ROADMAP TO ZERO

ZDHC RoadmaptoZero Introduction to ZDHC-MRSL

01

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Our Vision & Mission

Our Vision is a world in which better chemistry leads to the protection of life, land, air and water.

Our Mission is to lead our global value chains to achieve the highest standards for sustainable chemical management, driving resource efficiency and circularity.

Some challenges are too BIG to be faced alone

Transforming an industry requires

- Collaboration
- Transparency
- Commitment

From Multiple Requirements to One Aligned Global Framework

Environmental protection focus

Setting the standard for the industry

Adoption and industry convergence

Accelerated implementation and positive impact

ZDHC Multi Stakeholder organisation

The Growing Community

Brands, Retailers & Vendors

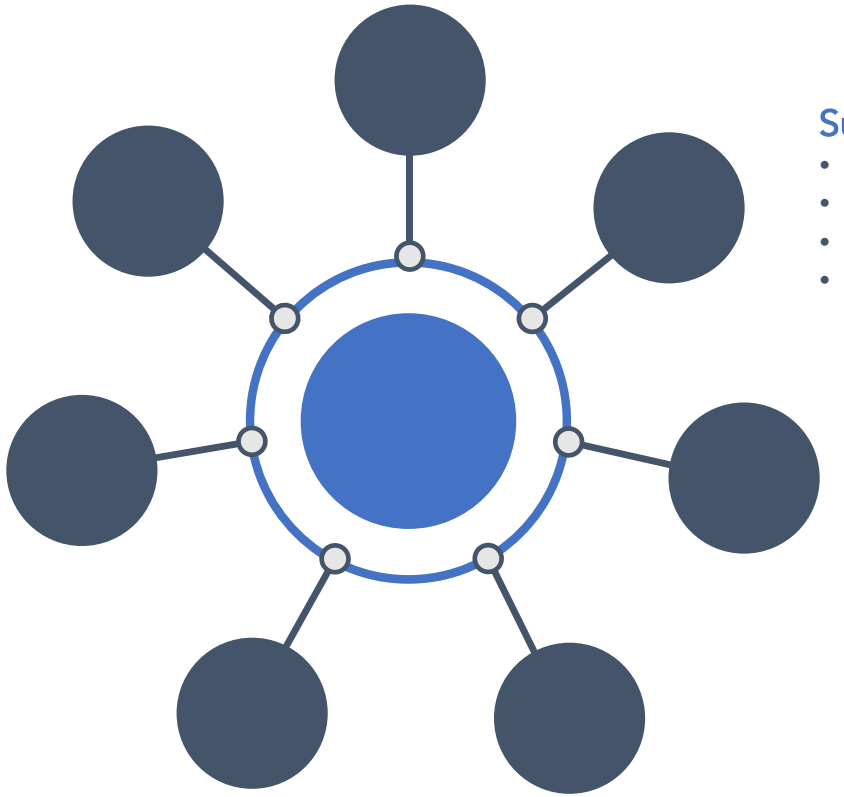
- International, regional and domestic brands of different sectors

Public Sectors

- Governments
- Inter-governmental Agencies
- International Development Agencies

Suppliers

- Wet processors
- Final Assemblers
- Tanneries
- Material suppliers



Academia

Chemical Formulators

Industry Associations

- Trade Associations
- NGOs
- Interest Group

Solution Providers

- Testing labs
- Certifiers
- Chemical & Environmental Management Consultants
- Wastewater Operators

