factories wastewater performance against the latest ZDHC Wastewater Guidelines</li></ul>	<ul style="list-style-type: none"><li>Factories are required to reach at least Foundational level and meet MRSL limits, and upload wastewater testing results to ZDHC Wastewater Gateway Module, including Corrective Action Plan in case of any analyte failure.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.

# ZDHC Gateway Wastewater Module

## Wastewater testing guidelines and requirements

1. The six-month periods ending on April 30th and October 31st each year; sampling, testing and reporting (i.e. data submission) of laboratory results to the ZDHC, Gateway Wastewater Module must be completed before the end of each cycle. There should be at least a 3-month gap between the 2 testing cycles. Sampling, testing, and reporting must be conducted in partnership with ZDHC accepted labs.
2. Factories are required to review and accept or decline the lab-reported wastewater test data within 20 business days upload and publish their wastewater results to the Gateway.
  - If the test results are accepted, data is anonymized & published on ZDHC Gateway Wastewater Module and Public Disclosure Portal (PDP – also known as Detox.live) accessible to ZDHC Roadmap endorsing brands.
  - If the factory declines the results, they are required to provide a rationale
3. If an accepted report identifies any non-conforming substance or concentration, the factory is required to issue a Corrective Action Plan (CAP) within 30 days from the date of laboratory report. The CAP must be published on the ZDHC Gateway Wastewater Module and provide access to Levi Strauss & Co. to offer transparency and demonstrate due diligence on wastewater management.
4. At a minimum, it is expected that factories:
  - Meet and comply with the requirements that are set by local legislation.
  - Should meet all reporting limits for ZDHC MRSL parameters,
  - Should meet at a minimum ZDHC wastewater Foundational Limits for all Heavy Metals,
  - For direct discharge facilities, should meet at a minimum ZDHC wastewater Foundational Limits for all Conventional Parameters and Anions.

Please always check and refer to the latest version of ZDHC guidelines.





# ZDHC Academy

**LS&Co. is committed to requiring ZDHC-approved chemical management training for LS&Co. strategic factories .**

Educating LS&Co.'s and supplier's factories employees on safer and more sustainable chemical management and sustainability is a critical step to:

1. Preventing hazardous chemicals from entering apparel supply chains
2. Promoting product safety
3. Mitigating chemical impacts to human and environmental health.

The ZDHC Academy enables LS&Co. factories to receive certified training on chemical management systems. LS&Co. accepts all ZDHC-approved and registered training and certifications.

LS&Co. drives internal capacity building on ZDHC for staff responsible for covering ZDHC implementation.

## **Long Term Commitments**

- 1) LS&Co. requires in-scope factories to engage in ZDHC Academy and implement an Academy training program for technical representative staff and refresh the training based on the ZDHC Academy requirement.

# ZDHC Academy

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>LS&amp;Co. will monitor progress and publish the number of ZDHC Academy participating factories.</li></ul>	<ul style="list-style-type: none"><li>Factories to engage with ZDHC Academy and train their staff.</li><li>Update factories on the newly updated ZDHC requirements &amp; guidelines.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.



# ZDHC Chemical Management System

**LS&Co. is committed to requiring strategic factories to implement ZDHC Chemical Management System (CMS) through Technical Industry Guide (TIG) which supports the safe, sustainable and environmentally responsible management and discharge of chemicals.**

The [ZDHC CMS Framework](#) provide brands, suppliers, and industry stakeholders with a clear, consistent set of guidelines and baseline requirements. This assists LS&Co. in applying an end to end, inputs to outputs, chemical management program across our supply chain and supports our engagement with the ZDHC Supplier to Zero Program.

The ZDHC CMS Framework enables LS&Co. to implement chemical management tools in partnership with brands that are also present in shared manufacturing factories by establishing common, foundational chemical management system features. The ZDHC CMS Technical Industry Guide covers the implementation of the CMS in the supply chain and links to the CMS Technical Industry Guide to provide holistic support for chemical management system implementation in apparel, leather, and footwear manufacturing facilities.

