

# H&M Group's approach to hazard assessment

January 2023

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## Introduction

At H&M Group, we want to ensure that all our products are safe to produce and wear. This includes eliminating any hazardous discharge into water, soil or air. Our vision is to lead the change towards safe products and toxic-free fashion, guided by our [Chemical Roadmap](#).

Our chemical requirements usually exceed existing regulations and we promote progressive chemical management. Collaboration is a key part of our approach. We are a founding member of the [AFIRM Group](#) and a signatory member of [ZDHC](#). Our [Chemical Restrictions](#) for textile products are aligned with both the AFIRM Restricted Substance List (RSL) and the ZDHC Manufacturing Restricted Substance List (MRSL). To ensure compliance with these lists, regular tests are performed on our products, mainly by third-party laboratories, and we monitor our suppliers' chemical inventories. We also restrict other chemicals, and groups of chemicals and materials, that are not on these lists but present high concern for human health and/or the environment. For example, we were the first global brand to phase out all PFAS in 2013 and we continue to be an industry leader in identifying and phasing out chemicals of concern in our supply chain.

RSLs and MRSLs make sure that specific chemicals are not used in products or processes. However, RSLs and testing do not provide any information about the safety of the chemicals present in formulations, nor do they allow brands to make informed comparisons of chemicals to select preferred chemicals or identify chemicals for phasing out.

Hazard assessments are crucial to address this lack of transparency. At H&M Group we have adopted [Screened Chemistry v3](#)<sup>1</sup>. This programme is the result of a collaboration that aligned Levi Strauss & Co.'s [Screened Chemistry Program](#) and Nike's [Chemistry Assessment Program](#), which has allowed more brands to find safer alternatives while eliminating hazardous chemicals.

When assessing chemical formulations, we always look for hazards. We plan to scale this way of working across our supply chain, starting with innovative materials and chemicals, kids' products, and denim.

We are inviting leading chemical suppliers and product manufacturers to join us on this journey.

## Why do we use Screened Chemistry?

Currently, Screened Chemistry is the only available option for brands like ours that want to be able to choose the best available chemicals from a hazard perspective. Our [Toxic Free fashion](#) roadmap will help us meet our ambition to become a circular business and achieve net-zero. This means that only safe, fully disclosed chemical formulations can be used in our products and processes to ensure that materials can be safely reused and recycled, again and again.

In the future we may adopt other hazard assessment methodologies as they develop.

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<sup>1</sup> The phrase "Screened Chemistry" is used interchangeably with "Scored Chemistry." They are indeed the same.

## What is Screened Chemistry and Screened Chemistry certified?

Screened Chemistry is the method used to assess chemical formulations. At H&M Group, Screened Chemistry Certified refers to textile chemical formulations that achieve a green or yellow score using Screened Chemistry v3 methodology.

Screened Chemistry v3 is based on the following principles:

- Relies on a publicly available, **science-based, transparent methodology**, that is maintained and updated as new data becomes available.
- **Full disclosure** of all intentionally added chemical substances, as well as residuals and impurities present at 100 ppm (0.01%) or greater in a chemical formulation.
- **A hazard-based** assessment of each chemical ingredient comprising accepted human health and environmental toxicity and fate endpoints, which is conducted by a third-party service provider.
- **A scoring protocol:**
  - a. where each intentionally added chemical substance, residual, or impurity, equal or greater than 100 ppm, is assessed and assigned a score between 0 and 50.
  - b. An overall formulation score is calculated based on individual ingredient and impurity scores and their respective percentage within the formulation.
  - c. Any chemical of high concern or any chemical that is on the ZDHC MRSL results in a formulation score being capped at 0. These formulations are unacceptable and are not certified under the Screened Chemistry v3 programme.
- **A Screened Chemistry certificate**, valid for three years, is granted by the third-party service provider

Scores  $\geq 35$  and  $\leq 50$  are considered “preferred” formulations and categorised as green.

Scores  $\geq 20$  and  $< 35$  are chemical formulations that are “acceptable”, but “need improvement” and are categorised as yellow.