Engaging Key Stakeholders In Textile, Footwear & Leather Value Chain

An Integral Setup to Environmental Improvements

The Roadmap to Zero Programme

Developing guidelines for the industry

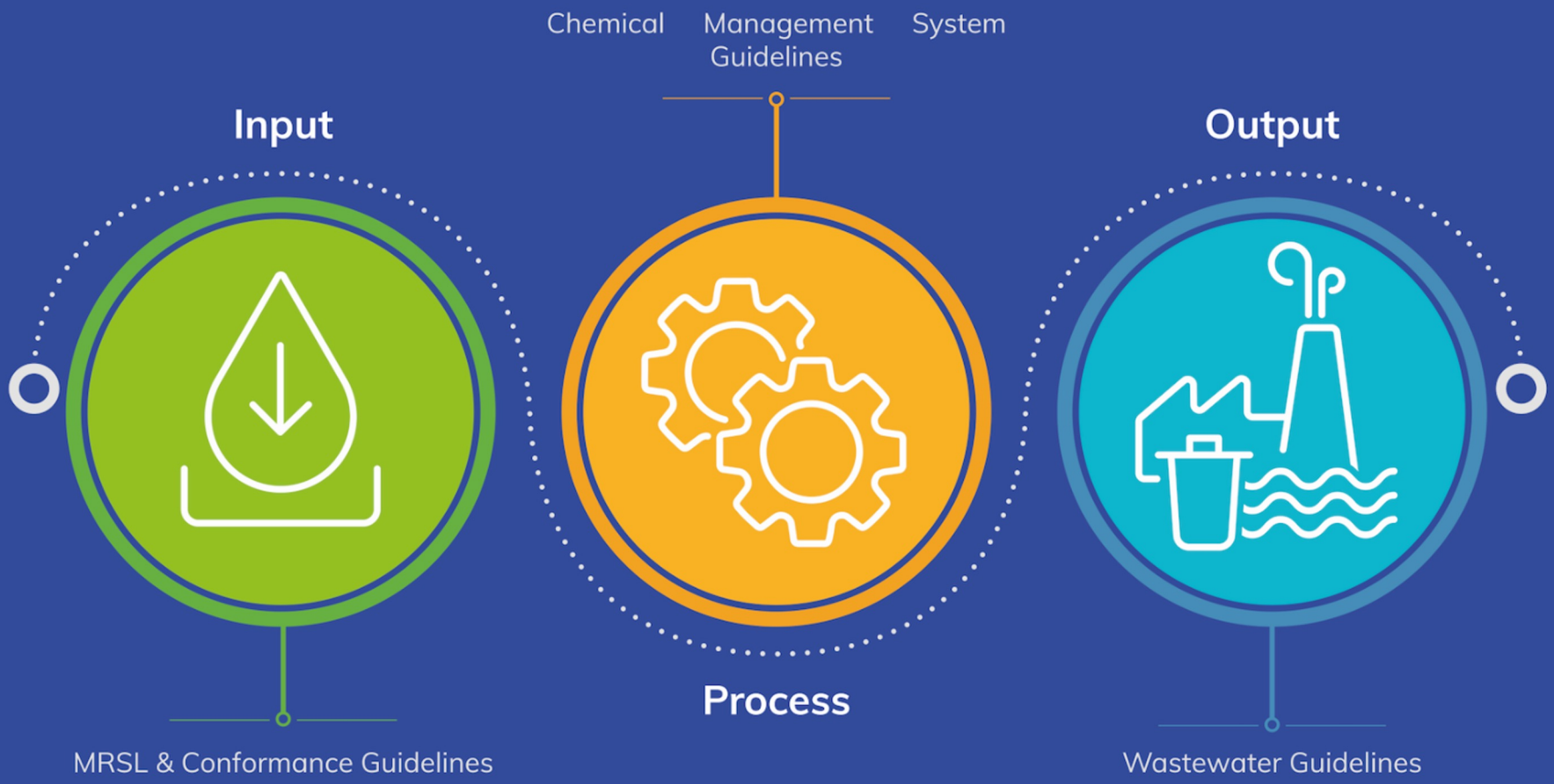
The ZDHC Academy

Building capacity of the value chains

The Implementation HUB

Scaling adoption and innovation

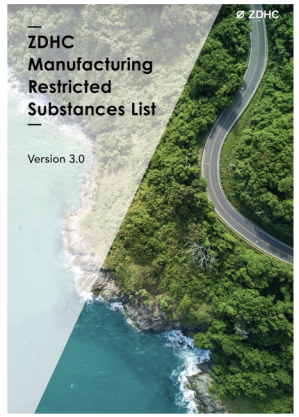
Holistic Systems Approach to Sustainable Chemical Management



We believe
Clean Input = Clean Output

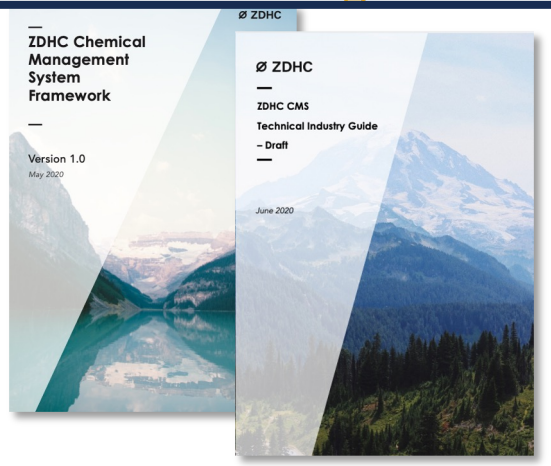
Roadmap to Zero – ZDHC Implementation Approach

