



# GreenScreen Certified™





# Standard for Textile Chemicals

**Version 2.2 • July 2022**



Clean Production Action designs and delivers strategic solutions for green chemicals, sustainable materials and environmentally preferable products.

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# Contents

## OVERVIEW

1. Purpose	2
2. Scope	2
3. Service Options for Certification	2
4. Terms and Definitions	3

## CERTIFICATION REQUIREMENTS

5. Summary of Requirements	6
6. Product Inventory	7
6.1 Additives Inventory	7
6.2 Chemical Inventory	7
7. GreenScreen Hazard Evaluation	8
7.1 Bronze Screening Requirements	8
7.2 Silver, Gold and Platinum Screening Requirements	8
7.3 Gold Assessment Requirements	8
7.4 Platinum Assessment Requirements	9
8. Restricted Substances List (RSL)	9
9. Analytical Testing Requirement for Total Fluorine	10
10. Certification Amendments	12
10.1 Specified Chemicals with Form-Specific Hazards	12
11. Documentation Requirements	13
12. Certification and Licensing	13
13. Certification, Labeling, and Duration	13
13.1 Disclaimer of Liability	13
13.2 Certification Mark	13
13.3 Use with Other Claims	14
13.4 Duration of Certification	14



## **ANNEXES**

<b>Annex 1</b>	<b>Certification Process Steps with Clean Production Action</b>	<b>15</b>
<b>Annex 2</b>	<b>Certification Process Steps with GreenScreen Certified Reviewer</b>	<b>16</b>

## **LIST OF TABLES**

<b>Table 1</b>	<b>Summary of Certification Requirements</b>	<b>6</b>
<b>Table 2</b>	<b>Greenscreen Certified Textile Chemicals Restricted Substances List (RSL) Requirements</b>	<b>9</b>
<b>Table 3</b>	<b>Substances with Known Form-Specific Hazards</b>	<b>12</b>



## Version 2.2 Revision Summary

This v2.2 update includes the following modifications:

- **New product category added to Scope** (See 2.1.2 and 2.1.3).
- **Product-Level Testing requirements for total organic fluorine** (applies to fabrics and molded fiber only).
- **Updated definition to PFAS**, and other editorial changes that do not affect the overall requirements of the standard.

## Acknowledgments

The GreenScreen Certified™ Standard for Textile Chemicals provides the means for formulators of commercial chemicals used in textile manufacturing to communicate their use of preferred chemicals using the GreenScreen® for Safer Chemicals hazard assessment tools. The intention is to ensure value, usability, and relevance for industry professionals wanting to excel in offering preferable chemical formulations used in textile manufacturing.

Clean Production Action developed the GreenScreen Certified Standard for Textile Chemicals version 1.0 in consultation with a diverse group of stakeholders, including Clean Production Action's Licensed GreenScreen Profilers and Steering Committee members, formulators, brands, external standard setting organizations, consultancies, and other environmental groups. Version 2.0 of the standard included updates to the Restricted Substances List to align with the most recent version of the Zero Discharge of Hazardous Chemicals (ZDHC) Manufacturing Restricted Substances List (MRSL) and to add the class of per- and polyfluoroalkyl substances (PFAS).

This effort would not have been possible without the help of the technical peer reviewers who devoted their time and considerable expertise to the development of this standard. In producing the final standard, we thank Ellen Goldberg, Beverly Thorpe, and Kayla Williams of Clean Production Action for their efforts in developing legal terms of use and website resources necessary to implement and launch the certification program.

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# OVERVIEW

## 1. PURPOSE

- 1.1** This guidance document outlines the requirements and process for the GreenScreen Certified Standard for Textile Chemicals administered by Clean Production Action.
- 1.2** Clean Production Action awards a GreenScreen Certified Certification Mark via license to manufacturers and suppliers who have paid the required license fee and demonstrated that their product(s) meet one of the levels of increasingly stringent certification requirements described herein.

## 2. SCOPE

- 2.1** The GreenScreen Certified Standard for Textile Chemicals is for the evaluation of commercially available chemical formulations used in textile manufacturing, including but not limited to:
  - 2.1.1** Chemical formulations and materials used during textile production processes, including but not limited to fiber, yarn, textile, garment, and apparel manufacturing, processing, and finishing operations;
  - 2.1.2** Treatments, including aftermarket treatments, to impart stain release/resistance, water resistance and/or grease resistance (durable water repellents (DWRs) are an example of a treatment); and
  - 2.1.3** Aftermarket cleaning products for textiles including but not limited to textiles used in indoor and outdoor furnishings, home textiles, apparel, and footwear.
- 2.2** The Applicant for certification should contact Clean Production Action ([greenscreen@cleanproduction.org](mailto:greenscreen@cleanproduction.org)) if questions arise as to whether certain products are within the scope of this standard.
- 2.3** GreenScreen Certified™ Certification Marks do not guarantee adherence to any other external quality, performance, or regulatory requirements.