Scores  $< 20$  are deemed for “phase out” and categorised as red. The following should be noted:

- H&M Group allows formulations that score between  $> 0$  and  $< 20$  to be used for three months so the problematic chemical can be replaced with a safer alternative that will result in either a yellow or green score.
- If a chemical is on the ZDHC MRSL or if it is a chemical of high concern, (some CMR and PBT and endocrine disruptors), it automatically results in a formulation score of zero points. H&M Group does not allow formulations with a zero score to be used under any circumstances.

## How to get certified

[Scivera](#) and [ToxServices](#) are the two service providers approved by H&M Group to conduct Screened Chemistry v3 assessments. Both have contributed to the scoring methodology and are extremely experienced in the subject. Although they use different approaches, they have collaborated to align on the scoring protocol.

Each service provider has its own detailed method that is available on their websites. ToxServices uses its [ToxFMD Screened Chemistry](#)<sup>®</sup> and Scivera uses its [SciveraLENS](#)<sup>®</sup> for Screened Chemistry framework. The following steps provide a high-level overview of the Screened Chemistry v3 process:

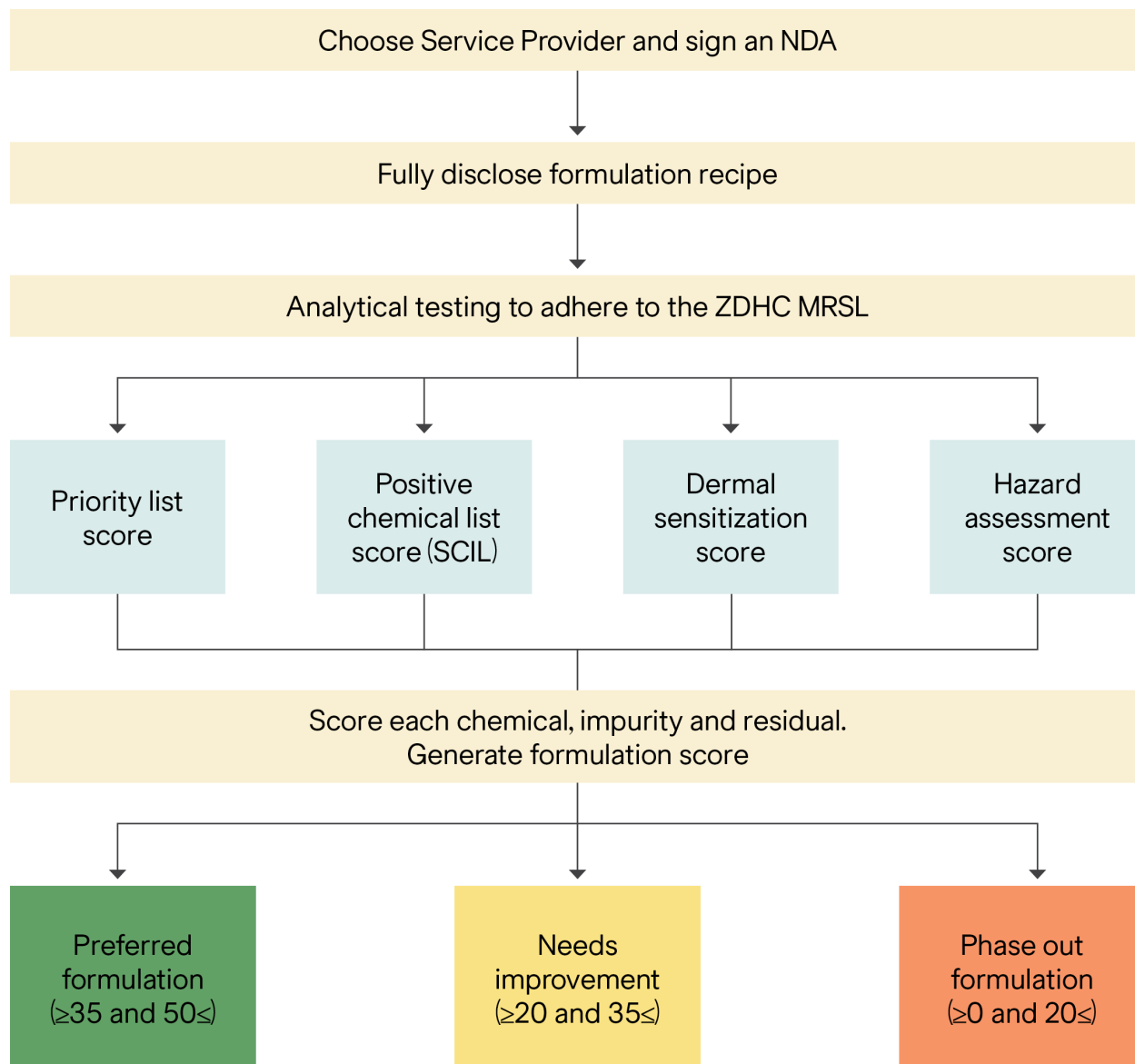
1. The first step is for the chemical company to enter into an agreement with either ToxServices or Scivera. An NDA is then signed.
2. To protect intellectual property, H&M Group does not have access to the chemical ingredient names or CAS Registry Numbers (CASRN) of substances in the formulation. However, we receive a redacted scorecard or a redacted report of the results<sup>2</sup>. The process is shown in the diagram below.