INPUT



ZDHC MRSL

PROCESS



ZDHC CMS Framework & CMS Technical Industry Guide

OUTPUT

ZDHC Wastewater Guidelines

Chemical Management System

GATEWAY
By ZDHC

InCheck
By ZDHC

ChemCheck
By ZDHC

SUPPLIER
By ZDHC

ACADEMY
By ZDHC

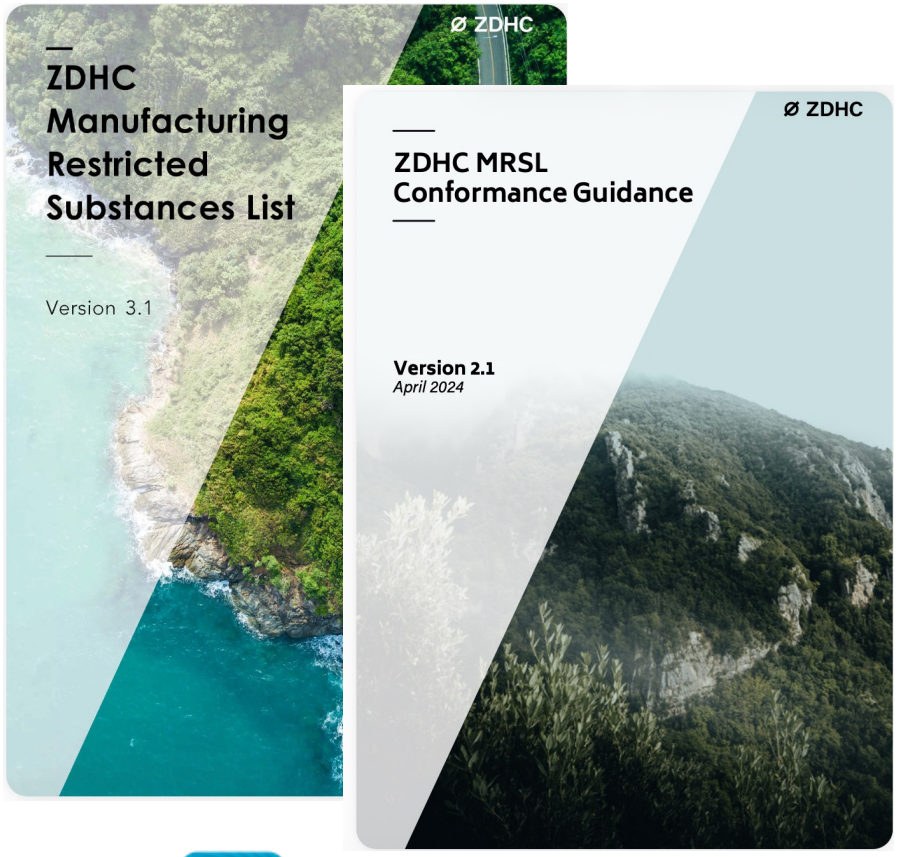
Supplier to Zero
By ZDHC

GATEWAY
By ZDHC

ClearStream
By ZDHC

A Holistic Approach

INPUT Management



InCheck
By Ø ZDHC

- The ZDHC MRSL is the backbone of the Programme
- It is a list of substances which are banned from intentional use in commercial chemical formulation.
- These substances are harmful to human health and environment.
- The MRSL Conformance Guidance document details how commercial chemical formulations can conform to the MRSL through ZDHC approved third- party certifications
- By purchasing MRSL conformance chemicals, manufacturers can ensure that input chemicals are free from hazardous ingredients or meet the limits for unintentional impurities
- Monitoring is done through the PERFORMANCE INCHECK Reports generated every month

ROADMAP TO ZERO

ZDHC MRSL V3.1

Manufacturing Restricted Substances List

"A list of chemical substances banned from intentional use in commercial formulations used at facilities that process…textiles, apparel, leather and footwear."

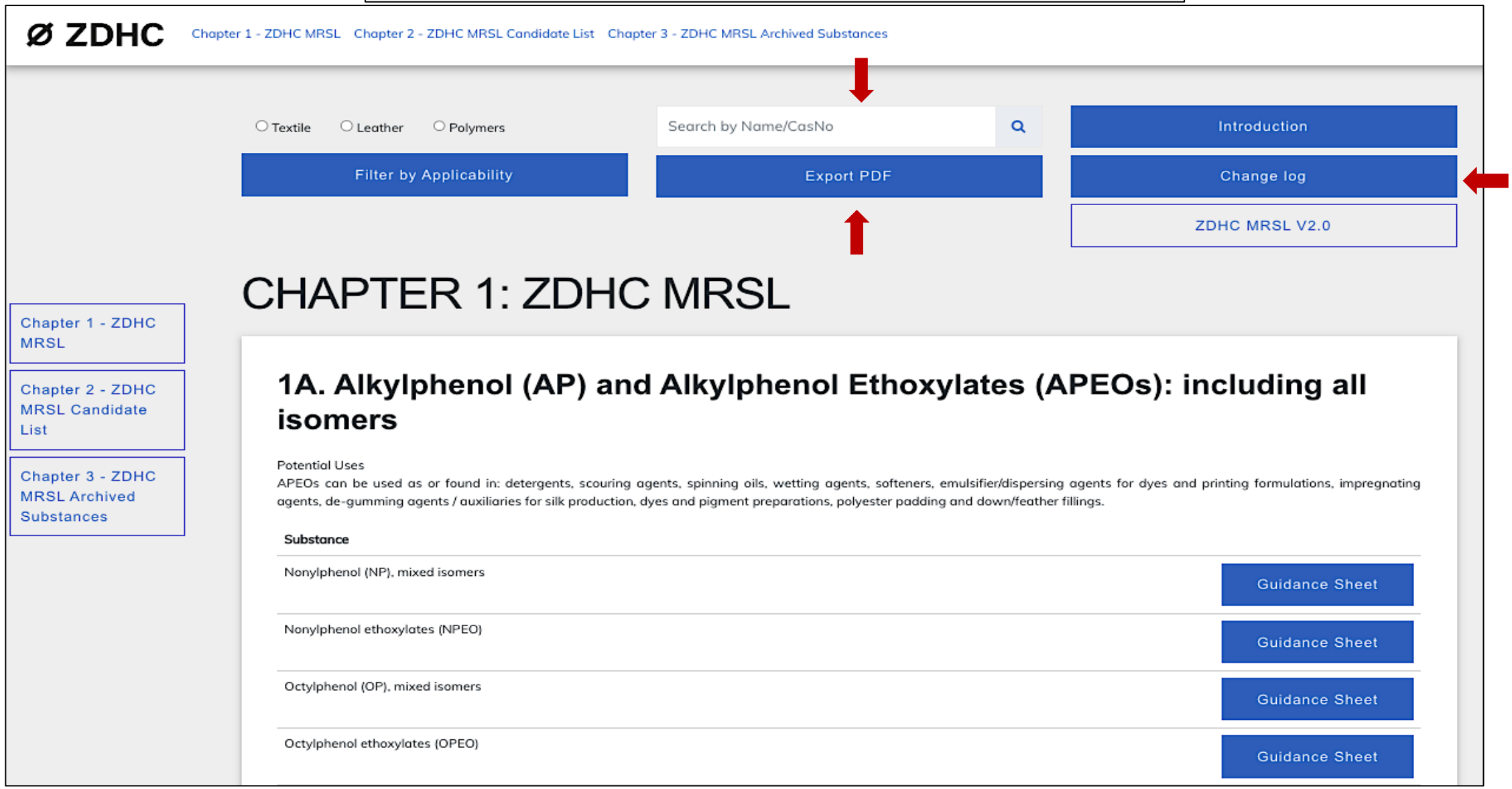
"Maximum allowable concentrations for unintentional contaminations or impurities in commercial chemical formulations need to be met"