## 3. SERVICE OPTIONS FOR CERTIFICATION

The process for achieving certification involves both a review of the product against the criteria and issuance of the certification. The review of the product can be done by a GreenScreen Certified Reviewer or Clean Production Action. The process steps vary for each of these options and are described in detail in [Annex 1](#) and [Annex 2](#), respectively. Issuance of the certification is by Clean Production Action.

Compiling necessary data for certification requires intensive supply chain engagement that is outside the scope of the certification process. These services are offered by GreenScreen Certified Reviewers and Clean Production Action. Contact a GreenScreen Certified Reviewer or Clean Production Action for more information.



## 4. TERMS AND DEFINITIONS

TERM	DEFINITION
<b>Additive</b>	A chemical compound, chemical substance, or mixture of chemical substances intentionally added to impart a desired characteristic to a product or serve a particular function in the product (e.g., surfactant, solvent, stabilizer, or colorant). Additives can be polymeric or non-polymeric in nature.
<b>Aftermarket</b>	Treatments applied to products after the product is purchased. Aftermarket treatments do not include products marketed or sold exclusively for use at industrial facilities during the product manufacturing.
<b>Applicant</b>	An organization or entity that submits a product formulation or formulations for certification according to a specific GreenScreen Certified™ standard.
<b>Authorized GreenScreen Assessment</b>	A GreenScreen assessment completed by an Authorized GreenScreen Practitioner™ for his or her registered organization only. An Authorized assessment can be upgraded to a Certified assessment through Clean Production Action and would then qualify for use in the GreenScreen Certified standard.
<b>Authorized GreenScreen Practitioner™</b>	An individual who has completed advanced training in the GreenScreen method, has demonstrated scientific expertise and capacity to perform a high-quality GreenScreen assessment, and is licensed by Clean Production Action to conduct GreenScreen assessments for the registered organization.
<b>CASRN</b>	Chemical Abstracts Service Registry Number (also known as “CAS#”).
<b>Catalyst</b>	Chemical compound or substance that causes or accelerates a chemical reaction without itself being affected.
<b>Certification Level</b>	One of the levels of requirements for safer chemicals in products specified in the GreenScreen Certified Standards.
<b>Certified GreenScreen Assessment</b>	A GreenScreen assessment completed by a Licensed GreenScreen Profiler or Clean Production Action Consulting Toxicologist (including an assessment performed by an Authorized GreenScreen Practitioner and upgraded to a Certified assessment through Clean Production Action). Note: The term “Certified GreenScreen Assessment” is distinct from a GreenScreen Certified Product. The former refers to the assessment of an individual chemical using the GreenScreen method (see <a href="https://www.greenscreenchemicals.org/learn/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</a> ). The latter refers to a product that Clean Production Action has verified to meet the GreenScreen Certified Standard for the relevant product category and the manufacturer has signed a license agreement with Clean Production Action.
<b>Chemical</b>	See Chemical Compound.
<b>Chemical Compound</b>	A molecule (or molecular entity) composed of atoms of more than one element held together by chemical bonds and typically identified by CASRN. Synonyms used in this guidance include “chemical” or “compound.”
<b>Chemical Mixture</b>	“A mixture or a solution composed of two or more substances in which they do not react.” (GHS Rev. 8; <a href="https://unece.org/ghs-rev8-2019">https://unece.org/ghs-rev8-2019</a> , accessed 3/28/21)
<b>Chemical Substance (Substance)</b>	“A chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent, which may be separated without affecting the stability of the substance or changing its composition” (REACH Article 3(1); <a href="http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html">http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html</a> , accessed 3/28/21). A chemical substance is comprised of constituents (i.e., chemical compounds and/or chemical elements), and a chemical substance can be a component within a mixture.
<b>GreenScreen Assessment</b>	The assessment of an individual chemical using the GreenScreen method (see <a href="https://www.greenscreenchemicals.org/learn/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</a> ). An Authorized GreenScreen assessment and a Certified GreenScreen assessment are two types of GreenScreen assessments and reflect the type of assessor producing the assessment.