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<sup>2</sup> ToxServices provides a redacted scorecard whereas Scivera provides a redacted report of the results.

Both service providers work directly with their clients to explain the results. In the event of a red score, the service providers support the chemical company to improve the formulation to achieve a higher score so that that it can then be used in production.

## Screened Chemistry process



## State of Screened Chemistry

To date, over 1,700 formulations have been screened and certified by ToxServices and Scivera. Unfortunately, there is no master list that includes all the scored formulations. The use of these screened chemicals will be tracked using the input chemical management tools such as CleanChain, Bhive and BVE3, as well as environmental performance tools such as Jeanologia EIM. Today scored formulations can be found in:

- ZDHC Chemical Gateway (<https://www.my-ajp.com/ZDHCGateway/Login.aspx>).
- ToxServices Registry: <https://www.screenedchemistry.com/certificates>
- Scivera Registry: <https://www.scivera.com/scivera-screened-chemistry-products-registry/>

## Notes

1. All intentionally added ingredients present at any concentration, and residuals or impurities present at or above 100 ppm in the formulation must be disclosed to the service provider.

2. Analytical testing at an ZDHC-approved laboratory is conducted if the chemical formulator would like to achieve ZDHC Level 1 MRSL conformance.
3. Priority lists include i) ZDHC MRSL, ii) ZDHC candidate list 2.0, iii) AFIRM RSL, iv) ChemSec SIN list and v) the U.S. EPA SCIL list, which is a positive list. The ZDHC MRSL is the only list check that could result in a cap 0 result for a formulation. For colorants, if the listed chemical includes a concentration threshold, and the chemical is present in the formulation below the listed concentration threshold, the chemical is not scored. The other lists stated above, if listed chemicals are present, result in a score deduction, but no cap on the formulation, unless the cap is the result of the CHA step.
4. Polymers, colorants, and auxiliary chemicals can be assessed using Screened Chemistry v3.
5. Scores for each ingredient and impurity are calculated based on the results of the hazard assessments.
6. A formulation score (0 to 50) is calculated by: Priority List score (Max zero) + Comprehensive hazard assessment score (max 45) + dermal sensitization score (max 5). The Formulation score is a weighted average of each ingredient score multiplied by the concentration.
7. Any chemical of *known concern* (some CMR, PBT, endocrine disruptor) results in a formulation CAP score of 0 which is unacceptable for use in H&M Group's products.
8. Formulations are acceptable if the formulation complies with the ZDHC MRSL, and the score is  $\geq 20$ .
9. Formulations are unacceptable if at least 1 chemical is listed on the ZDHC MRSL above its specified MRSL limit, or the formulation score  $< 20$ .