GreenScreen® for Safer Chemicals – A Method to LEED v4 Compliance

Meet the Presenters

Lauren Heine, Ph.D.
Co-Director Clean Production Action
Director GreenScreen Program

Annie Bevan CSM, LEED Green Associate
Certification and Operations Manager
GreenCircle Certified, LLC

Objectives

- How GreenScreen can help manufacturers identify and develop products that can contribute to earning LEED v4 Material Ingredient Disclosure and Optimization credits through the debut of their "How To" document
- How the partnership with GreenScreen and GreenCircle will simplify the process for LEED project teams, architects, designers, and manufacturers
- How to join the newly formed consensus group that will test and refine the "How To" document and the LEED v4 compliance and the third-party certification processes

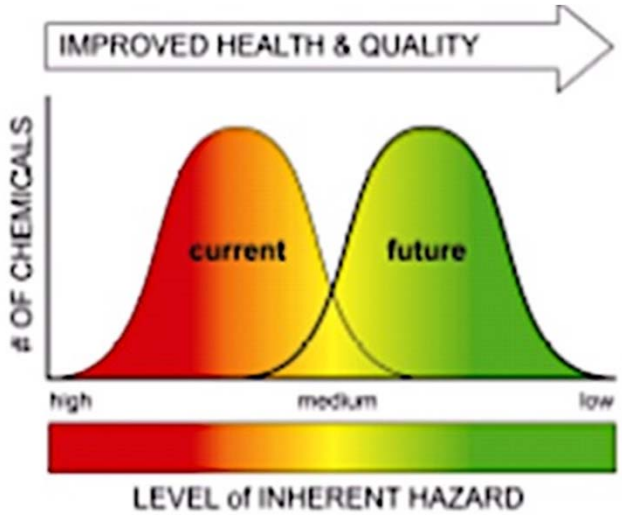
What is GreenScreen?

- A method for comparative chemical hazard assessment (CHA)
- Assesses the inherent hazards of chemicals and their potential effects on human health and the environment
- Used by businesses like Hewlett-Packard, governments like Washington State, and NGOs such as Healthy Building Network in their Pharos Project.

GreenScreen for Safer Chemicals

A method for Chemical Hazard Assessment (CHA) developed by Clean Production Action

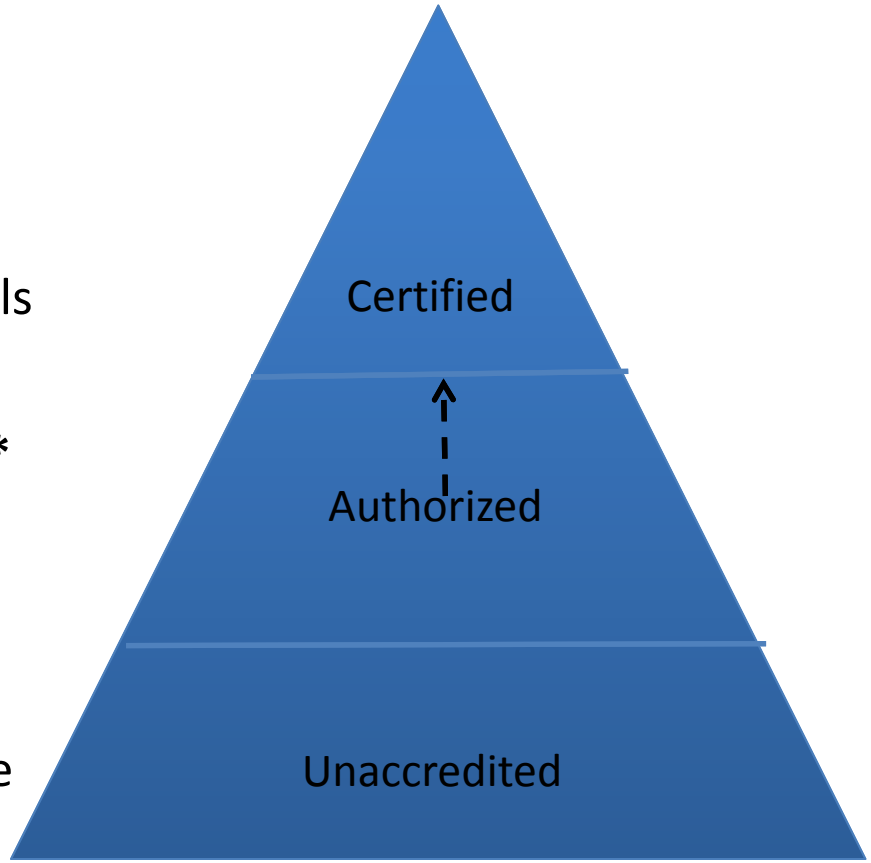
- Fully transparent
- Scientifically based
- Simplifies complex information
- Freely downloadable*
- Becoming a global standard
- Applies to chemicals, materials and products



