



CHEM*FORWARD* SAFER

PROGRAM GUIDANCE

v 1.1 REV

JANUARY 2023

---

# 1 Introduction

ChemFORWARD is a nonprofit collaboration of leading brands, retailers, chemical suppliers, governmental, and not for profit/non-governmental organizations (NGOs) working to empower the value chain with high quality, actionable chemical hazard assessment information. We believe that better chemical hazard information leads to better decisions, creating better outcomes for humans and the environment. We are populating a repository of chemical hazard assessments (CHAs) by chemical CAS number and by ingredient trade name with a focus on safer alternatives. We house one 3rd-party verified chemical hazard assessment (CHA) profile per chemical, enabling a foundation of consistency and trust. This centralized repository is intended to provide efficiencies of cost, to scale accessibility, to reduce cost of certification, and to drive continual improvement in the quality of CHAs.

The ChemFORWARD SAFER (SAFER) program was developed to accommodate safer ingredients that are identified by trade name rather than by CAS registration number. Many formulators and manufacturers procure ingredients by trade name. Trade name ingredients may or may not be pure substances as they typically contain additional intentionally added chemical substances such as preservatives and/or non-intentionally added residuals or impurities. All chemical constituents in a SAFER candidate should be reviewed to ensure that a hazard score for the primary chemical of interest in the ingredient reflects the hazard of the entire trade name ingredient. The SAFER program leverages chemical hazard assessments that already exist in the ChemFORWARD platform. If a chemical substance found in a trade name ingredient has a CHA in the ChemFORWARD platform, then there is no need to produce a new CHA. The existing CHA is reused, helping to reduce costs and to expedite assessment.

SAFER is not intended to be a consumer-facing certification or an ecolabel. It is a communication aid to help organizations market and/or find safer ingredients based on robust, independently generated CHAs. SAFER enhances transparency and supply chain communication.

SAFER is intended to create a win/win/win for the supply chain:

- 1) Chemical suppliers seek to market safer alternative chemical ingredients based on credible hazard information curated by a trusted third party. SAFER addresses all substances in an ingredient, potentially differentiating between suppliers of the same ingredient based on purity and the presence of other additives.

- 2) Product formulators or compounders seek to identify and use safer ingredients that will work well in their products. ChemFORWARD organizes ingredients by CAS number and trade name, but also by function, application, sustainability attributes, and more, to help users narrow down options to find those that are most likely to be effective.
- 3) Organizations that seek safer alternatives as part of their certification or procurement programs can now readily identify potential alternatives and know that all substances in the ingredient are assessed and that they achieve specified levels of hazard as defined by ChemFORWARD hazard bands.

## 1.1 Definitions

**Additive** - any chemical substance intentionally added to a product to enhance its properties such as preserving its stability, improving its processability, prolonging its life span, and/or achieving desired physical or chemical properties in the final product.

**Impurity** - any chemical constituent derived from reagents, additives, or manufacturing processes that remains in the product, but that does not serve a function. Impurities may come from either intentionally or unintentionally added substances.

**Residual** - a type of impurity that comes from intentionally added substances used at some stage of the manufacturing or formulation process, but that does not serve a function in the final product.

**Monomer** - A substance which is capable of forming covalent bonds with a sequence of additional like or unlike molecules under the conditions of the relevant polymer-forming reaction used for the particular process.<sup>1</sup>

**Polymer** - A substance consisting of molecules characterized by the sequence of one or more types of monomer units. Such molecules must be distributed over a range of molecular weights wherein differences in the molecular weight are primarily attributable to differences in the number of monomer units.

---

<sup>1</sup> REACH Title I, Chapter 2, Article 3; [https://reachonline.eu/REACH/EN/REACH\\_EN/article3.html](https://reachonline.eu/REACH/EN/REACH_EN/article3.html)

**Trade name ingredient** - An ingredient intended for use in a formulated product or article that is identified by its product name specific to a manufacturer. Different ingredients identified by trade name may contain the same primary chemical substances; but they may differ from each other based on manufacturing practices resulting in the presence of different impurities or different additives (i.e. preservatives) to support the integrity of the ingredient as sold.

## 1.2 Abbreviations

**Table 1. Abbreviations**

CHA	Chemical hazard assessment
C2CC	Cradle to Cradle Certified
ppm	Parts per million
CAS number	Chemical Abstracts Service registration number
CBI	Confidential business information
NDA	Non-disclosure agreement

## 1.3 Supporting Documents

**ChemFORWARD SAFER Disclosure Form: v1.21** - [LINK](#) This template is used by Assessors for gathering information from the trade name ingredient supplier. The template may be accessed directly or the Assessor may send a copy of it to the supplier for completion. (See Appendix III)

**ChemFORWARD SAFER Product Creation Guidance (For Assessors only)** - This document provides guidance to Assessors on the information needed to create a product entry and how to enter the information for display in ChemFORWARD.