TERM	DEFINITION
<b>GreenScreen Benchmark™ Score</b>	A score that is assigned to a chemical evaluated using the GreenScreen® for Safer Chemicals method. GreenScreen Benchmark scores range from 1 to 4, with each increasing Benchmark score defining progressively less hazardous chemicals. (GreenScreen Guidance and Resources; <a href="https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads">https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads</a> )
<b>GreenScreen Certified™ Certification Marks</b>	The trademarked logos and phrase that may be licensed by Clean Production Action for use by a successful Applicant to describe the products that meet all of the requirements of a specified level of the GreenScreen Certified™ Standard for the relevant product category and as verified and approved by Clean Production Action.
<b>GreenScreen Certified Reviewer</b>	An organization approved by Clean Production Action to review products against the GreenScreen Certified standards. Reviewers also offer supply chain engagement services. Reviewers may be Licensed GreenScreen Profilers or Licensed GreenScreen Consultants.
<b>GreenScreen List Translator™</b>	A streamlined chemical hazard assessment method developed by Clean Production Action that produces a GreenScreen List Translator score. (GreenScreen Guidance and Resources Section IV; <a href="https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads">https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads</a> )
<b>GreenScreen List Translator™ Score</b>	A score that is assigned to a chemical screened against all GreenScreen Specified Lists using GreenScreen List Translator guidance. List Translator scores include LT-1, LT-P1, LT-UNK, and NoGSLT. (GreenScreen Guidance and Resources Section IV; <a href="https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads">https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads</a> )
<b>Impurity</b>	“An unintended constituent present in a substance as manufactured. It may, for example, originate from the starting materials or be the result of secondary or incomplete reactions during the production process. While it is present in the final substance, it was not intentionally added. In most cases impurities constitute less than 10% of the substance.” (ECHA; <a href="https://echa-term.echa.europa.eu">https://echa-term.echa.europa.eu</a> , accessed 3/28/21)
<b>Intentionally Added</b>	Included to serve a desired function; not an impurity or a residual.
<b>Licensed GreenScreen Profiler</b>	An organization with expertise in toxicology and comparative chemical hazard assessment that is licensed by Clean Production Action to provide GreenScreen assessments for a fee to clients (see <a href="https://www.greenscreenchemicals.org/assess/profilers">https://www.greenscreenchemicals.org/assess/profilers</a> ).
<b>Monomer</b>	“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.” (REACH Article 3(6); <a href="http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html">http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html</a> , accessed 3/28/21)
<b>Non-Disclosure Agreement (NDA)</b>	A legally binding agreement between organizations for the purpose of protecting confidential information shared during the certification process.
<b>Per- and Polyfluoroalkyl Substances (PFAS)</b>	A class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.” (SB 5135, Safer Products for WA ACT; <a href="http://lawfilesexp.leg.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Passed%20Legislature/5135-S.PL.pdf?q=20210811124919">http://lawfilesexp.leg.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Passed%20Legislature/5135-S.PL.pdf?q=20210811124919</a> , accessed 6/6/22)
<b>Polymer Mixture</b>	A mixture comprised of a polymer substance and unreacted monomer(s).
<b>Polymer Species</b>	“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. Polymer species comprise the following: (a) a simple weight majority (i.e., 50%) of molecules containing at least three monomer units which are covalently bound to at least one other monomer unit or other reactant; or (b) less than a simple weight majority of molecules of the same molecular weight.” In the context of this definition a “monomer unit” means the reacted form of a monomer in a polymer.” (REACH, Article 3(5); <a href="http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html">http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html</a> , accessed 3/28/21)



TERM	DEFINITION
<b>Polymer Substance</b>	A substance comprised of constituents: polymer species, additives necessary to preserve stability, and impurities deriving from the manufacturing process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition. (Based on REACH Article 3(1); <a href="http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html">http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html</a> , accessed 3/28/21)
<b>Polymeric Material</b>	A mixture of one or more polymer substance(s) or polymer mixture(s), all other additives (i.e., intentionally added substances), and unintentional impurities.
<b>Polymeric Material Impurities</b>	Impurities imparted to the polymeric material from a source other than the intentionally added components.
<b>Product</b>	A finished good composed of additives and/or chemical substances.
<b>Product Inventory Form</b>	A form for listing the product contents for each product being certified. See form instructions and tables for additional required information.
<b>Product Review Report</b>	The checklist and/or form used by Clean Production Action and/or GreenScreen Certified Reviewer to document evaluation of a product for compliance with all GreenScreen Certified standard requirements.
<b>Residual</b>	Chemical or substance added upstream in the supply chain to serve a desired function:  1) In the additive or homogeneous material but not in the final product as placed on the market; or 2) In the production of the additive or homogeneous material.  For example, this may refer to substances included in a manufacturing process to aid processing, as well as inputs to a reaction process such as reagents, catalysts, monomers, or preservatives for raw materials.
<b>Residual Monomer</b>	An unintended impurity in a polymer substance (GreenScreen Guidance and Resources; <a href="https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads">https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads</a> )
<b>Substance Impurity</b>	An impurity of a chemical substance or polymer substance, such as a residual catalyst. See also “Impurity.”
<b>Substance Role</b>	The specific purpose that a chemical serves in a material, product, or process. (Adapted from Tickner, Joel A. et al, “Advancing Safer Alternatives Through Functional Substitution”, DOI: 10.1021/es503328m, Environ. Sci. Technol. 2015, 49, 742–749; <a href="https://pubs.acs.org/doi/abs/10.1021/es503328m">https://pubs.acs.org/doi/abs/10.1021/es503328m</a> , accessed 3/28/21)
<b>Unreacted Monomer</b>	An intended component in a polymer mixture. (GreenScreen Guidance and Resources; <a href="https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads">https://www.greenscreenchemicals.org/learn/guidance-and-method-documents-downloads</a> )
<b>Valid GreenScreen Assessment</b>	A GreenScreen assessment report that is not expired or has not been superseded. See GreenScreen Terms of Use for <a href="#">details</a> .