*All supporting resources at: www.greenscreenchemicals.org

Types of GS Assessors and Assessments

- **Certified:** These are GS assessments performed by **Licensed GS Profilers** (Toxicology firms).
  - Highest quality; may be used to meet requirements of standards and ecolabels
- **Authorized:** These are GS assessments performed by **Authorized GS Practitioners*** (Individuals)
  - May be upgraded to Certified GS assessments with review by Profilers
- **Unaccredited:** GS method is freely available for use by **Anyone** for internal purposes



GS Practitioners are accredited for successfully completing the GS Practitioner Program; a virtual, instructor- led course that includes Advanced Topics and a Practicum to complete two high quality GS assessments. Next course begins May 15 2015.
See: http://www.greenscreenchemicals.org/training/certified-practitioner-program

Who Uses GreenScreen?

MATERIAL IQ

GC3 Green Chemistry & Commerce Council

How is GreenScreen Used?

- Regulations
- Corporate Policy, Reporting and Management
- **External Standards & Technology**
  - USGBC LEED v4
- Material Selection - Design & Re-Design
- Procurement
- Process Chemicals
- Occupational Health & Safety
- Training & Education
- Research

GreenScreen (GS) Tools

GS List Translator (GS LT)

- High level review based on hazard lists only
- Doesn't require toxicology expertise
- Generate LT Scores (LT-1, LT-P1, LT-UNK)
- Automated tools
  - Pharos
  - HPD Builder
  - GreenWERCS with GS List Translator

Full GreenScreen

- Comprehensive review
- Can identify safer chemicals
- Generate Benchmark Scores (1,2,3,4 or U)
- Requires technical expertise such as Licensed Profilers (toxicologists)

Full GreenScreen Assessments Always Trump GS List Translator Results

LEED and GreenScreen

- LEED BD+C: New Construction | v4 - LEED v4; Building product disclosure and optimization - material ingredients
- LEED ID+C: Commercial Interiors | v4 - LEED v4; Building product disclosure and optimization - material ingredients
- LEED BD+C: New Construction | v3 – LEED 2009; MRpc76 – Material ingredient reporting

Two Paths to LEED v4 Credit

Material Ingredient Credits


Nutrition Facts

Material Ingredient Reporting

MR c4: Building Product Disclosure and Optimization – Material Ingredient Reporting

- Option 1. Material Ingredient Reporting (Disclosure)
  - Product ingredients fully inventoried to 1000 ppm.
  - Goal is to drive greater transparency in reporting and does not preclude the presence of Benchmark 1 chemicals in a product

Option 1. Material Ingredient Reporting (1 point)

- Use at least 20 different permanently installed products from at least five different manufacturers that use any of the following programs to demonstrate the chemical inventory of the product to at least 0.1% (1000 ppm):
- Options include:
  1. **Manufacturer Inventory**
     - **Publicly disclose non-proprietary ingredients;**
     - **Publicly disclose role, amount and GreenScreen Benchmarks for proprietary ingredients**
  2. Health Product Declaration
  3. Cradle to Cradle- (v2 Basic, v3 Bronze)

Material Ingredient Reporting (1 Point)