**Master SAFER Report Template (For Assessors only)** - Assessors may use a copy of this workbook to gather data on constituents in the trade name ingredient and to report to ChemFORWARD.

1. Worksheet for evaluating ingredient data (internal use only)
2. Worksheet to be sent to ChemFORWARD once evaluation is complete. This worksheet

allows for reporting results for trade name ingredient constituents that are confidential and redacted.

3. A worksheet for collecting information about the product including the product description, functional use, and other information for display with the product entry in ChemFORWARD.

## 2 Program Requirements

### 2.1 Applicability (Scope)

The ChemFORWARD SAFER Program applies to trade name ingredients which may include naturally or synthetically derived chemical substances or polymers.

For trade name ingredients that are reviewed but that do NOT qualify for ChemFORWARD SAFER, Assessors will provide the completed assessment results to the manufacturer. These trade name ingredients will not be displayed in ChemFORWARD. However, any CHAs produced as part of the SAFER assessment process will remain in the ChemFORWARD app at the CAS number level and will not be associated with trade name information.

### 2.2. Getting Started and Costs

More information about the SAFER program can be found on the ChemFORWARD [website](#). The first step to qualify trade name ingredients for SAFER is to contact an approved ChemFORWARD Assessor.<sup>2</sup> Assessors will provide cost estimates for their services which include but are not limited to verification of full ingredient disclosure and completeness of documentation, review of existing chemical hazard information for all chemical constituents subject to review, the generation of new chemical hazard assessments as needed, evaluation against all SAFER requirements, recommendation of approval, and reporting of results.

Suppliers participating in SAFER must have a subscription to the ChemFORWARD chemical optimization platform. The platform can be used for pre-screening products for the SAFER program and viewing complete records once approved. For suppliers, the subscription fee includes use of existing CHAs from the repository toward SAFER qualification as well as a

---

<sup>2</sup> Our Qualified Assessors: <https://www.chemforward.org/our-approach>

---

defined number of SAFER licenses to list approved products according to the following schedule:

1. Enterprise subscription to ChemFORWARD includes unlimited SAFER listings per year
2. Professional subscription to ChemFORWARD includes 3 SAFER listings per year
3. Basic subscription to ChemFORWARD includes 1 SAFER listing per year.

Subscribers may upgrade their subscriptions at any point and will be credited for lower level subscriptions (i.e., upgrades include only the difference in cost).

License agreements include access to ChemFORWARD's optimization platform and are renewed annually. At the time of renewal:

1. Manufacturers must verify whether or not there have been any changes to their ChemFORWARD SAFER-qualified trade name ingredient formulations.

After two years of SAFER designation, the formulation will also undergo review to ensure that:

1. CBI ingredients are updated to reflect use of the most current CHAs and proxies in the ChemFORWARD database.<sup>3</sup>
2. Trade name ingredient formulations will be reviewed against the most current ChemFORWARD SAFER guidance if it is different from the guidance used in the review performed two years prior.

There is no expiration date for ChemFORWARD SAFER qualified trade name ingredients. ChemFORWARD SAFER status is ongoing, pending annual review, and renewal of the license agreement and associated fees.

## 2.3 Disclosure Requirements

ChemFORWARD engages authorized Assessors to apply the SAFER criteria as a third party trustee. Disclosure to the Assessor may be made under a non-disclosure agreement (NDA) and

---

<sup>3</sup> NOTE: ChemFORWARD reserves the right to modify the ChemFORWARD SAFER criteria. Upon renewal, formulations are subject to the criteria in the most recent ChemFORWARD SAFER version; using the hazard bands and hazard classifications associated with the most current CHAs in the ChemFORWARD platform.

---

should use the ChemFORWARD SAFER Product Profile and Ingredient Disclosure Template: v1.0 - [LINK](#) which will be subject to confidential business information (CBI).

Trade name ingredient suppliers must provide to the Assessor:

1. Disclosure of all intentionally added ingredients
2. Disclosure of all impurities and residuals at or above 100 ppm
3. A current Certificate of Analysis (CoA)

In addition, a current and relevant Safety Data Sheet (SDS) must be submitted. The SDS is not subject to CBI and will be shared with ChemFORWARD. For trade name ingredients used in beauty and personal care products, heavy metal testing is also required.