# CERTIFICATION REQUIREMENTS

## 5. SUMMARY OF REQUIREMENTS

The certification requirements for each certification level are summarized in Table 1 below. Each product must meet all requirements for the specified certification level in order to be awarded certification. See Sections 6 through 12 for complete program requirements.

TABLE 1: Summary of Certification Requirements

SECTION #	REQUIREMENTS	BRONZE	SILVER	GOLD	PLATINUM
<b>6. Product Inventory</b>	Product Inventory includes:				
	1) Additives Inventory of all additives; and 2) Chemical Inventory for all additives including: <ul style="list-style-type: none"> <li>a) Intentionally added chemical compounds and substances at any level (i.e., &gt; 0% by mass (0 ppm)) in the additive; and</li> <li>b) Impurities and residuals <math>\geq 0.01\%</math> by mass (100 ppm) in the additive.</li> </ul>	√	√	√	√
<b>7. GreenScreen Hazard Evaluation</b>	Screening with GreenScreen List Translator™:				
	1) Intentionally added chemical compounds at any level (i.e., > 0% by mass (0 ppm)) in the product.		√	√	√
	2) Impurities and residuals $\geq 0.01\%$ by mass (100 ppm) in the product.				
	Assessment with GreenScreen® for Safer Chemicals: <sup>1</sup>				
	1) Intentionally added substances at any level (i.e., > 0% by mass (0 ppm)) in the product.			√	√
	2) Impurities and residuals $\geq 0.01\%$ by mass (100 ppm) in the product.				
None of the chemical compounds screened have a GreenScreen List Translator score of LT-1.			√	√	√
None of the substances assessed have a score of GreenScreen Benchmark-1.			If available <sup>2</sup>	√	√
None of the substances assessed have a score of GreenScreen Benchmark-1, Benchmark-2, Benchmark-2 <sub>DG</sub> , or Benchmark-2 <sub>TP</sub> .				√	√
<b>8. Restricted Substances List (RSL)</b>	Product meets Restricted Substance List (RSL) requirements and thresholds.	√	√	√	√
<b>9. Product-level Analytical Testing</b>	Product meets analytical testing requirements (only for applicable treatments).	√	√	√	√

1 For the Gold level, GreenScreen assessments are not required for chemicals in the Product Inventory that are on the US Environmental Protection Agency Safer Chemical Ingredients List (SCIL).

2 For the Silver level, GreenScreen assessments are preferentially used if they are freely and publicly available.



## 6. PRODUCT INVENTORY

A Product Inventory meeting the specifications outlined in this Section is required for certification. Primary and secondary packaging used to ship the product undergoing certification is outside the certification scope.

### 6.1 Additives Inventory

**6.1.1** Identify 100% by mass of the additives in the product; and

**6.1.2** List the following for each additive in the product:

1. Additive trade name,
2. Additive supplier name,
3. Additive function, and
4. Additive percent by mass (%) in product.

### 6.2 Chemical Inventory

**6.2.1** Identify all intentionally added chemicals present that are above 0% by mass in each additive;

**6.2.2** Identify impurities and residuals present at or above 0.01% by mass (100 ppm) in the additive; and

**6.2.3** List the following information for each chemical in additive:<sup>3,4</sup>

1. Chemical name and CASRN,
2. Chemical percent by mass (%) in additive,
3. Substance role if intentionally added or residual, and
4. Description if impurity.

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<sup>3</sup> Note: Applicants can redact chemical name and CASRN only if accompanied by a valid GreenScreen Assessment. Where hazard scores are used for redacted chemical name(s), the name of the assessor and date of assessment must be provided along with a traceable alphanumeric ID number. Service options and provider directory available at: <https://www.greenscreenchemicals.org/certified/service-providers>.

<sup>4</sup> For additives that are polymeric materials, each polymer species, monomer, and catalyst in a polymer substance or polymer mixture must be listed separately. Polymeric materials include one or more polymer substances and/or polymer mixtures and potentially one or more additives.



