TURNING CHEMICAL DATA INTO POSITIVE IMPACT

By creating broad access to chemical hazard data and illuminating safer alternatives, in partnership with industry, we are ending toxic chemical exposure and advancing human and environmental equity.
Bridging the chasm to safer chemistry

Lack of cost-effective, high-quality, chemical hazard data is a barrier for most companies.

The current system perpetuates high cost, inconsistencies, and slows the transition to inherently safer chemistry.
"It takes a lot more information to prove that a chemical is inherently safe than it does to prove that it is toxic. Just knowing that a chemical is a known carcinogen or that it causes skin sensitization can be enough to rule it out as a good candidate for product applications. But to be sure that it is inherently benign for its intended use means that all human and environmental impacts must be classified. A lack of hazard data does not mean that a chemical is inherently benign,"

Lauren Heine, Ph.D., Co-Founder and Director of Science & Data Integrity
Who We Are

A science-based, non-profit, value chain collaboration

Our goal is to be the trusted source for cost-effective, verified information on chemical hazards and safer alternatives.

Co-design partners include:
What we do

FIND SAFER ALTERNATIVES
Helping brands, retailers, and manufacturers transition to safer chemistry using the best science available

MARKET SAFER ALTERNATIVES
Helping suppliers communicate trusted, third-party verified, globally harmonized data to all of their stakeholders

MEASURE PROGRESS
Helping brands, retailers, and investors reduce risk and improve ROI while accelerating the transition to safer chemistry

Populating a first-of-its-kind, globally harmonized repository of chemical hazard assessments for safer alternatives
ChemFORWARD SAFER

We help suppliers to verify and amplify their "ingredient" raw materials that meet ChemFORWARD’s rigorous GHS-based criteria for safer alternatives

List and Amplify Your Safer Alternatives

Suppliers have their raw materials reviewed by a third party profiler who verifies the material disclosure, assesses substances subject to review and determines that the material presents only moderate to low hazard on human and environmental impacts according to the ChemFORWARD Safer Program Requirements
Assess your ingredient once.
Amplify your verified safer alternative.
Trusted, third-party data flows to your stakeholders through ChemFORWARD and our data partners
Benefits for suppliers

1. Stay ahead of regulations
2. Ensure human AND environmental safety
3. Build trust through third-party verified transparency
Building Trust in the Science of CHAs

ChemFORWARD’s program is unique and features:

● Built on proven existing hazard classification methodologies (starting with GHS, C2CC). ChemFORWARD is NOT a new CHA method.

● Qualified Assessors own and maintain the data they create and participate in a community of practice

● Peer review/verification by independent toxicologists who assure assessments are comprehensive, consistent, and credible - thereby increasing user trust

● A technical challenge process that promotes continuous improvement and results in a definitive dataset that justifies having one CHA per chemical

● A policy for reviewing, incorporating, and protecting unpublished private data into CHAs

● Governance that promotes inclusion, transparency, and best practices
### ChemFORWARD Chemical Hazard Bands

An actionable summary rating and a meaningful measure of progress

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

<table>
<thead>
<tr>
<th>ChemFORWARD Hazard Band</th>
<th>Program Equivalency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ChemFORWARD Hazard Band</strong></td>
<td><strong>C2CC Chemical Rating</strong></td>
</tr>
<tr>
<td>A</td>
<td>a</td>
</tr>
<tr>
<td>B</td>
<td>b or c/b</td>
</tr>
<tr>
<td>C</td>
<td>C, x/c, x/c-CMR(Cat 2), grey/c, c/b-CRE</td>
</tr>
<tr>
<td>F</td>
<td>x-PBT, x-CMR, x/c-CMR(Cat 1), x/c-E (also x*, x*-CMR and banned)</td>
</tr>
<tr>
<td>U</td>
<td>--</td>
</tr>
<tr>
<td>?</td>
<td>No CHA</td>
</tr>
</tbody>
</table>
# Designation

<table>
<thead>
<tr>
<th>Designation</th>
<th>Icon</th>
<th>Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChemFORWARD SAFER</td>
<td><img src="https://chemforward.org" alt="ChemFORWARD Logo" /></td>
<td>All chemicals (at or above the disclosure threshold) have been assessed, and all constituents have a C or higher hazard band rating*</td>
</tr>
</tbody>
</table>

*Hazard band ratings are assigned according to the [ChemFORWARD Program Description](https://chemforward.org). Skin and respiratory sensitizers are subject to additional requirements.
Program Requirements
Disclosure Requirements