ZDHC MRSL CHAPTERS

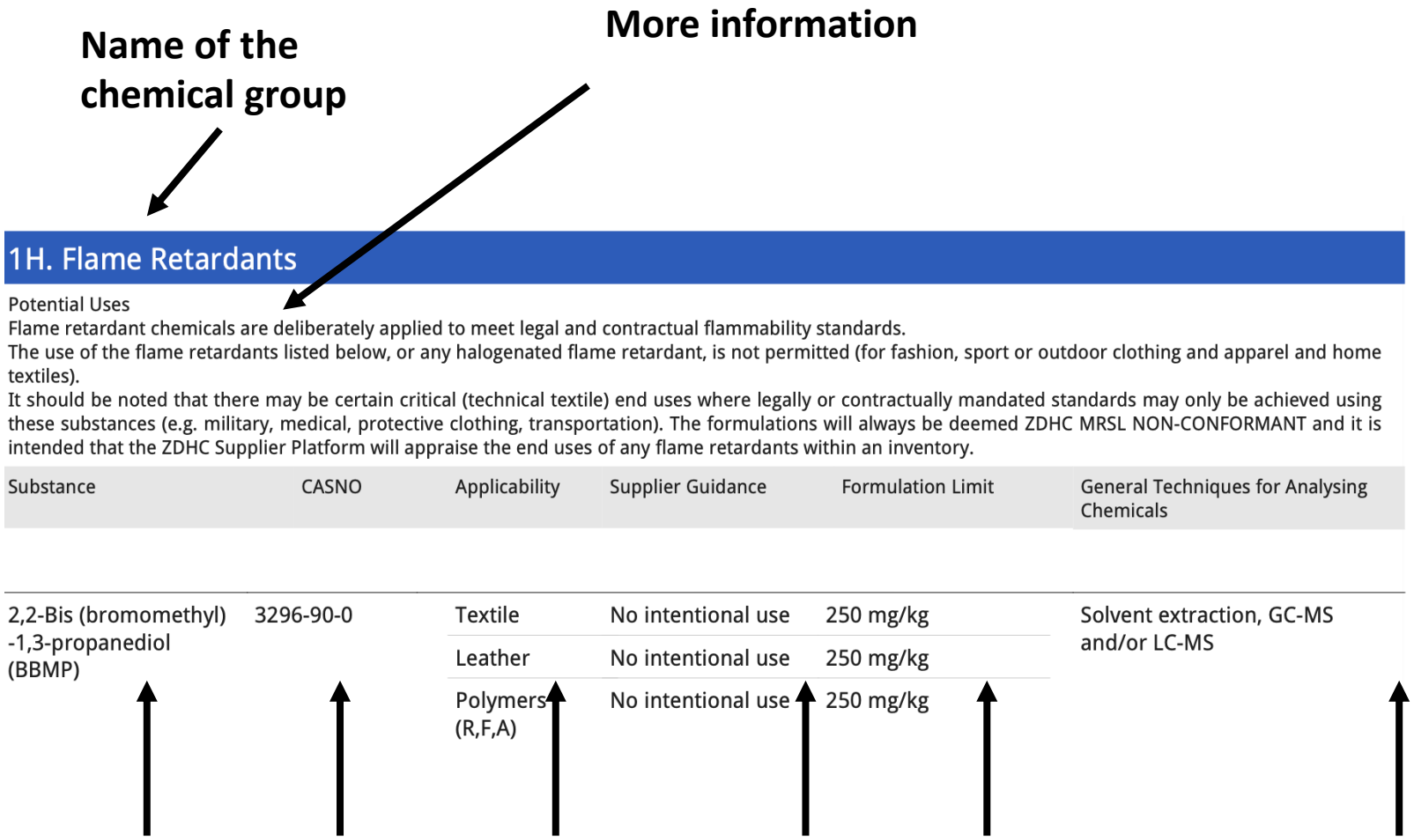
ZDHC MRSL	List of substances banned from intentional use in textile, leather, rubber, foams and adhesives. Testing in formulations required to certify for MRSL conformance
Candidate List	List of substances where more information is required or scalable alternatives are not prevalent. Intention to give time to industry and include for next revision
Archived List	List of substances phased out and are no longer expected to be used in industry. To be checked for potential intentional usage through document review