## 2.4 Chemical Assessment and Screening Requirements

Every chemical substance that meets the disclosure requirements is subject to review by the Assessor. Assessors will leverage the ChemFORWARD shared repository to lower cost for users and increase consistency by using information available in the ChemFORWARD application. ChemFORWARD assigns hazard bands to all chemicals in the database (Table 2).

If a ChemFORWARD hazard band does not already exist for a chemical substance in a trade name ingredient, the Assessor will generate one by performing a full chemical hazard assessment according to ChemFORWARD requirements.

**Table 2. ChemFORWARD Hazard Bands and Equivalent Ratings**

<b>ChemFORWARD Hazard band</b>	<b>Implications</b>
<b>A</b>	Low hazard and low risk
<b>B</b>	Some moderate hazards but low risk
<b>C</b>	Moderate to high hazards and moderate risk; or uncertainty that could result in moderate risk
<b>F</b>	High hazards and high risk in most scenarios
<b>U</b>	CHA has been completed but with excessive data gaps, rating is not possible
<b>?</b>	Seek additional information, request a CHA to inform a decision

Chemicals will be assessed according to the following criteria:

- A ChemFORWARD hazard band based on a full CHA is required for all intentionally added constituents, and for residuals/impurities present at or above 1000 ppm.
- A ChemFORWARD assigned hazard band based on approved proxies as defined in Table 3 is required for all intentionally added constituents, and for residuals/impurities present at or above 1000 ppm.
- List screening is permitted in lieu of a full CHA for residuals/impurities present at or above 100 ppm and below 1000 ppm to exclude chemicals with a ChemFORWARD hazard band of F.
- All chemicals must be screened against the C2CC RSL v4.0 for substances that are banned (non use) and/or restricted and use limits must be identified.
- The Assessor must determine if any chemicals in the trade name ingredient are skin or respiratory sensitizers based on the ChemFORWARD CHA summary table or via public databases for those chemicals assigned hazard bands based on approved proxies.
  - The ChemFORWARD application provides automated searching for hazard classifications using GHS classifications from participating countries, and also provides harmonized classifications from the European Union.<sup>4</sup>

<sup>4</sup> <https://echa.europa.eu/en-US/regulations/clp/harmonised-classification-and-labelling>



- If full ChemFORWARD CHAs or approved CHA proxies are NOT available for chemicals subject to assessment, then the Assessor must generate new CHAs in ChemFORWARD for those chemicals.
  - Assessors should create a new DRAFT CHA entry as soon as possible in the ChemFORWARD application to avoid duplications.
  - In some cases, read-across may be used to assess impurities in lieu of a CHA (i.e., where the closest analogue for impurity is the target chemical).

**Table 3. Approved Proxies for ChemFORWARD Hazard Bands**

Program	Status or Rating	ChemFORWARD Requirements
U.S. EPA Safer Chemical Ingredient List (SCIL) <sup>5</sup>	Full Green Circle (FGC)	PASS
	Half Green Circle (HGC) or Yellow Triangle (YT)	Full ChemFORWARD CHA required
Publicly Available GreenScreen Assessments <sup>6</sup>	Benchmark 3 (or 3dg or 3tp)	PASS
	Benchmark 2 (or 2dg or 2tp)	Full ChemFORWARD CHA required
U.S. EPA Safer Chemical Ingredient List (SCIL) and Publicly Available GreenScreen Assessment	Full Green Circle AND Benchmark 2  Half Green Circle or Yellow Triangle AND Benchmark 3	PASS
C2CC RSL v4.0 <sup>7</sup>	Restricted or non-use	May be acceptable if safe use or restriction limits are met

<sup>5</sup> <https://www.epa.gov/saferchoice/safer-ingredients#scil>

<sup>6</sup> Freely available GreenScreen assessments are found at:

<http://theic2.org/hazard-assessment#gsc.tab=0>; Benchmark scores for GreenScreen assessments commissioned by TCO Certified are available at:

<https://tcocertified.com/industry/accepted-substance-list/>

<sup>7</sup> <https://www.c2ccertified.org/resources/detail/cradle-to-cradle-certified-restricted-substances-list-rsl>

---

## 2.5 Qualification Requirements

After the Assessor completes their review, trade name ingredients will qualify for SAFER if the following are true:

1. All ingredient disclosure requirements have been met.
2. All chemicals (at or above the disclosure thresholds) have been assessed and have a ChemFORWARD assigned hazard band based on a full CHA or approved proxy.
  - a. Residuals/impurities at or above 100 ppm and below 1000 ppm are not ChemFORWARD F based on list screening.
3. All constituents have a C or higher ChemFORWARD hazard band rating.
4. In addition to the C hazard band, all constituents meet the following requirements:
  - a. Chemicals that are rated Red for Aquatic Toxicity AND Red or Purple for combined Persistence and Bioaccumulation Potential may not be assigned SAFER
  - b. Chemicals that are rated Yellow for Endocrine Disruption in combination with Yellow or Red for Reproductive or Developmental Toxicity by any exposure route may not be assigned SAFER.
  - c. Ingredients that are known to be skin or respiratory sensitizers must indicate the safe use levels that must not be exceeded in a product formulation.
  - d. Ingredients on the Cradle to Cradle Certified Restricted Substances List (C2CC RSL) v4.0 for any product type must indicate the safe use or restricted concentration levels that must not be exceeded in a product formulation.

## 2.6 Product Entries in ChemFORWARD

For trade name ingredients that qualify for ChemFORWARD SAFER, Assessors will create a DRAFT trade name ingredient/product entry in the ChemFORWARD application for initial review by the trade name ingredient manufacturer using the ChemFORWARD SAFER Product Creation Guidance.

The entry is not visible to other ChemFORWARD subscribers.

ChemFORWARD will assign appropriate search tags (i.e., function, application, etc.).

ChemFORWARD will review the product entry with the manufacturer and obtain approval to make it visible in the ChemFORWARD application and on the ChemFORWARD website.

## 2.7 Licensing

ChemFORWARD verifies the completeness of the product entry and solicits approval by the manufacturer of the trade name ingredient information in the ChemFORWARD application.

The manufacturer signs the ChemFORWARD SAFER licensing agreement including acknowledgment of the terms of use of the ChemFORWARD SAFER marks (Appendix I) and indicates approval of the trade name ingredient display.

Once the license agreement is signed and the trade name ingredient display is approved, ChemFORWARD makes the display visible in the ChemFORWARD application and assists with marketing of the ChemFORWARD SAFER ingredient.

## 2.8 Marketing and Amplification

Qualifying products will be posted on the ChemFORWARD website with an overview listing that is free and publicly available. A more detailed listing will be available to subscribers of the ChemFORWARD chemical optimization platform. ChemFORWARD will also:

- Promote the SAFER listing with a news item on the ChemFORWARD website and on appropriate social media sites such as LinkedIn.
- Distribute the new listings to amplification partners including ChemSec Marketplace, Covalo, and Novi Connect.

The manufacturer may use the trademark to promote their product with customers in accordance with trademark usage guidelines and the license agreement.

### Table 4. ChemFORWARD SAFER Process Workflow

Steps	ROLES		
	Manufacturer	Assessor	ChemFORWARD
Subscribe to CF	X		X
Engage Assessor for cost estimate	X	X	
Disclose to Assessor under NDA	X	X	
Review chemicals with qualified hazard bands in CF		X	
Generate new CHAs in CF as needed; (including verification)		X	X
Complete internal CF SAFER Report		X	
Submit redacted CF SAFER Report to CF		X	X
Prepare trade name ingredient entry in CF	X	X	
Review and approve trade name ingredient entry in CF	X		X
Sign license agreement and trade name terms of use	X		X
Market and amplify ingredient status	X		X

---

# Appendix I

## ChemFORWARD SAFER Mark



Trademark License Agreement and Use Guideline [LINK](#)

## Appendix II

### Trade Name Ingredient Display in ChemFORWARD

[< Back](#)



**CELLOSIZETM** Texture E4M PRM Hydroxypropyl Methylcellulose



**Product Summary**

**Hazards**

**Product Details**

A highly substituted Hydroxypropyl Methylcellulose (HPMC) thickener that is an excellent rheology modifier, binder, film former, and water-retention agent. It yields viscosity of 4,000 cP at low addition levels. INCI Name: Hydroxypropyl Methylcellulose.