	Ingredient Disclosure to 0.1% (1000ppm)	Hazard Disclosure using GS List Translator
HPD		
For fully disclosed ingredients	YES	YES
For trade secret ingredients	NO	YES
Manufacturer Inventory		
For fully disclosed ingredients	YES	**NO**
For trade secret ingredients	NO	YES

Material Ingredient Optimization

MR c4: Building Product Disclosure and Optimization – Material Ingredient Optimization

- Option 2. Material Ingredient Optimization
  - This LEED credit is for products with chemical ingredients that have been fully inventoried to 100 ppm.
  - For the Optimization credit, the goal is to drive the use of building products that contain inherently safer chemicals.
  - Two Levels
    - 100% value
      - No GS Benchmark 1 chemicals based on GS List Translator only
      - C2C certification (v2 Gold or v3 Silver)
    - 150% value
      - No GS Benchmark 1 chemicals based on full GreenScreen method
      - C2C certification (v2 Platinum or v3 Gold or Platinum)

Option 2: Material Ingredient Optimization (1 Point)

Ingredients assessed to 0.01% (100ppm)

Two ways to demonstrate the absence of Benchmark 1 hazards in products

1. **Products valued at 100% of cost**

- No GreenScreen Benchmark 1 Chemicals
  - Based on GreenScreen List Translator only

2. **Products valued at 150% of cost**

- No GreenScreen Benchmark 1 Chemicals
  - Based on full GreenScreen assessment
  - Licensed GreenScreen Profilers can serve as a valued third parties by performing either GS List Translator screens or full GreenScreen assessments

Licensed GreenScreen Profilers

Profilers support manufacturers with Certified GreenScreen assessments and LEED submittal documentation

Margaret H. Whittaker, Ph.D., M.P.H., E.R.T., D.A.B.T., UK/EU
ToxServices LLC
www.toxservices.com

Nancy Linde, Managing Toxicologist
NSF International
www.nsf.org

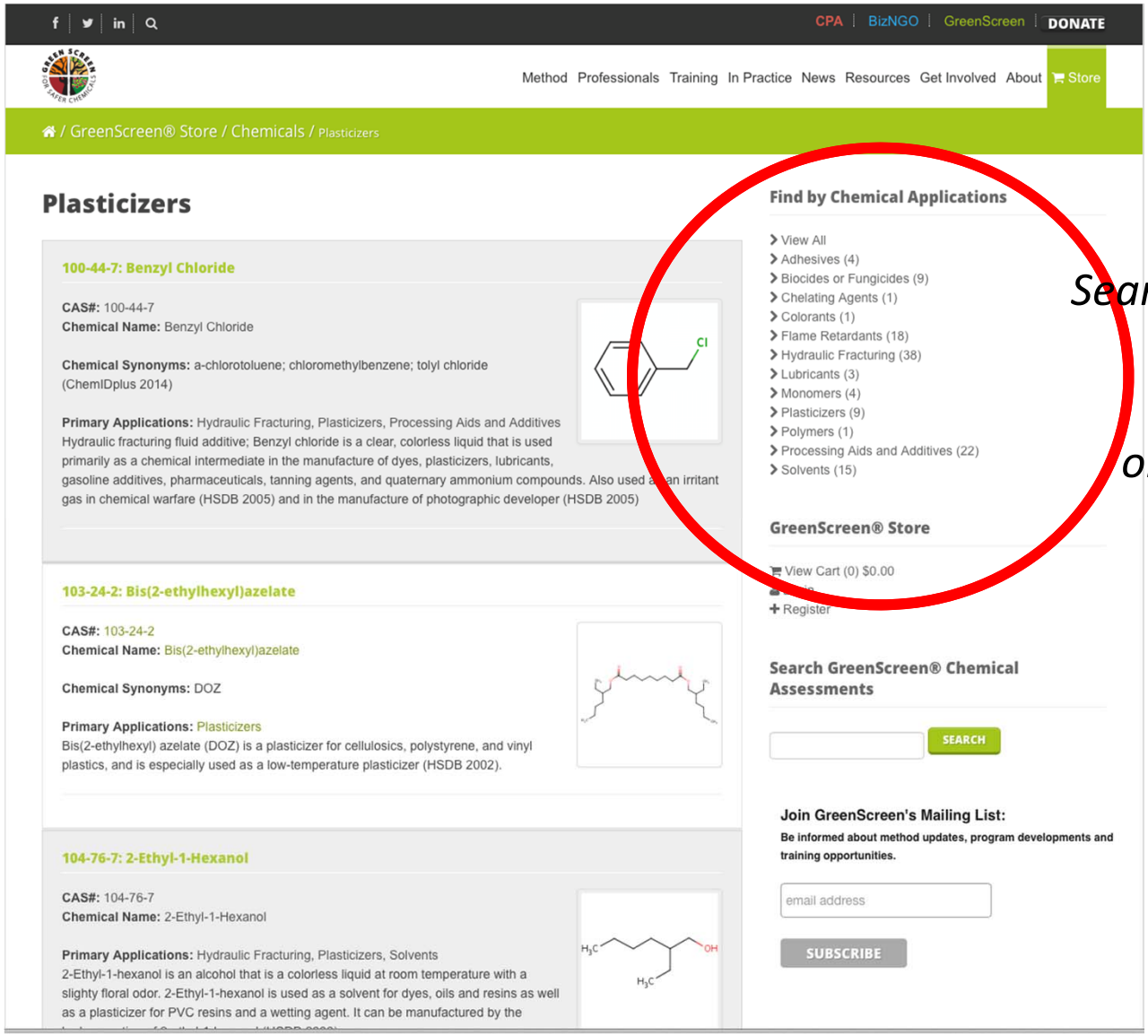
Patricia Beattie, PhD, DABT
SciVera LLC
www.scivera.com/services.php