How to access the ZDHC e-MRSL?

ZDHC website → Input → MRSL → Go to ZDHC MRSL V3.1



How to read the ZDHC MRSL?



Facts about the ZDHC MRSL?

1A. Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	1G. Dyes – Carcinogenic or Equivalent Concern	1M. Other/Miscellaneous Chemicals	1S. UV Absorbers
1B. Anti-microbials and Biocides	1H. Flame Retardants	1N. Perfluorinated and Polyfluorinated Chemicals (PFAS)	
1C. Chlorinated Paraffins	1I. Glycols / Glycol Ethers	1O. Phthalates – including all other esters of ortho-phthalic acid	
1D. Chlorobenzenes and Chlorotoluenes	1J. Halogenated Solvents	1P. Polycyclic Aromatic Hydrocarbons (PAHs)	
1E. Chlorophenols	1K. Organic Solvents	1Q. Restricted Aromatic Amines (Cleavable from Azo-colourants)	
1F. Dyes - Allergenic Disperse Dyes	1L. Organotin Compounds	1R. Total Heavy Metals	

A total of 19 chemical groups are currently present in ZDHC MRSL chapter 1

Facts about the ZDHC MRSL candidate list?

2A. Bisphenols
2B. Ethoxylated Tallow Amine
2C. Formaldehyde
2D. Phenol
2E. Potassium Permanganate
2F. Solvents
2G. Total Heavy Metals

Intention is to drive industry to find suitable safer alternatives

Facts about the ZDHC MRSL Archived list?

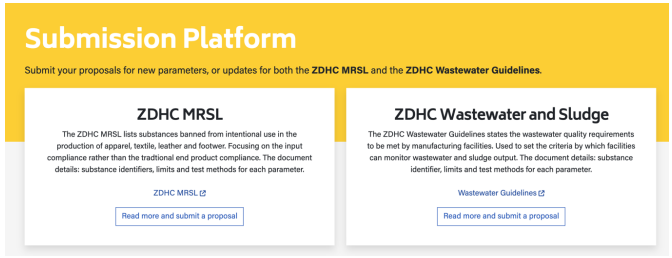
3A. Dyes - Carcinogenic or Equivalent Concern (e.g. CI Solvent Yellow 2, CI Solvent Yellow 14, and D&C Red No. 19
3B. Dyes - Navy Blue Colourant Component 1 and Component 2
3C. Other/Miscellaneous chemicals (Auramine Hydrochloride)
3D. Solvents Bis(chloromethyl)ether

ZDHC discussed with industry experts to conclude that these substances are no more used in the Textile, Apparel, Footwear and Leather industry supply chain.

How is the ZDHC MRSL list prepared?

Other internal suggestions when relevant to industry needs and regulatory requirements

MRSL council



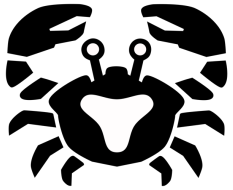
Invite submissions from stakeholders and public through online engagement. www.submission.roadmaptozero.com