## **Long Term Commitments**

- 1) LS&Co. encourages in-scope factories to apply the ZDHC CMS Framework and Technical Industry Guide, which addresses chemical life cycle from input chemistry, to process, to outputs.

# ZDHC Chemical Management System

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>LS&amp;Co. will monitor progress and publish the number of factories implementing the ZDHC CMS.</li></ul>	<ul style="list-style-type: none"><li>The ZDHC CMS will be introduced to in-scope factories.</li><li>Strategic factories are required to continue implementation of the ZDHC CMS.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.





# ZDHC Leaders Program: Supplier to Zero Program

**LS&Co. is committed to requiring strategic factories to achieve at least the Level 1 certification in the ZDHC Supplier to Zero Program, which offers factories access to chemical management practices.**

The [ZDHC Supplier to Zero](#) platform supports LS&Co.'s implementation of the ZDHC chemical management guidance tools by providing factories with a detailed review of their chemicals management practices. This enables factories to identify opportunities to implement best practices that will enable them to prevent hazards and mitigate risks in chemical processes.

Participating factories can access customized improvement roadmaps with a comprehensive guide on factory-level improvements. The steps are linked to guidance sheets that contain industry best practices from the ZDHC CMS Technical Industry Guide. The guidance sheets highlight potential interventions and process improvements to address specific topics. ZDHC program implementation and performance can be certified at three different levels: Supplier to Zero Level 1, 2 or 3 (best).

## **Long Term Commitments**

1) LS&Co. in-scope factories are required to take ownership in implementing the leading ZDHC Chemical Management Systems. As part of the implementation, in-scope factories are required to participate in the ZDHC Supplier to Zero Program annually where factories can learn on how to implement ZDHC guidelines, platforms and solutions.

# ZDHC Leaders Program: Supplier to Zero Program

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>LS&amp;Co. will monitor progress and publish the number of factories having ZDHC Supplier to Zero certifications.</li></ul>	<ul style="list-style-type: none"><li>Factories are required to achieve at least Level 1 of ZDHC Supplier to Zero and improve to the next levels gradually.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.

# ZDHC Performance Incheck and ClearStream Reporting

**LS&Co. is committed to requiring strategic factories to issue monthly ZDHC Performance InCheck and semi-annually ClearStream reports to benchmark factories' ZDHC MRSL conformance. LS&Co. also requires strategic factories to share the Screened Chemistry performance report on a monthly basis.**

LS&Co. requires strategic factories to continuously improve their conformance results as reported on their ZDHC InCheck report, and

- To use chemicals with a Screened Chemistry certificate and meet at least Level 1 conformance under the ZDHC MRSL.
- To ask chemical suppliers to upload chemical products to the ZDHC Gateway Chemical Module.
- To invite the not-yet registered chemical suppliers to register and upload their chemical products to ZDHC Gateway Chemical Module.

**The ZDHC Chemical Module** helps factories to evaluate chemical products against the ZDHC MRSL conformance level requirements and find safer alternatives.

**The ZDHC Wastewater Module** is a global online platform for facilities to register and share their wastewater test data. The platform helps facilities benchmark their conformance to the ZDHC Wastewater Guidelines and share data with their customers.

**ZDHC InCheck** is the performance report that demonstrates the ZDHC MRSL conformance of a factory's chemical inventory. It can be shared with all customers and is accepted by LS&Co. When factories upload their chemical inventory to the ZDHC Gateway, the inventory is cross-referenced with all chemical formulations in the Gateway to determine ZDHC MRSL conformance. level (Level 1, 2, 3).



# ZDHC Performance Incheck and ClearStream Reporting

LS&Co. supplier factories can benchmark performance of chemical formulations against the ZDHC MRSL requirements and additional LS&Co. requirements and identify potential improvements. This empowers factories to take full ownership of their Roadmap to Zero implementation efforts and drive the usage of safer chemistry. InCheck reports can be shared with customers and build the foundation for continuous improvement.