Challenges

- GreenScreen assessments can be resource intensive and/or not readily available

- How do we help people comply?

Solutions: GreenScreen Store Provides Free or Low Cost Assessments



Search by chemical name, CAS number or application

GreenScreen and GreenCircle Partnership

- GreenScreen/Clean Production Action and GreenCircle Partnership
- Simplify and streamline this credit for LEED project teams, architects, and designers
- Certify
  - Products with Manufacturer Inventories
  - Products that do not contain GreenScreen Benchmark 1 chemicals based on:
    - GS List Translator (100%) or
    - Full GreenScreen (150%)

Solutions: LEED-Compliant Products

Profilers support manufacturers with LEED submittal documentation

Margaret H. Whittaker, Ph.D., M.P.H., E.R.T., D.A.B.T., UK/EU
ToxServices LLC
www.toxservices.com

Nancy Linde, Managing Toxicologist
NSF International
www.nsf.org

Patricia Beattie, PhD, DABT
SciVera LLC
www.scivera.com/services.php

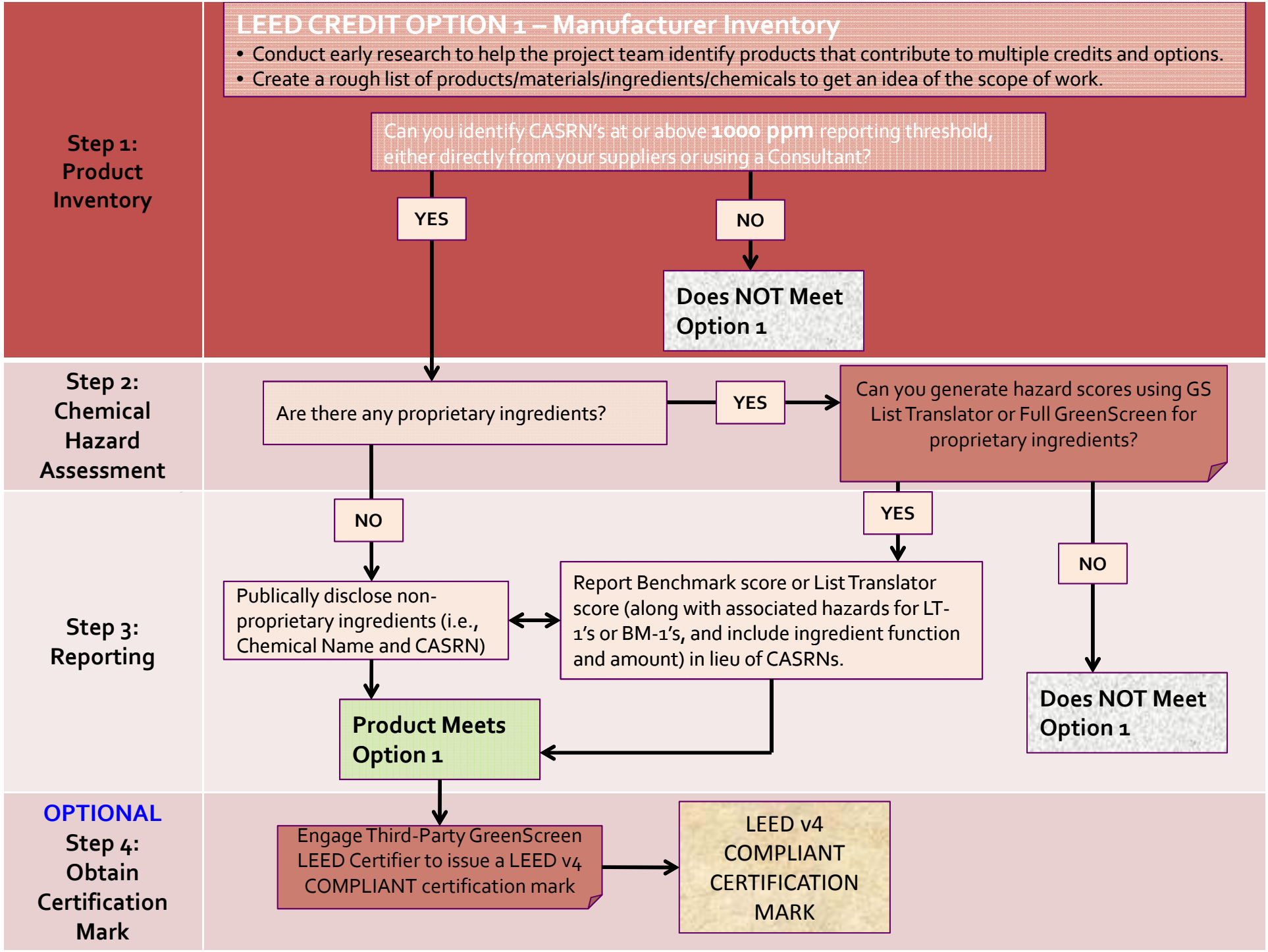
Third Party Certification provides easy to recognize mark.