Candidate list

Main MRSL list

Archived list

What makes substance get listed in ZDHC MRSL



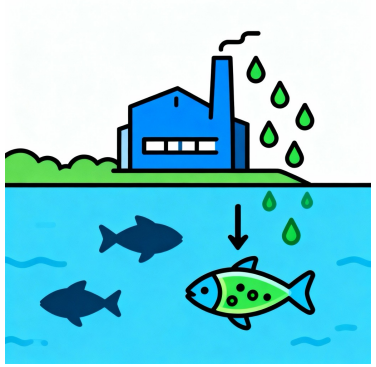
Carcinogenic

Mutagenic

Reprotoxic

Skin irritant

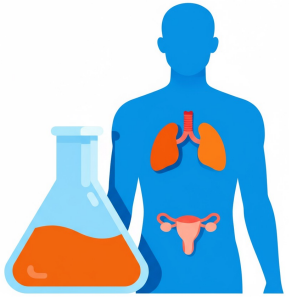
Persistent



Bioaccumalative

Toxic to aquatic life

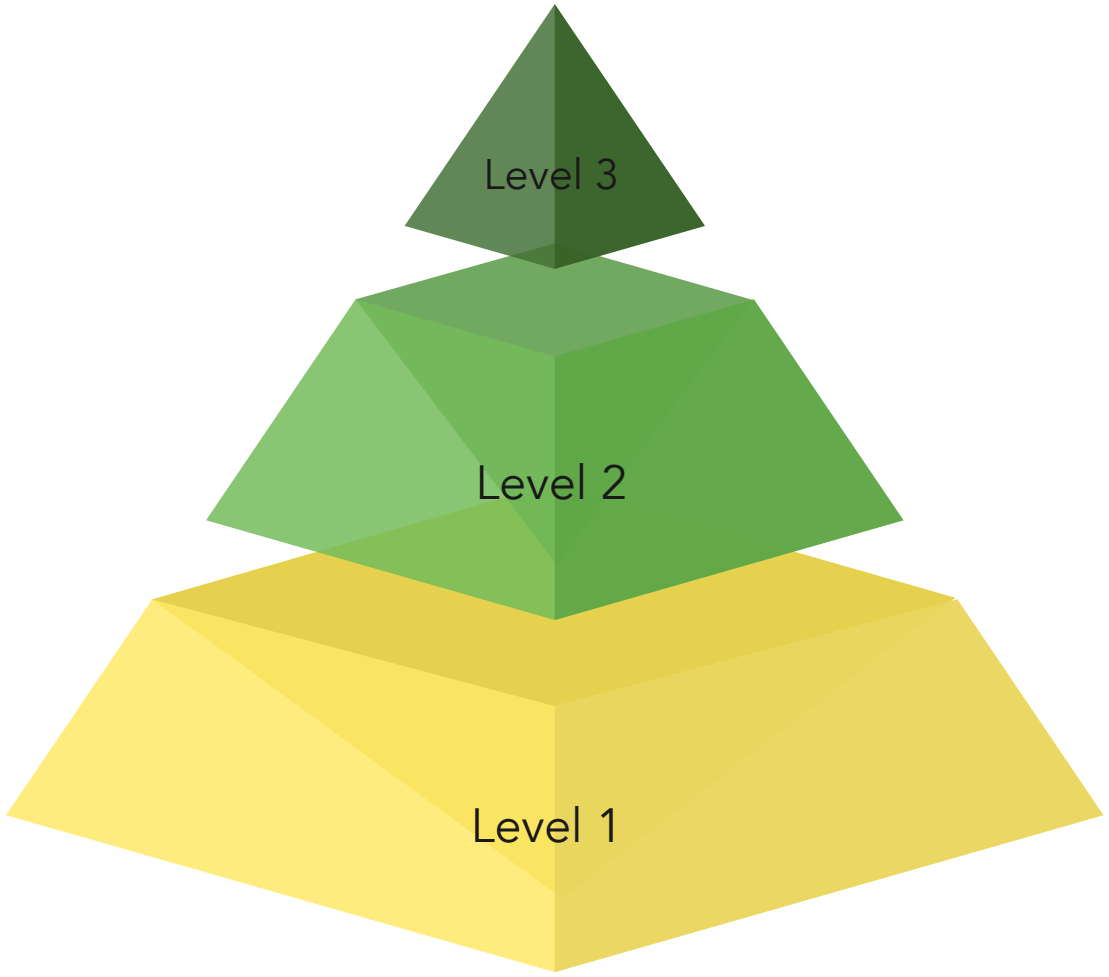
Respiratory sensitizer



Endocrine disruptor

Very persistent
Very bioaccumulative

Specific Target Organ Toxicity



ZDHC MRSL Conformance Levels

MRSL Conformance Guidance V2.1

Level 3

Additional: Onsite assessment of chemical hazard assessment capability

Level 2

Additional: Onsite assessment of management systems.

