



# GreenScreen Certified™





# Standard for Textile Chemicals

Version 2.0 • October 2020



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

“GreenScreen Certified™” is a trademark of Clean Production Action.

The GreenScreen Certified™ Certification Marks are licensed exclusively by Clean Production Action. Additional information about Clean Production Action, GreenScreen® for Safer Chemicals, and the GreenScreen Certified™ Standard for Textile Chemicals is available at [www.greenscreencertified.org](http://www.greenscreencertified.org).

© 2020 Clean Production Action, Inc. All rights reserved.

Reproduction or utilization of the content outside the bounds of the requirements described herein is not allowed without prior written permission from Clean Production Action.



# Contents

## OVERVIEW

1. Purpose	2
2. Scope	2
3. Service Options for Certification	2
4. Terms and Definitions	3
5. Summary of Requirements	6

## PROGRAM REQUIREMENTS

6. Product Inventory	7
6.1 Additives Inventory	7
6.2 Chemical Inventory	7
7. Chemical Hazard Assessment	8
7.1 Bronze Screening Requirements	8
7.2 Silver Assessment Requirements	8
7.3 Gold Assessment Requirements	8
8. Restricted Substances List (RSL)	9
9. Certification Amendments	10
9.1 Specified Chemicals with Form-Specific Hazards	10
10. Documentation Requirements	12
11. Verification and Licensing	12
11.1 Disclaimer of Liability	12
11.2 Certification Mark	12
11.3 Use with Other Claims	13
11.4 Duration of Certification	13



## **ANNEXES**

<b>Annex 1</b>	<b>Certification Process Steps with Clean Production Action</b>	<b>14</b>
<b>Annex 2</b>	<b>Certification Process Steps with GreenScreen Certified Service Provider</b>	<b>15</b>
<b>Annex 3</b>	<b>GreenScreen Certified Textile Chemicals Restricted Substances List (RSL)</b>	<b>16</b>
	<b>A3.1 Per- and Polyfluoroalkyl Substances (PFAS)</b>	<b>16</b>
	<b>A3.2 ZDHC Manufacturing Restricted Substances List (MRSL)</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)</b>	<b>9</b>
<b>Table 3</b>	<b>Substances with Known Form-Specific Hazards</b>	<b>10</b>



# 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 includes 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 and key contributors who devoted their time and considerable expertise to the development of this standard. In producing the final standard, we thank Ellen Goldberg of Clean Production Action for her efforts in developing legal terms of use and website resources necessary to implement and launch the certification program.

## Key Contributors

**Shari Franjevic**, Interim GreenScreen Program Manager,  
Clean Production Action

**Amy Hunsicker**, Consulting to Clean Production Action

**Mark S. Rossi**, PhD, Executive Director, Clean Production Action

**Michelle Turner**, PhD, Consulting to Clean Production Action



# OVERVIEW

## 1. PURPOSE

- 1.1** This guidance document outlines the requirements and process for the GreenScreen Certified Standard for Textile Chemicals v2.0 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 three levels of increasingly stringent certification requirements.

## 2. SCOPE

- 2.1** The GreenScreen Certified Standard for Textile Chemicals is for the evaluation of commercially available chemical formulations used in textile manufacturing.
- 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

Applicants for certification under the GreenScreen Certified Standard for Textile Chemicals v2.0 may work with either Clean Production Action or a Third-Party GreenScreen Certification Service Provider to complete the certification process. The process steps vary for each and are described in detail in [Annex 1](#) and [Annex 2](#), respectively.

The Clean Production Action certification process option is intended for Applicants who are independently able to complete the Product Inventory requirements without a high degree of services relating to obtaining confidential business information from the supply chain.



## 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>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 his or her 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 three levels of requirements for safer chemicals in product formulations specified in the GreenScreen Certified Standard for Textile Chemicals v2.0: Bronze, Silver, and Gold.
<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/assess/assess-gs-details">https://www.greenscreenchemicals.org/assess/assess-gs-details</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. 7; <a href="https://www.unece.org/trans/danger/publi/ghs/ghs_rev07/07files_e0.html">https://www.unece.org/trans/danger/publi/ghs/ghs_rev07/07files_e0.html</a> , accessed 4/17/2018)
<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 9/20/17). 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® for Safer Chemicals method (see <a href="https://www.greenscreenchemicals.org/assess/assess-gs-details">https://www.greenscreenchemicals.org/assess/assess-gs-details</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.
<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/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</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 (Bronze, Silver, or Gold) of the GreenScreen Certified™ Standard for the relevant product category and as verified and approved by Clean Production Action.