## 7. GREENSCREEN HAZARD EVALUATION

The Product Inventory completed in Section 6 will be used to evaluate the product using GreenScreen List Translator screening and/or chemical hazard assessment using GreenScreen for Safer Chemicals, depending on the certification level.

### 7.1 Bronze Screening Requirements

**7.1.1** Products are reviewed against the Restricted Substances List only; therefore, no screening or assessment is required (See Section 8).

### 7.2 Silver, Gold, and Platinum Screening Requirements

**7.2.1** Each intentionally added chemical compound present at any level (i.e., > 0% by mass (0 ppm)) and each impurity and each residual present  $\geq 0.01\%$  by mass (100 ppm) in the product is screened with GreenScreen List Translator™.

**7.2.2** Each screened chemical compound in the Product Inventory has a GreenScreen List Translator™ score of LT-P1, LT-UNK, or NoGS.<sup>5</sup> No LT-1 scores are permitted in certified products. No GreenScreen Benchmark-1 scores are permitted in certified products when there is a freely and publicly available GreenScreen assessment.

### 7.3 Gold Assessment Requirements

**7.3.1** Each intentionally added substance present at any level (i.e., > 0% by mass (0 ppm)) and each impurity and each residual present  $\geq 0.01\%$  by mass (100 ppm) in the product are assessed with GreenScreen for Safer Chemicals, with the following exception and modification:

1. Exception: GreenScreen assessments are not required for substances listed on the [US Environmental Protection Agency Safer Chemical Ingredients List \(USEPA SCIL\)](#). Presence on the SCIL list is considered equivalent to “not GreenScreen Benchmark-1.”
2. Modification: GreenScreen assessments of polymer substances for the Gold level of certification do not require a potential chemical of high concern analysis to be conducted (see Section 15.4 in the [GreenScreen® for Safer Chemicals Hazard Assessment Guidance](#)). Instead, each residual monomer and each catalyst present  $\geq 0.01\%$  by mass (100 ppm) in the product must meet the requirement of 7.3.2.

**7.3.2** Each assessed substance has a valid GreenScreen assessment and GreenScreen Benchmark score.<sup>6</sup> No Benchmark-1 or Benchmark-1<sub>TP</sub> scores are permitted in certified products.<sup>7</sup>

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<sup>5</sup> Clean Production Action or a third-party GreenScreen Certified Reviewer screens each entry in the Product Inventory using GreenScreen List Translator. An Applicant may wish to perform an optional pre-screen of chemicals in the product inventory to determine if any have a GreenScreen List Translator score of LT-1 before applying to the program. Online tools that provide automation for GreenScreen List Translator scoring include [toxnot](#) and [Pharos Chemical and Materials Library](#).

<sup>6</sup> An Applicant may use valid Certified GreenScreen assessment(s) obtained either through public databases or through commissioning an assessment. New Certified GreenScreen assessments are generated (typically by a Licensed GreenScreen Profiler) for all remaining substances. Authorized assessments generated by Authorized GreenScreen Practitioners and upgraded to Certified assessments through Clean Production Action qualify for use in the GreenScreen Certified™ Program.

<sup>7</sup> For GreenScreen Benchmark-U, filling data gaps with the “worst-case” hazard level must result in a GreenScreen Benchmark score that fulfills the certification level requirements.

**7.4 Platinum Assessment Requirements**

**7.4.1** Each intentionally added substance present at any level (i.e., > 0% by mass (0 ppm)) and each impurity and each residual present  $\geq 0.01\%$  by mass (100 ppm) in the product are assessed with GreenScreen for Safer Chemicals.

**7.4.2** Each assessed substance has a valid GreenScreen assessment and GreenScreen Benchmark score.<sup>8</sup> No Benchmark-1, Benchmark-1<sub>TP</sub>, Benchmark-1<sub>CoHC</sub>, Benchmark-2, Benchmark-2<sub>DG</sub>, or Benchmark-2<sub>TP</sub> scores are permitted in certified products.<sup>9</sup>

**8. RESTRICTED SUBSTANCES LIST (RSL)**

All chemicals, impurities, and residuals in the Chemical Inventory are compared against the RSL and must meet the following requirements:<sup>10</sup>

- Products shall not contain RSL chemicals from chemical groups listed in Table 2 that are intentionally added at any level (i.e., > 0% by mass (0 ppm)) in the product.
- Products shall not contain RSL chemicals from chemical groups listed in Table 2 that are impurities or residuals in the product above the threshold specified in the table.