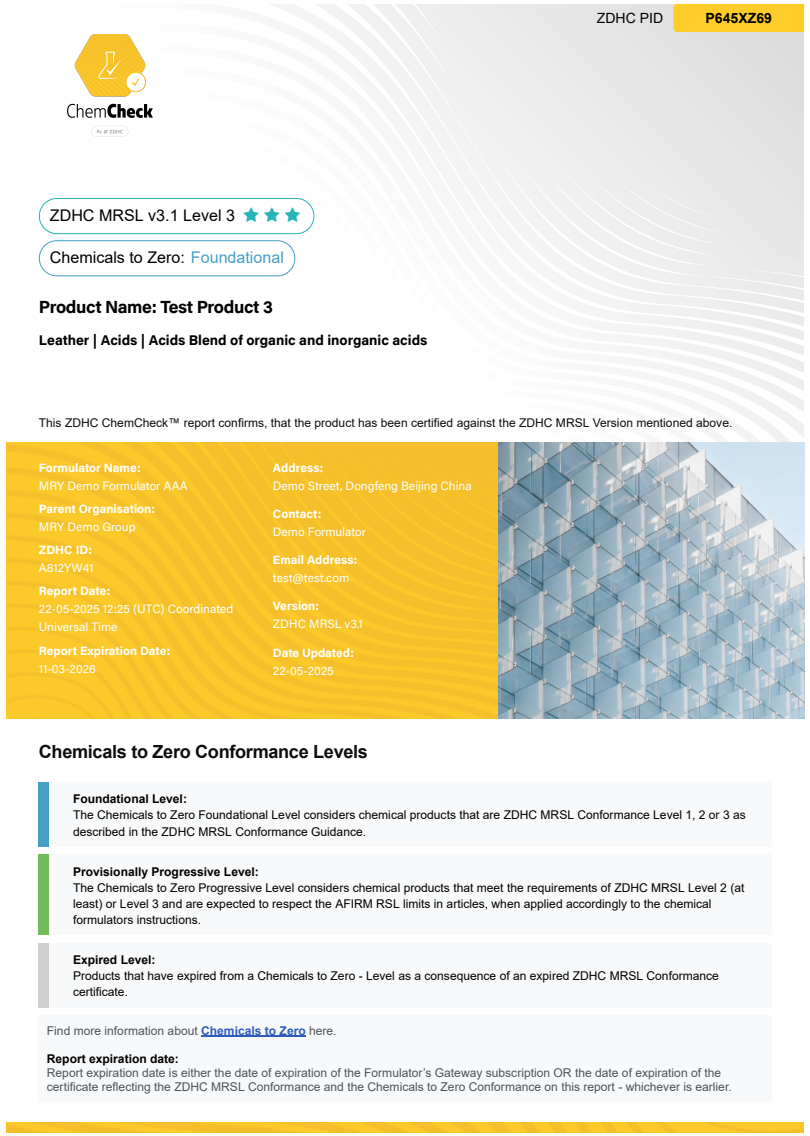
Level 1

Analytical testing, supported by screening and SDS review of relevant MRSL substances information.

Higher confidence

Create the ChemCheck report

For Formulators



ZDHC PID **P645XZ69**

ChemCheck

ZDHC MRSL v3.1 Level 3 ★★★

Chemicals to Zero: Foundational

Product Name: Test Product 3

Leather | Acids | Acids Blend of organic and inorganic acids

This ZDHC ChemCheck™ report confirms, that the product has been certified against the ZDHC MRSL Version mentioned above.

Formulator Name:
MRY Demo Formulator AAA

Parent Organisation:
MRY Demo Group

ZDHC ID:
A812YW41

Report Date:
22-05-2025 12:25 (UTC) Coordinated Universal Time

Report Expiration Date:
11-03-2026

Address:
Demo Street, Dongfeng Beijing China

Contact:
Demo Formulator

Email Address:
test@test.com

Version:
ZDHC MRSL v3.1

Date Updated:
22-05-2025

Chemicals to Zero Conformance Levels

Foundational Level:
The Chemicals to Zero Foundational Level considers chemical products that are ZDHC MRSL Conformance Level 1, 2 or 3 as described in the ZDHC MRSL Conformance Guidance.

Provisionally Progressive Level:
The Chemicals to Zero Progressive Level considers chemical products that meet the requirements of ZDHC MRSL Level 2 (at least) or Level 3 and are expected to respect the AFIRM RSL limits in articles, when applied accordingly to the chemical formulators instructions.

Expired Level:
Products that have expired from a Chemicals to Zero - Level as a consequence of an expired ZDHC MRSL Conformance certificate.

Find more information about Chemicals to Zero here.

Report expiration date:
Report expiration date is either the date of expiration of the Formulator's Gateway subscription OR the date of expiration of the certificate reflecting the ZDHC MRSL Conformance and the Chemicals to Zero Conformance on this report - whichever is earlier.

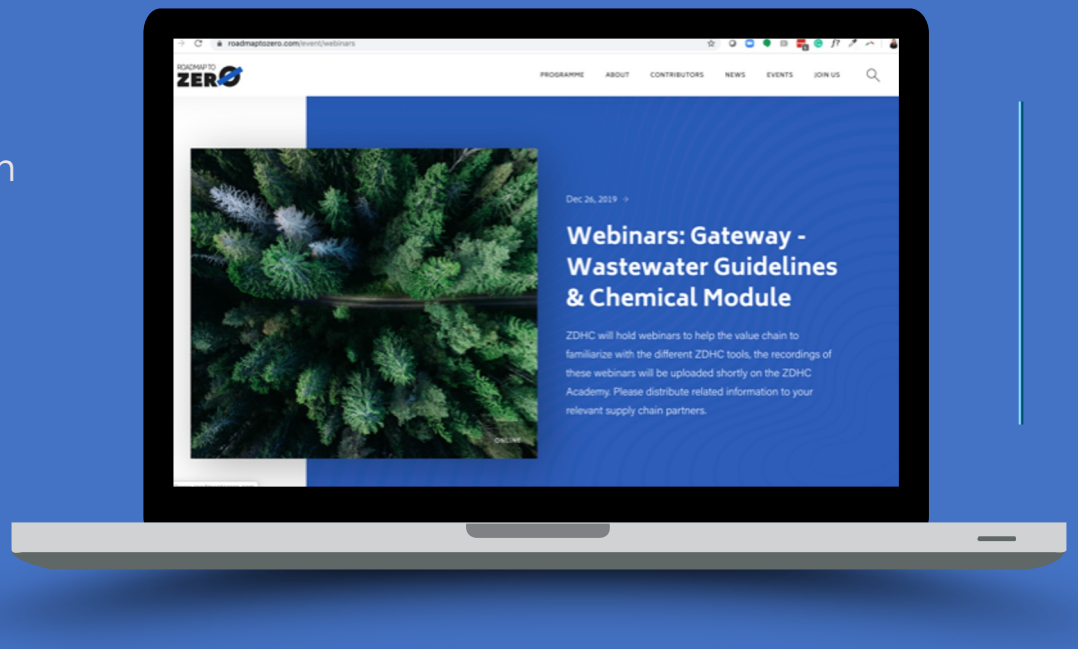
The ChemCheck Report provides a SUMMARY of the MRSL Conformance of your chemical formulation:

- ZDHC MRSL conformance level
- Product name

It gives formulator an opportunity :

- To prove the MRSL conformance
- Level of confidence in selling their products.
- *Additionally, the product gets published on ZDHC Gateway to the registered purchasers who you may not have direct contact with, in the past (new avenues)*

ZDHC provides webinars on ZDHC Gateway, Chemical Module and their latest features. Join our webinars to receive latest updates!



Call to Action:

Attend ZDHC Webinars

https://www.roadmaptozero.com/events

If you miss the live webinars on ZDHC Gateway Wastewater Module, you can revisit the recorded webinar via the ZDHC Knowledge Base

Call to Action:

Training Videos on ZDHC Knowledge Base

https://knowledge-base.roadmaptozero.com/hc/en-gb

ZDHC Knowledge Base

#01

It provides excellent self-service support

#02

The Knowledge Base is widely accessible via the URL and from the ZDHC websites and platforms

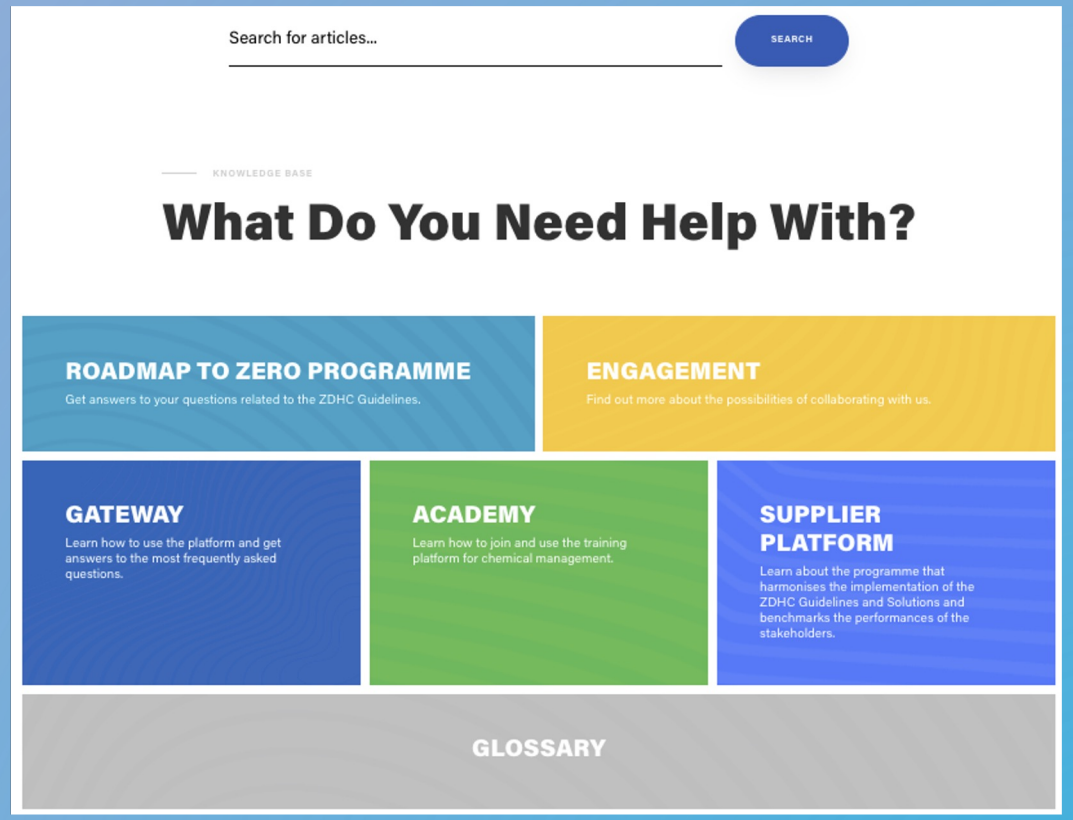
#03

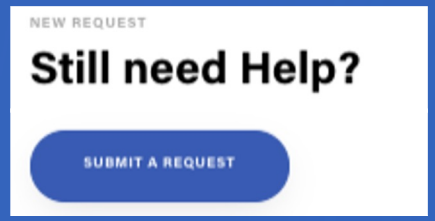
Easy to navigate for specific user roles and also available in Chinese

#04

Up to date and continuously improved and growing based on frequently asked questions

knowledge-base.roadmaptozero.com





Submit a Request directly via the Knowledge Base itself or send an email to support@zdhc.org

ROADMAP TO ZERO

Thank You!