TERM	DEFINITION
<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/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</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/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</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 8/27/20)
<b>Intentionally Added</b>	Included to serve a desired function; not an impurity.
<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. ( <a href="http://greenscreenchemicals.org/professionals/profilers">http://greenscreenchemicals.org/professionals/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 8/27/20)
<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>	<p>A class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom. The class includes all structural groups defined by Buck et al, 2011, as well as all new structural groups identified by OECD in 2018. The structural groups defined by Buck et al, 2011, include:</p> <ol style="list-style-type: none"><li>1) Perfluoroalkyl substances: Substances for which all hydrogen atoms on all carbon atoms (except for carbons associated with functional groups) have been replaced by fluorine atoms;</li><li>2) Polyfluoroalkyl substances: Substances for which all hydrogen atoms on at least one (but not all) carbon atom have been replaced by fluorine atoms;</li><li>3) Fluoropolymers: Carbon-only polymer backbone with fluorine atoms directly bound;</li><li>4) Perfluoropolyethers: Carbon and oxygen polymer backbone with fluorine atoms directly bound to carbon atoms; or</li><li>5) Side-chain fluorinated polymers: Variable composition non-fluorinated polymer backbone with fluorinated side chains.</li></ol> <p>Additional groups defined by OECD, 2018, include perfluorinated alkanes, perfluorinated alkenes, perfluoroalkyl alcohols, perfluoroalkyl ketones, semi-fluorinated ketones, side-chain fluorinated aromatics, some hydrocarbons, hydrofluoroethers, and hydrofluoroolefins.</p> <p>(Buck, R. et al, 2011. Perfluoroalkyl and Polyfluoroalkyl Substances in the Environment: Terminology, Classification, and Origins. Integrated Environmental Assessment and Management 7(4): 513–541; <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3214619/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3214619/</a>, accessed 8/27/20; and Environment Directorate OECD, Toward a New Comprehensive Global Database of Per- and polyfluoroalkyl substances (PFAS): Summary Report on Updating the OECD, 2007, List of Per- and polyfluoroalkyl substances (PFAS), OECD Environment, Health and Safety Series on Risk Management No. 39, Paris 2018; <a href="http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO(2018)7&amp;doclanguage=en">http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO(2018)7&amp;doclanguage=en</a>, accessed 8/27/20)</p> <p>The reference list of PFASs by chemical abstract service number as defined by the Organisation for Economic Development (OECD) is available here: <a href="http://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals">http://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals</a>, accessed 8/27/20.</p>
<b>Polymer Mixture</b>	A mixture comprised of a polymer substance and unreacted monomer(s).





TERM	DEFINITION
<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 8/27/20)
<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 8/27/20)
<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 parts, homogeneous materials, and/or chemical substances. A product may function as part of another product. A product may be made of one or more homogeneous materials.
<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>Proprietary Ingredient</b>	Ingredients in products that are confidential to the manufacturer or producer.
<b>Residual Monomer</b>	An unintended impurity in a polymer substance. (GreenScreen Guidance and Resources; <a href="https://www.greenscreenchemicals.org/learn/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</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 8/27/20)
<b>Third-Party GreenScreen Certification Service Provider</b>	An organization approved by Clean Production Action to provide product inventory management (including supply chain research and handling confidential business information) and to generate all required documentation for a GreenScreen Certified Applicant. Service Providers may be Licensed GreenScreen Profilers or Licensed GreenScreen Consultants.
<b>Unreacted Monomer</b>	An intended component in a polymer mixture. (GreenScreen Guidance and Resources; <a href="https://www.greenscreenchemicals.org/learn/full-greenscreen-method">https://www.greenscreenchemicals.org/learn/full-greenscreen-method</a> )
<b>Valid GreenScreen Assessment</b>	A GreenScreen assessment report that is not expired or been superseded. See GreenScreen Terms of Use for details.
<b>Verification Summary Report</b>	The checklist and/or form used by Clean Production Action and/or third-party service providers to document compliance with the GreenScreen Certified standard requirements.