**TABLE 2: Greenscreen Certified Textile Chemicals Restricted Substances List (RSL) Requirements**

RESTRICTED CHEMICAL GROUP	CHEMICAL GROUP MEMBERS	IMPURITY AND RESIDUAL THRESHOLD
<b>Per- and Polyfluoroalkyl Substances (PFASs)</b>	<ul style="list-style-type: none"> <li>• Chemicals meeting the definition of PFAS (See <a href="#">Section 4</a>);</li> <li>• Includes but is not limited to chemicals in the <a href="#">Comprehensive Global Database of PFAS</a> by the Organisation for Economic Cooperation and Development (OECD)</li> </ul>	$\geq 0.01\%$ by mass (100 ppm) in the product
<b>Zero Discharge of Hazardous Chemicals Manufacturing Restricted Substances List</b>	<ul style="list-style-type: none"> <li>• Specified chemicals in the <a href="#">Zero Discharge of Hazardous Chemicals (ZDHC) Manufacturing Restricted Substances List version 2.0 (MRSL)</a></li> </ul>	Specified in ZDHC MRSL

<sup>8</sup> An Applicant may use valid Certified GreenScreen assessment(s) obtained either through public databases or through commissioning an assessment. New Certified GreenScreen assessments are generated (typically by a Licensed GreenScreen Profiler) for all remaining substances. Authorized assessments generated by Authorized GreenScreen Practitioners and upgraded to Certified assessments through Clean Production Action qualify for use in the GreenScreen Certified™ Program.

<sup>9</sup> For GreenScreen Benchmark-U, filling data gaps with the “worst-case” hazard level must result in a GreenScreen Benchmark score that fulfills the certification level requirements.

<sup>10</sup> The RSL is intended to reflect best practices and thresholds listed may go beyond regulations. In cases where regulatory requirements are more stringent than the RSL requirements, the regulatory requirements must be met.



## 9. ANALYTICAL TESTING REQUIREMENT FOR TOTAL FLUORINE

This requirement only applies to treatments, including aftermarket treatments, to impart stain release/resistance, water resistance and/or grease resistance (durable water repellents (DWRs) are an example of a treatment) and aftermarket cleaning products for textiles.

Given the widespread use of per- and poly-fluoroalkyl substances (PFAS) in textiles, all levels of certification require products to be tested for total fluorine. All products must meet the total fluorine requirements specified below. It is our explicit intention to lower the allowable threshold of residual PFAS as measured by total fluorine as analytical test methods are refined and able to achieve lower detection limits. We intend to revisit this threshold within the next 12-24 months with the hope of lowering the allowable threshold to 10 ppm or lower.

- 9.1** If none of the assets (equipment) used to produce the product under review for certification have any contact with PFAS at any time (i.e., production uses completely dedicated assets only), Applicant must meet Level 1 Total Fluorine Testing Requirements.
- 9.2** If one or more of the assets used to produce the product under review for certification have any contact with PFAS at any time, Applicant must meet the Level 1 and Level 2 Total Fluorine Testing Requirements.
- 9.3** Product-level total fluorine testing of all required samples shall verify total fluorine content is < 0.002% by mass (20 ppm).
- 9.4.** Total fluorine shall be determined by Combustion Ion Chromatography or Combustion followed by Ion Selective Electrode. Test method detection limit must be 0.002% by mass (20 ppm) or lower.
- 9.5** Testing laboratories are approved by Clean Production Action. Clean Production Action provides the Applicant with information necessary to submit samples for testing. Threshold exceedances due to naturally occurring fluorine may be accepted if the Applicant provides sufficient analytical testing data demonstrating the source is not from a fluorinated chemical.
- 9.6** Level 1 Total Fluorine Testing Requirements: During the certification process, product-level total fluorine testing of each product is required on three samples, one sample each from three different production lots, runs, or batches. For Applicants subject to both Level 1 and Level 2 Total Fluorine Testing Requirements, each of the three samples required for Level 1 shall be from the very start of a different run that was directly preceded by assets being used to produce PFAS-containing products.
- 9.7 Level 2 Total Fluorine Testing Requirements for each product:**
  - 9.7.1** Applicant collects an attestation from each product manufacturer that all manufacturing facilities that make the product have robust procedures in place to minimize contamination from production of PFAS-containing products to ensure every product meets the requirement of < 20 ppm total fluorine. These procedures at a minimum must include cleaning protocols for changeovers from production of PFAS-containing products to PFAS-free products, validation, sampling and testing protocols, and corrective actions. Contamination may result from shared equipment, shared recycling of process chemicals, or use of recycled raw materials.



- 9.7.2** Throughout the duration of a valid certification, total fluorine testing of each product is required on three samples per quarter (three-month period) from each manufacturing facility. Each of the samples shall be from the very start of a different run that was directly preceded by assets being used to produce PFAS-containing products. Analytical test results verifying the product contains < 20 ppm total fluorine shall be submitted to Clean Production Action once per year during annual renewal.
- 9.7.3** Throughout the duration of a valid certification, Clean Production Action shall be immediately informed if any product fiber sample contains  $\geq 20$  ppm total fluorine.