Disclosure to Third-Party Assessor under NDA (as needed)

1. All intentionally added ingredients
2. All impurities and residuals at or above 100 ppm
3. A current Safety Data Sheet on file

[LINK to CF SAFER Ingredient Disclosure template]
Substances Subject to Review

Assessment and Screening Requirements

- Full ChemFORWARD chemical hazard assessments (CHAs) are required for all constituents intentionally added and those present at or above 1000 ppm if they are not already in the ChemFORWARD application;

- List Translator screening is permitted in lieu of a full CHA for constituents present at or above 100 ppm and below 1000 ppm.
  - LT-1 chemicals would be F
  - LT-P1 and LT UNK would not affect the listed status
Program Process
1. Disclosure

- Manufacturer contacts Assessor to review trade name ingredients
- Enters into NDA with third-party assessor of your choice
- Provides ingredient disclosure to CF assessor based on program rules
  - All constituents intentionally added
  - All constituents at or above 100 ppm
  - Assessor requests appropriate documentation (attestation, test results)
- Assessor provides a cost estimate to verify disclosure and assess the product based on constituents disclosed.
2. Assessment

- Assessor searches for existing chemical ratings (hazard bands) for all chemicals present in the ingredient at or above disclosure and assessment thresholds
  - Assessor uses existing hazard ratings for chemicals already in ChemFORWARD
  - Assessor produces new CHAs and posts them in ChemFORWARD for chemicals without ChemFORWARD hazard bands

- Assessor determines if the ingredient qualifies for ChemFORWARD Safer (all chemicals have C or higher hazard bands)
3. Posting and Amplifying

- **Approval and Submission**
  - Manufacturer reviews the final assessment and recommendation for ChemFORWARD SAFER with the assessor before it is released to ChemFORWARD
    - Manufacturer has right-of-refusal to stop the process
    - Assessor submits results to ChemFORWARD

- **Terms of use**
  - Manufacturer signs license agreement for ChemFORWARD SAFER marks
  - Manufacturer pays modest 2-year license fee to ChemFORWARD for use of marks

- **Outreach and Amplification**
  - SAFER products will be posted and promoted on the ChemFORWARD platform and website
  - SAFER products will be pushed to our data partners: Covalo, ChemSec Marketplace, and NOVI to begin
SAMPLE PRODUCT is a versatile non-phthalate plasticizer for PVC and other polar polymers, especially intended for use in applications that involve intimate human contact. Therefore, it is the ideal solution when it comes to high safety and quality standards for use in many sensitive goods such as: toys, medical devices, food contact applications, sport leisure products, flooring, wallcovering. Thanks to its excellent toxicological profile and the low migration rate, the plasticizer is approved and certified by many authorities and institutions worldwide.

SAMPLE PRODUCT is a colorless, clear and practically anhydrous liquid with a hardly noticeable odor. It is soluble in the usual organic solvents and is miscible and compatible with all of the monomeric plasticizers commonly used in PVC. SAMPLE PRODUCT is almost insoluble in water.

100% of the fossil-based raw materials required for the manufacturing of this product were replaced by biomass certified as sustainable. The biomass is allocated according to the certified biomass balance approach.
Sample Entry
Hazards

New Trade Name Product

Product Summary  Hazards  Product Details

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS</th>
<th>Function</th>
<th>Hazard Band</th>
<th>Concentration</th>
<th>C2CC Roll-up</th>
<th>GHS Health</th>
<th>GHS Enviro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strontium Oxide</td>
<td>1312-11-0</td>
<td>Base Polymer</td>
<td>B</td>
<td>33.5-35.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proprietary Ingredient</td>
<td>N/A</td>
<td>Monomer</td>
<td>C</td>
<td>19%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waxes and Waxy substances, jojoba</td>
<td>61789-91-1</td>
<td>Impurity</td>
<td>B</td>
<td>37-38%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
New Trade Name Product

Product Summary  Hazards  Product Details

Manufacturer: Company Name
Contact: Joe Smith
Contact Phone Number: 800-555-1212
Contact Email Address: joe.smith@companyname.com

Documents:
- Safety Data Sheet
- Technical Data Sheet

External Links: Product Page
VOC Concentration: 1 mg/L
Product pH: 1 mg/L
Functions: Flame Retardant, Plasticizer
Contact Us

Stacy Glass  
Executive Director  
stacy@chemforward.org

Lauren Heine, PhD  
Director of Science  
lauren@chemforward.org

Chris Bartlett, PhD  
Lead Toxicologist  
chris@chemforward.org