# PROGRAM 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 11 for complete program requirements.

TABLE 1: **Summary of Certification Requirements**

SECTION # AND TITLE	REQUIREMENTS	BRONZE	SILVER	GOLD
<b>6. Product Inventory</b>	Product Inventory includes:			
	a. Additives Inventory: 100% of additives in the product are identified; and b. Chemical Inventory: All intentionally added chemical compounds (present >0 ppm) and impurities present at or above 0.01% by mass (100 ppm) in the additives are identified	✓	✓	✓
<b>7. Chemical Hazard Assessment</b>	Intentionally added chemical compounds (>0 ppm) and impurities at or above 0.01% by mass (100 ppm) in the product are screened with GreenScreen List Translator™	✓	✓	✓
	Intentionally added substances (>0 ppm) and impurities present at or above 0.01% by mass (100 ppm) in the product are assessed with GreenScreen (i.e., GreenScreen assessment)		✓	✓
	None of the chemical compounds screened have a GreenScreen List Translator™ score of LT-1	✓	✓	✓
	None of the substances assessed have a GreenScreen score of Benchmark-1 <sup>1</sup>		✓	✓
	None of the substances assessed have a GreenScreen score of Benchmark-1, Benchmark-2, Benchmark-2 <sub>DG</sub> , or Benchmark-2 <sub>TP</sub>			✓
<b>8. Restricted Substances List (RSL)</b>	Product meets all Restricted Substances List (RSL) criteria and thresholds	✓	✓	✓

1 For Bronze, Greenscreen BM-1 assessments are used if they are freely and publicly available.



## 6. PRODUCT INVENTORY

This section describes requirements for a comprehensive product inventory of chemical compounds in textile chemical formulations. These inventory requirements apply to the finished product as placed for sale on the market. Primary and secondary packaging is not included in this certification. A Product Inventory is required to submit a product for review under the GreenScreen Certified Standard for Textile Chemicals.

### 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 of 100% of the additive(s) in the product (required for mixtures and polymers),
2. ADDITIVE SUPPLIER NAME of each additive(s) in the product,
3. ADDITIVE FUNCTION (i.e., the specific function of the additive in the product), and
4. ADDITIVE PERCENT BY MASS (%) for each additive in the 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 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>2,3</sup>

1. CHEMICAL NAME and CASRN of each chemical in the additive (must list residual monomers and catalysts for polymers),
2. CHEMICAL PERCENT BY MASS (%) for each chemical in the additive,
3. INTENTIONALLY ADDED SUBSTANCE ROLE of each chemical(s) in the additive (e.g., sizing agent, solvent, antimicrobial, pigment, binder, lubricant, etc.), and
4. IMPURITIES DESCRIPTION (note polymeric materials must include separate rows for monomers and catalyst impurities).

---

2 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>.

3 For additives that are polymeric materials, each polymer species, monomer, and catalyst in a polymer substance or polymer mixture must be listed as a separate ingredient. Polymeric materials include one or more polymer substances and/or polymer mixtures and potentially one or more additives.



## 7. CHEMICAL HAZARD ASSESSMENT

### 7.1 Bronze Screening Requirements

**7.1.1** Each intentionally added chemical compound present above 0% by mass (>0 ppm) and each impurity present at or above 0.01% by mass (100 ppm) in the product is screened with GreenScreen List Translator™.

**7.1.2** Each screened chemical compound in the Product Inventory has a GreenScreen List Translator™ score<sup>4</sup> of LT-P1, LT-UNK, and/or NoGS. No LT-1 scores are permitted in certified products.<sup>5</sup>

### 7.2 Silver Assessment Requirements

**7.2.1** Each intentionally added substance present above 0% by mass (>0 ppm) and each impurity present at or above 0.01% by mass (100 ppm) in the product are assessed with GreenScreen for Safer Chemicals.

**7.2.2** Each assessed chemical substance in the Product Inventory has a valid GreenScreen assessment<sup>6</sup> and GreenScreen Benchmark score. No Benchmark-1 scores are permitted in assessed chemical substances of certified products.<sup>7</sup>

### 7.3 Gold Assessment Requirements

**7.3.1** Each intentionally added substance present above 0% by mass (>0 ppm) and each impurity present at or above 0.01% by mass (100 ppm) in the product are assessed with GreenScreen for Safer Chemicals.