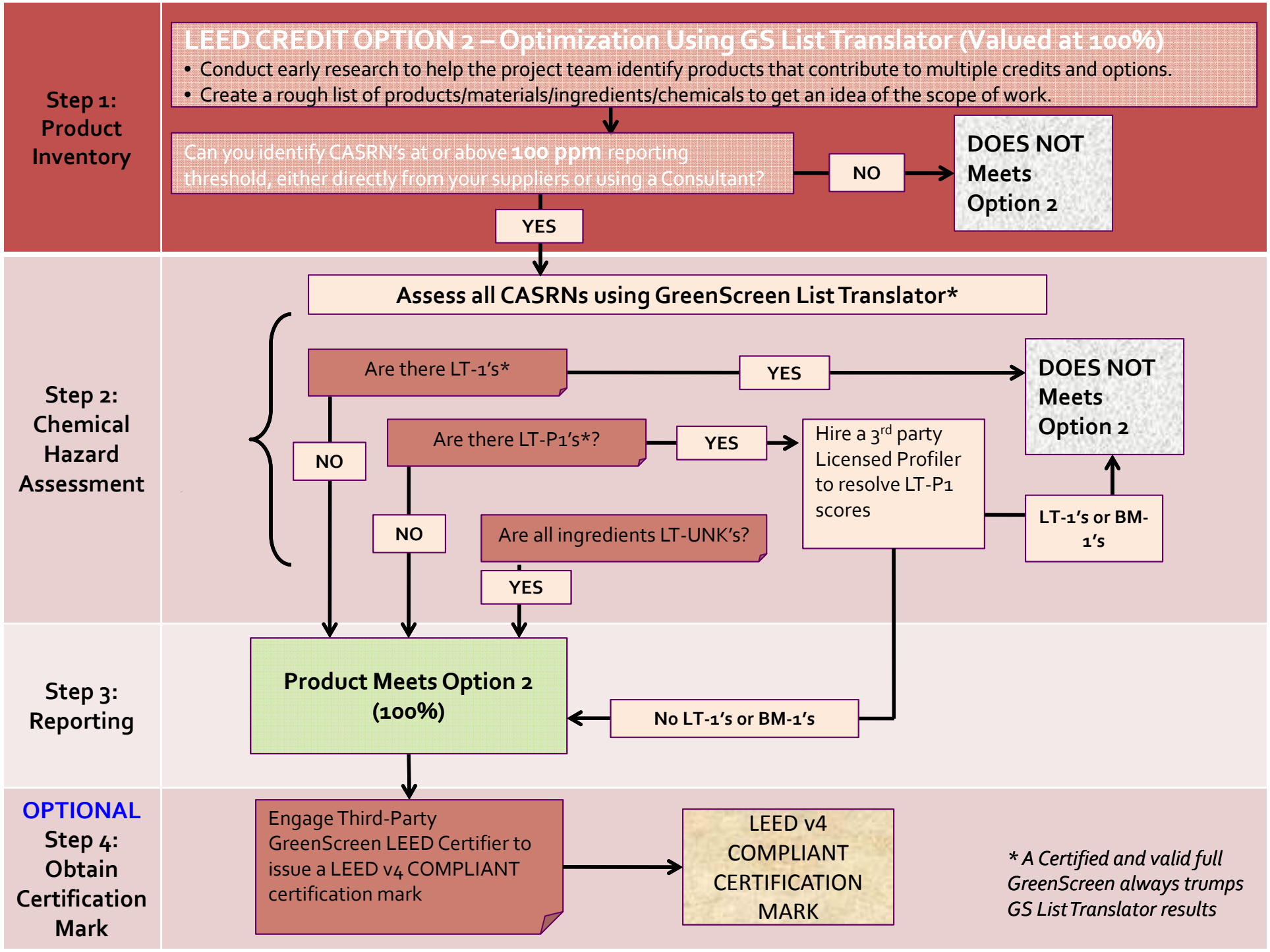
Annie Bevan, CSM, LEED Green Associate,
Certification Operations Manager
GreenCircle Certified
www.greencirclecertified.com