**ZDHC ChemCheck** is a product passport of chemical formulations that verifies ZDHC MRSL conformance. Chemical formulators should share this report with their LS&Co. customer factories.

**ZDHC ClearStream** is a factory's performance report of ZDHC wastewater conformance that is accepted by LS&Co. Factories can share the wastewater performance report with all customers to avoid duplicative testing.

## Long Term Commitments

1. LS&Co. is committed and encourages in scope factories to issue monthly ZDHC Performance InCheck and semi-annually ClearStream reports to benchmark factories' ZDHC MRSL conformance. LS&Co. also requires strategic factories to share the Screened Chemistry performance report on a monthly basis.



# ZDHC Performance Incheck and ClearStream Reporting

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>LS&amp;Co. will monitor progress and publish the number of factories' overall InCheck, Screened Chemistry and ClearStream uptake.</li></ul>	<ul style="list-style-type: none"><li>Factories are required to issue InCheck and Screened Chemistry reports on a monthly basis, and ClearStream report bi-annually.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.

# ZDHC MMCF Guidelines

LS&Co. is committed to responsibly sourcing fibers and materials used to produce our clothing. Fibers like viscose, modal, and lyocell are produced using wood pulp. The methods of sourcing wood, as well as the fiber manufacturing processes used to produce these fibers, if not carried out responsibly, can have significant impacts on the environment, from air and water quality to biodiversity. LS&Co. requires Man-Made Cellulosic Fiber manufacturing factories to implement the ZDHC MMCF Guidelines.

## Long Term Commitments

- 1) LS&Co. requires Man-Made Cellulosic Fiber manufacturing factories to improve their performance in line with the [Guidelines](#).

## Operational Plan

Roll-out Scope	Measures	Goal
MMCF factories	<ul style="list-style-type: none"><li>• LS&amp;Co. will monitor progress and publish the number of factories MMCF compliance status.</li></ul>	<ul style="list-style-type: none"><li>• Factories are required to follow the LS&amp;Co. commitments and ZDHC MMCF Guidelines.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.

# ZDHC Air Emissions Guidelines

LS&Co. is committed to requiring strategic factories to implement the ZDHC Air Emissions Guidelines and meet at least Foundational Level and improve gradually to next levels.

LS&Co. is committed to the implementation of [ZDHC's Air Emissions Guidelines](#). Air quality and reduced emissions are one of the key priorities for the company. We will work with our factories to reduce their emissions and improve air quality.

## Long Term Commitments

- 1) LS&Co. requires in-scope factories to understand and implement requirements concerning air emissions as described in the ZDHC Air Emissions Guidelines.

## Operational Plan

Roll-out Scope	Measures	Goal
In-scope factories	<ul style="list-style-type: none"><li>• LS&amp;Co. will monitor progress and publish the number of factories implementing in ZDHC AirEmissions Guidelines</li></ul>	<ul style="list-style-type: none"><li>• Factories are required to follow the ZDHC Air Emissions Guidelines, meet at least a Foundational Level and improve gradually to the next levels.</li></ul>

The operational plan will be updated to reflect evolving ZDHC requirements.

## Compliance Incentives

Requirements set forth in LS&Co. Master Supply Agreement if applicable for factory.



# Compliance Incentives

**The factory requirements shared within the playbook are also specified in the LS&Co Master Supplier Agreement in Clause 8.3 and 23.3 for factories where it is applicable**

LS&Co may terminate Master Supply Agreement or any of the rights or licenses granted under the Master Supply Agreement immediately (or with effect from any later date that it may nominate) by written notice to Vendor if: Vendor commits any breach of clause 8.3 and 23.3.

8.3 Vendor is responsible for understanding, implementing and complying with LS's requirements and testing protocols for RSL, ZDHC MRSL, Gateway Chemical Module, InCheck monthly reporting, ZDHC Wastewater Guideline, ClearStream reporting, Supplier to Zero participation, bi-annual ZDHC Academy training, Screened Chemistry implementation, PPS, PSS, garment inspection procedures, manufacturing specifications, sealed samples, and any other LS documentation related to delivering First Quality Products (collectively referred to as "LS Procedures").