**7.3.2** Each assessed chemical substance in the Product Inventory has a valid GreenScreen assessment<sup>6</sup> and GreenScreen Benchmark score. No Benchmark-1, Benchmark-2, Benchmark-2<sub>DG</sub>, or Benchmark-2<sub>TP</sub> scores are permitted in assessed chemical substances of certified products.<sup>7</sup>

---

4 Clean Production Action 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 *Pharos* (no cost) and *Toxnot* (no cost).

5 No GreenScreen Benchmark-1 scores are permitted in assessed materials of Bronze certified products, where there is a freely and publicly available GreenScreen assessment.

6 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.

7 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.



## 8. RESTRICTED SUBSTANCES LIST (RSL)

Each chemical compound in the Product Inventory is compared to the RSL in Table 2 below. Compliance with the RSL is verified with the product inventory. The product shall not contain:

- Any intentionally added chemical compound or member of a compound group included in Table 2 present above 0% by mass (> 0 ppm) of the product; or
- Any chemical compound or member of a compound group included in Table 2 that is an impurity present in the product at or above the impurity threshold specified in Table 2.

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

CHEMICAL GROUP	PRODUCT THRESHOLD	IMPURITY THRESHOLD	DETAILED RSL REQUIREMENTS
<b>Per- and Polyfluoroalkyl Substances (PFAS)</b>	No intentionally added	0.01% by mass (100 ppm) of product	Annex 3, <a href="#">Section A3.1</a>
<b>ZDHC Manufacturing Restricted Substances List (MRSL) Version 2.0</b>	No intentionally added	Varies; Thresholds are specified in ZDHC reference	Annex 3, <a href="#">Section A3.2</a>



## 9. CERTIFICATION AMENDMENTS

### 9.1 Specified Chemicals with Form-Specific Hazards

#### 9.1.1 Scope

The form-specific hazard amendment applies to the substances listed in Table 3 for all levels (Bronze, Silver, and Gold) 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>8</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

#### 9.1.2 Amendment

The amendment allows the use of the specified chemicals in certified products provided the following requirements are met.

#### 9.1.3 Requirements

##### 1. Powder

Products containing chemicals listed in Table 3 that are present at or above 0.01% by mass (100 ppm) in airborne, unbound particles of respirable size (i.e., less than 10 micrometers in diameter) do not qualify for certification under this standard.

The substances listed in Table 3 that are found in materials sold in powder form must meet the following requirements:

- a. A certificate of analysis from a qualified laboratory must be submitted and show the product's particle size distribution,<sup>9</sup> and
- b. Chemicals listed in Table 3 are present in products less than 0.01% by mass (100 ppm) in airborne, unbound particles of respirable size (i.e., less than 10 micrometers in diameter).

##### 2. Liquid or Non-Powder Solid

<sup>8</sup> Adapted from [Health Product Declaration Collaborative Best Practices for Special Conditions](#) for form-specific hazards, accessed 03/19/20.

<sup>9</sup> 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. Respirable particles have aerodynamic diameters less than 10 micrometers. Therefore, the proportion of particles with diameters less than 10 micrometers in a given product must be restricted in order to limit the potential for respiration. The D0.01 must be less than or equal to 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 or equal to 10 micrometers). 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 substances listed in Table 3 that are found in materials sold as liquids or non-powder solids (e.g., paints, joint compounds, abrasives, and fillers) 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.

#### **9.1.4** Warning

All certified products that meet the requirements of Section 9.1.3 shall bear the following warning statement:

*“Form-Specific Hazard: This substance’s GreenScreen Benchmark™ or GreenScreen List Translator™ score and the applicable hazards are related to particulate inhalation, which is expected to occur only during manufacture, installation, maintenance, or demolition, due to activities such as sawing, sanding, grinding, or intensive cleaning.”*



## 10. DOCUMENTATION REQUIREMENTS

Verification services are performed by Clean Production Action, and include a review of the following required documentation against all certification requirements. All documentation is submitted by the Applicant.