## 10. CERTIFICATION AMENDMENTS

### 10.1 Specified Chemicals with Form-Specific Hazards

#### 10.1.1 Scope

The form-specific hazard amendment applies to the substances listed in Table 3 for all levels of certification, where the hazard is specific to unbound particles of respirable size less than 10 micrometers. The toxicity of chemicals with form-specific hazards is defined as adverse effects limited to the respiratory tract, characterized as the nasal and oral cavities, pharynx, larynx, trachea, bronchi, and lungs, following inhalation exposure.<sup>11</sup>

TABLE 3: **Substances With Known Form-Specific Hazards**

CHEMICAL NAME	CASRN
Carbon black	1333-86-4
Titanium dioxide	13463-67-7
Quartz	14808-60-7
Cristobalite	14464-46-1
Tridymite	15468-32-3
Tripoli	1317-95-9

#### 10.1.2 Amendment

Chemicals in Table 3 are restricted in certified products that are  $\geq 0.01\%$  by mass (100 ppm) of the material and are airborne, unbound particles of respirable size (i.e.,  $< 10$  micrometers in diameter).

This RSL amendment allows the use of the chemicals in Table 3 in certified products provided the following requirements are met.

- 10.1.2.1** For materials sold in powder form, a certificate of analysis from a qualified laboratory must be submitted and show the material's particle size distribution is  $>10$  micrometers.<sup>12</sup>
- 10.1.2.2** For materials sold as liquids or non-powder solids (e.g., paints, joint compounds, abrasives, and fillers) the chemicals in Table 3 are acceptable for use in certified products provided that the substance does not volatilize, leach, emit, or abrade from the liquid or bulk material in the particle size and physical form of concern in normal use for the lifetime of the product.
- 10.1.2.3** All certified products that meet the amendment requirements shall bear the following warning statement:

"This product contains a form-specific hazard. The hazard is related to particulate inhalation, which is expected to occur only during manufacture or activities that result in destruction such as cutting, tearing, smashing, and disposal."

11 Adapted from [Health Product Declaration Collaborative Best Practices for Special Conditions](#) for form-specific hazards, accessed 03/28/21.

12 This requirement can be demonstrated in a sieving assessment report or certification of analysis or technical data sheet presenting the sieving distribution for the product. The particle size distribution (D0.01, D10, D50, D90) must be reported. This measure refers to the diameter sizes for which 0.01%, 10%, 50%, and 90% of particles, respectively, have diameters less than 10 micrometers. The D0.01 must be less than 10 micrometers for products or materials sold in powdered form to qualify for certification (i.e., 0.01% of the particulates have diameters less than 10 micrometers).



## 11. DOCUMENTATION REQUIREMENTS

Clean Production Action performs a certification review of the following required documents against the certification requirements. All documentation is submitted by the Applicant.

1. Product Inventory
  - a. Additive Inventories
  - b. Chemical Inventories
2. Safety Data Sheets (SDSs)
3. GreenScreen List Translator scores<sup>13</sup>
4. GreenScreen assessments and Benchmark scores (Gold and Platinum only)
5. Results from analytical testing, if applicable
6. Form-specific warning labels, if applicable

## 12. CERTIFICATION AND LICENSING

The Applicant must submit all required documentation as applicable to the certification level to Clean Production Action and sign a license agreement with Clean Production Action to be awarded certification. A license agreement is required to use a GreenScreen Certified Certification Mark on products and marketing materials.

A certificate for a certified product (or products) is issued by Clean Production Action after Verification is complete and a License Agreement is executed.

## 13. CERTIFICATION, LABELING, AND DURATION

### 13.1 Disclaimer of Liability

Clean Production Action, as the developer of this standard, shall not incur any obligations or liability for any loss or damages, including, without limitation, indirect, consequential, special, or incidental damages, arising out of or in connection with the interpretation or adoption of, reliance upon, or any other use of this Standard by any party. Clean Production Action makes no express or implied warranty of merchantability or fitness for a particular purpose, nor any other express or implied warranty with respect to this Standard.

### 13.2 Certification Mark

The appropriate GreenScreen Certified Mark may appear on the product, packaging, secondary documents, and promotional materials, only in conjunction with the certified product. Only the core design mark or the design mark with the corresponding level for which the product has achieved certification may be used in conjunction with that certified product. All of the Applicant's use of the GreenScreen Certified Mark(s) shall be in accordance with the terms of the executed license agreement. No sub-licensing of the Mark(s) is allowed.

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<sup>13</sup> GreenScreen List Translator scores are generated by a GreenScreen Certified Reviewer or Clean Production Action.