23.3 LS may terminate this Agreement or any of the rights or licenses granted under this Agreement immediately (or with effect from any later date that it may nominate) by written notice to Vendor if:

(a) Vendor breaches any of its warranties or any other terms of this Agreement and, if it can be rectified in LS's reasonable opinion, such breach is not rectified within 14 days of receiving written notice from LS, or within such longer period as may be specified in the notice;

(b) a controller, administrator, liquidator, trustee in bankruptcy or similar person is appointed to Vendor or to any of its property or any step is taken to do so; or Vendor resolves to enter into, or enters into, any moratorium, arrangement, compromise or composition with any of its creditors, other than in the ordinary course of its business; or Vendor is or is presumed to be insolvent, applies to be deregistered or commits an act of bankruptcy;



# Compliance Incentives

**The factory requirements shared within the playbook are also specified in the LS&Co Master Supplier Agreement Clause 8.3 and 23.3**

Clause 23.3 continued

- (c) any distress, attachment, execution or other Court process or judgment is levied or enforced on or against Vendor or any of its assets or revenues and is not fully stayed, set aside or satisfied within 14 days; or anything having a substantially similar effect to any of the events specified in clauses 23.3(b) or 23.3(c) happens to Vendor under the law of any jurisdiction;
- (d) Vendor ceases or threatens to cease to carry on all or a substantial part of its business, or changes or proposes to change, substantially, the nature or scope of its business, or disposes or proposes to dispose of all or a substantial part of its business, or if there is a substantial change in the ownership of Vendor or if effective control of Vendor comes or is likely to come into the possession of a competitor or potential competitor of LS or any of its Affiliates;
- (e) full commercial production has not been commenced by Vendor under this Agreement within 60 days of the Effective Date;
- (f) Vendor fails to comply with any Purchase Order submitted by LS and, for a period of 30 days beyond the delivery date scheduled in the order, Vendor fails to cure such defect for any reason;
- (g) Vendor supplies any Products to any person other than LS, without the prior consent of LS;
- (h) Vendor commits any breach of clause 8, 19.3, 20, 21, 28 or 29;
- (i) any representation or warranty made by Vendor in connection with this Agreement proves to be untrue, incorrect or inaccurate (as at the date when or when deemed to have been made) in any respect;
- (j) Vendor makes a false declaration or submits an inaccurate or false report or any untrue document to LS;



# Compliance Incentives

**The factory requirements shared within the playbook are also specified in the LS&Co Master Supplier Agreement Clause 8.3 and 23.3**

Clause 23.3 continued

- (k) Vendor challenges or disputes the validity or ownership of, or takes any steps inconsistent with, any of the Trade Marks or the Know-how or any of the other Intellectual Property;
- (l) anything is done or omitted to be done or takes place, or any material change occurs in the financial condition of Vendor which might, in the opinion of LS, prevent or inhibit the due performance of Vendor or its obligations or which might render untrue, incorrect or inaccurate any representation or warranty made or deemed to be made by Vendor in connection with this Agreement (as at the date when or when deemed to have been made) in any respect;
- (m) Vendor is involved (directly or indirectly) with the unauthorized production or sale of Products, or in the counterfeiting of Products;
- (n) Vendor presents Works to LS under clause 3A which are not original or which infringe any third party's intellectual property or other rights;
- (o) Vendor uses any designs which are the same as or similar to any Works or designs created under clause 3A in connection with any third party; or
- (p) there is any fraud, negligence or misconduct on the part of Vendor, its officers, employees, agents or sub-contractors.

**The factory requirements in case Master Supply Agreement is not applicable**

LS&Co. considers ZDHC requirements, as stated in this Playbook as pre-requisites of doing business, and reserves rights to disengage with factory if requirements have not been adhered to.