1. Product Inventory
2. Verification Summary Report (if using a third-party)
3. Safety Data Sheets (SDSs)
4. GreenScreen Assessments and Benchmark Scores

## 11. VERIFICATION AND LICENSING

The Applicant must submit all required documentation in Section 10, as applicable to the certification level, to Clean Production Action and sign a license agreement with Clean Production Action in order to be awarded certification. A license agreement is required to use the Bronze, Silver, or Gold 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, a License Agreement is executed, and the license fee paid.

### Certification and Labeling

#### 11.1 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.

#### 11.2 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, and only the core design mark or the design mark with the corresponding level which the product has achieved 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.

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.





### **11.3 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.

### **11.4 Duration of Certification**

Certificates are valid for five years and require an 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 five year valid duration, the licensee must renew the certificate by completing the following three steps:

1. Fill out the Annual Renewal Application and pay an annual renewal fee;
2. Report any changes to the product and/or product chemical composition (e.g., change in dilution, change in ratios of existing additives or chemicals, or addition or removal of a chemical or additive); and
3. Sign a statement by the CEO or a senior manager that the product inventory is complete and accurate.

At the time of annual renewal, recertification may be required if changes have occurred that affect the product inventory and/or 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.



## 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 is 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 a Product Inventory Form
10. Applicant submits the completed Product Inventory Form, and supporting Safety Data Sheets and GreenScreen assessment reports (for Silver and Gold only) for all inputs including mixtures and polymers purchased from suppliers.
11. Clean Production Action performs verification. Clean Production Action requests additional information from Applicant as needed.
12. Clean Production Action informs Applicant of the verification results.
13. Applicant informs Clean Production Action whether they will proceed with a License Agreement for products that meet Bronze, Silver, or Gold 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 PROVIDER**

### **A2.1 Certification Review Process using a GreenScreen Certified Service Provider**

1. Applicant registers on the GreenScreen Certified website.
2. Applicant contacts Clean Production Action-approved Third-Party GreenScreen Service Provider (Service Provider) to begin the certification review process.
3. Applicant hires Service Provider to complete a certification review.
4. Service Provider informs Applicant of the certification review results in a Verification Summary Report.

### **A2.2 Verification & Licensing Process Steps with CPA**

1. Applicant submits completed Verification Summary Report and GreenScreen assessment reports (for Silver and Gold only) to Clean Production Action to initiate verification and licensing services.
2. Clean Production Action sends Applicant an invoice.
3. Applicant pays the invoice.
4. Clean Production Action performs verification. Clean Production Action requests additional information from Applicant or Service Provider, as needed.
5. Clean Production Action informs Applicant of the verification results.
6. Applicant informs Clean Production Action whether they will proceed with a License Agreement for products that meet Bronze, Silver, or Gold 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 lists certified product(s) on the Clean Production Action website and sends Applicant certificate(s) for certified product(s).



## **ANNEX 3 – GREENSCREEN CERTIFIED TEXTILE CHEMICALS RESTRICTED SUBSTANCES LIST (RSL)**

This Annex contains the detailed RSL requirements for the GreenScreen Certified Standard for Textile Chemicals v2.0. Products must meet all detailed RSL requirements listed in this Annex.

### **Detailed RSL Requirements**

#### **A3.1 Per- and Polyfluoroalkyl Substances (PFAS)**

A certified product shall not contain any intentionally added PFAS in the product, nor contain any impurities of PFAS present at or above 100 ppm in the product, where a PFAS is a chemical that meets the definition in A3.1.1 and/or is included on the reference list specified in A3.1.2 below.

**A3.1.1** PFAS Definition: see Terms and Definitions for “PFAS.”

**A3.1.2** PFAS Reference List: The Comprehensive Global Database of PFASs by the Organisation for Economic Cooperation and Development (OECD) available here: <http://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals>, accessed 8/27/20.

#### **A3.2 ZDHC Manufacturing Restricted Substances List (MRSL)**

Certified products shall not contain any chemical that is listed in on the [ZDHC Manufacturing Restricted Substances List version 2.0 \(MRSL\)](#) at or above the thresholds specified in the MRSL.



# 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.



1310 Broadway, Suite 101, Somerville, MA 02144  
[www.cleanproduction.org](http://www.cleanproduction.org) • 781.391.6743