The GreenScreen Certified Mark shall not be used in conjunction with any modifying terms, phrases, or graphic images that might mislead customers as to the extent or nature of the certification. Clean Production Action must review all uses of the GreenScreen Certified Mark prior to printing or publishing.

### **13.3 Use with Other Claims**

The GreenScreen Certified Mark shall not appear in conjunction with any human health or environmental claims, unless verified and approved in writing by Clean Production Action.

### **13.4 Duration of Certification**

Certificates for Version 2 of this standard are valid through August 31, 2026 and require annual renewal. Any changes to the product during the valid certification period (e.g., changes to chemical composition) must be reported to Clean Production Action immediately and may invalidate the certificate.

After the first year of the certificate, and each subsequent year during the valid duration, the licensee must renew the certificate by: 1) paying an annual renewal fee; 2) reporting any product changes; and 3) signing a statement by the CEO or a senior manager that no changes have been made to the product's chemical composition. At the time of annual renewal, recertification will be required if changes have occurred that may affect the product inventory and hazard assessment.

Clean Production Action reserves the right to perform product testing on a certified product at any time. Results of the product testing could invalidate the certificate. Certificate holders may choose to recertify the product(s) upon expiration of the certificate.



## **ANNEX 1 – CERTIFICATION PROCESS STEPS WITH CLEAN PRODUCTION ACTION**

1. Applicant registers on the GreenScreen Certified website.
2. Applicant contacts Clean Production Action to begin the certification process.
3. Clean Production Action determines whether product(s) are within scope.
4. Clean Production Action sends the following Application materials:
  - a. Non-disclosure agreement (NDA); and
  - b. Application Form.
5. Applicant signs NDA and completes Application Form. Applicant sends signed NDA and signed Application Form to Clean Production Action.
6. Clean Production Action countersigns NDA and sends executed NDA to Applicant.
7. Clean Production Action sends Applicant an invoice.
8. Applicant pays the invoice.
9. Clean Production Action sends Applicant the following materials:
  - a. Product Inventory Form
10. Applicant submits the completed Product Inventory Form, Safety Data Sheets, and GreenScreen assessment reports (for Gold and Platinum only) for all inputs including mixtures and polymers purchased from suppliers.
11. Clean Production Action performs product and certification reviews. Clean Production Action requests additional information from Applicant as needed.
12. Clean Production Action informs Applicant of the results of the product and certification reviews.
13. Applicant informs Clean Production Action whether they will proceed with a License Agreement for products that meet the certification requirements.
14. Clean Production Action sends Applicant a License Agreement.
15. Applicant signs and returns the License Agreement.
16. Clean Production Action countersigns the License Agreement and sends an executed copy to the Applicant.
17. Clean Production Action lists certified product(s) on the Clean Production Action website and sends Applicant certificate(s) for certified product(s).



## **ANNEX 2 – CERTIFICATION PROCESS STEPS WITH GREENSCREEN CERTIFIED SERVICE REVIEWER**

### **A2.1 Product Review Process using a GreenScreen Certified Reviewer**

1. Applicant registers on the GreenScreen Certified website.
2. Applicant contacts Clean Production Action-approved GreenScreen Certified Reviewer to begin the product review process (Access the [Reviewer list](#)).
3. GreenScreen Certified Reviewer confirms with Clean Production Action that Applicant registered for GreenScreen Certified and determines whether product(s) are within scope.
4. Applicant hires GreenScreen Certified Reviewer to complete the product review.
5. GreenScreen Certified Reviewer informs Applicant of the results of the product review and provides Applicant a completed Product Review Report.

### **A2.2 Certification Process with CPA**

1. Applicant submits completed Product Review Report to Clean Production Action to initiate certification review and licensing services.
2. Clean Production Action sends Applicant an invoice.
3. Applicant pays the invoice.
4. Clean Production Action performs certification review. Clean Production Action requests additional information from Applicant or GreenScreen Certified Reviewer, as needed.
5. Clean Production Action informs Applicant of the results.
6. Applicant informs Clean Production Action whether they will proceed with a License Agreement for products that meet the certification requirements.
7. Clean Production Action sends Applicant a License Agreement.
8. Applicant signs and returns the License Agreement.
9. Clean Production Action countersigns the License Agreement and sends an executed copy to the Applicant.
10. Clean Production Action sends Applicant certificate(s) for certified product(s).



# Standard for Textile Chemicals

The GreenScreen Certified™ Standard for Textile Chemicals is for commercially available chemical formulations used in textile manufacturing. This Standard provides the means for formulators of commercial chemicals used in textile manufacturing to communicate their use of preferred chemicals per the GreenScreen® for Safer Chemicals hazard assessment method. The intention is to ensure value, usability, and relevance for industry professionals wanting to excel in offering preferable chemical formulations used in textile manufacturing.



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