**Assessed by**

- Equilibrium Consulting

<b>Functions</b>	<b>Foam Boosting, Cleansing, Foaming, Gel Forming, Hair Fixing, Stabilizing, Lubricant, Rheology modifier, Thickener, Water Retention</b>
<b>Form</b>	Powder
<b>Applications</b>	Film former, Foam enhance, Lubricity, Thickener, Rheology modifier, Stabilize, Body wash, Face wash, Shampoo, Liquid soap, Shaving cream, Hair styling, Mousse, Color cosmetics
<b>Sustainability Claims</b>	Bio-based, Sulfate-free, Non-GMO

[< Back](#)



**CELLOSIZETM Texture E4M PRM Hydroxypropyl Methylcellulose**



Product Summary    **Hazards**    Product Details

Chemical Name	CAS	Function	Hazard Band ⓘ	Concentration
<a href="#">Sodium chloride</a>	7647-14-5		<b>B</b>	94.00 - 100.00%
<a href="#">Water</a>	7732-18-5		<b>B</b>	<1.00%
<a href="#">Cellulose, 2-hydroxypropyl methyl ether</a>	9004-65-3		<b>B</b>	<5.00%

[< Back](#)



**CELLOSIZETM Texture E4M PRM Hydroxypropyl Methylcellulose**



Product Summary    Hazards    **Product Details**

<b>Manufacturer</b>	<a href="#">The DOW Chemical Company</a>
<b>Contact</b>	Customer Information
<b>Contact Phone Number</b>	800-258-2436
<b>Contact Email Address</b>	sdsquestion@dow.com
<b>Product Information</b>	<a href="#">Product Page</a>
<b>VOC Concentration</b>	N/A
<b>Product pH</b>	No test data availablee
<b>Safe Use Limits/Restrictions</b>	N/A

---

## Appendix III

### SAFER Product Profile and Ingredient Disclosure Template v1.21\*

**\*NOTE: Use this [LINK](#) to ensure access to the most current version.**

The information on this form will be used to create a product entry for the ChemFORWARD SAFER program. Please be as comprehensive as possible. A corporate officer's signature on this form will confirm that the information is complete and accurate to the best of your knowledge.

#### Overview

The ChemFORWARD SAFER program was developed to accommodate safer ingredients that are identified by trade name rather than solely by CAS number. The ChemFORWARD platform was initially built to identify safer chemical alternatives defined by function and by CAS number. But users also need to know where to find these substances; including how to identify them by trade name and manufacturer.

Trade name ingredients may or may not be pure substances. While they contain the substance of interest, they may also contain additional chemical substances such as preservatives and impurities. These additional substances should be reviewed to ensure that a hazard score for the primary substance of interest considers all substances present in the trade name ingredient.

ChemFORWARD SAFER leverages a shared globally harmonized repository of chemical hazard assessments (CHAs). If a chemical substance in a trade name ingredient already has a chemical hazard assessment or a qualifying hazard band in the ChemFORWARD platform, then there is no need to produce a new CHA. When a CHA does not exist, the supplier can commission an assessment with an approved assessor and that new CHA will populate the globally harmonized repository. This data sharing approach speeds the evaluation of products,



---

lowers the cost to verify safer alternatives, and increases the consistency of chemical hazard assessments.

Once approved, the SAFER product is amplified through our marketing partners and the SAFER designation can be used in your marketing materials in accordance with the trademark license guidelines.

### **Product Information:**

1. Manufacturer:
2. Product Trade Name:
3. Company webpage:
4. Product webpage (if available):
5. Primary contact person:
6. Telephone:
7. Email:
8. Company Logo (attach to submission)
9. Product Description (100 words max):
10. Product Safety Data Sheet ((SDS), attach or link):
11. Product pH:
12. Product VOC concentration:
13. Product Physical Form:
14. Product Function(s) for search and tagging:
15. Product Application(s):
16. Product Sustainability Claim(s):

### **Ingredient Disclosure**

Please disclose all constituents intentionally added, plus any impurities or residuals at or above 100 ppm in the trade name ingredient as sold. Add rows to the table as necessary.

Ingredients Chemical Name	Concentration or Concentration Range (wt%)	CAS RN (if available)	Intentionally Added	Function

## Safety Documentation

Please provide any safety documentation (i.e. toxicological testing) on the ingredient. It is critical that this information be provided prior to beginning the assessment. If received after the assessment to fill data gaps or to improve hazard classifications, additional fees will likely apply.

## Purity Documentation

Please provide a Certificate of Analysis.

## Confirmation

Please confirm that this disclosure is complete and accurate:

1. Residuals and Impurities from manufacturing and storage have been disclosed and any additional requests for impurity testing have been provided (e.g. heavy metals).
2. We certify the purity is consistent with the provided certificate of analysis from batch to batch.
3. ChemFORWARD may request documentation including information needed to demonstrate compliance with all US regulations for intended use.

---

Signature: \_\_\_\_\_

Role/Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Submission Checklist:**

- Company logo
- Certificate of Analysis
- Safety documentation
- Signed disclosure form (this form)