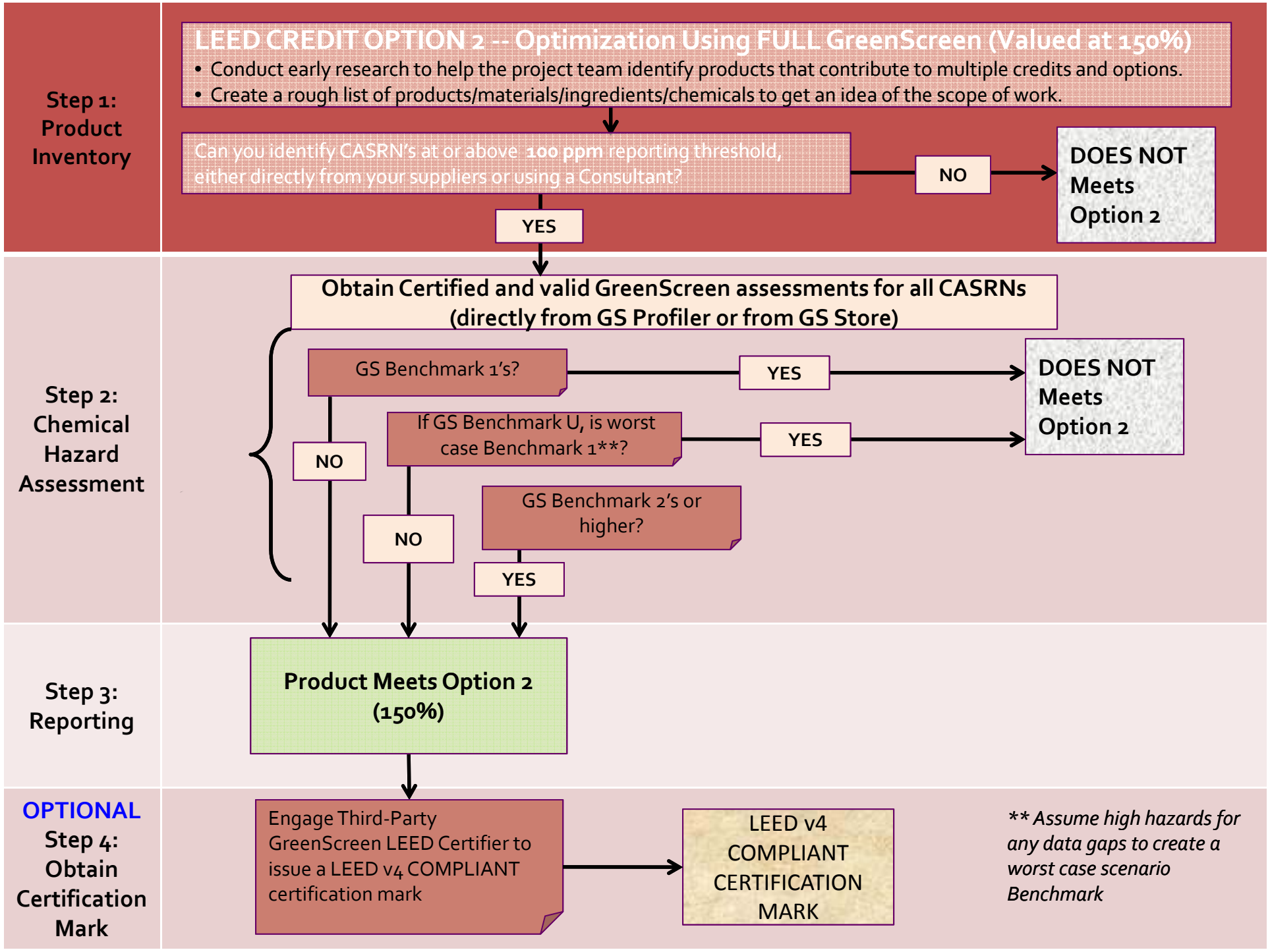
First approved Certification Partner! LEED v4 Compliant products

How To

- Step 1: Product Inventory
- Step 2: Chemical Hazard Assessment
- Step 3: LEED Submittal Documentation Requirements (Reporting)
- Step 4 (Optional): LEED-Compliant Certification


LEED CREDIT OPTION 1 – Manufacturer Inventory
• Conduct early research to help the project team identify products that contribute to multiple credits and options.
• Create a rough list of products/materials/ingredients/chemicals to get an idea of the scope of work.
Step 1: Product Inventory
Can you identify CASRN's at or above 1000 ppm reporting threshold, either directly from your suppliers or using a Consultant?
YES
NO
Does NOT Meet Option 1
Step 2: Chemical Hazard Assessment
Are there any proprietary ingredients?
YES
Can you generate hazard scores using GS List Translator or Full GreenScreen for proprietary ingredients?
Step 3: Reporting
NO
YES
NO
Publically disclose non-proprietary ingredients (i.e., Chemical Name and CASRN)
Report Benchmark score or List Translator score (along with associated hazards for LT-1's or BM-1's, and include ingredient function and amount) in lieu of CASRNs.
Product Meets Option 1
Does NOT Meet Option 1
OPTIONAL
Step 4: Obtain Certification Mark
Engage Third-Party GreenScreen LEED Certifier to issue a LEED v4 COMPLIANT certification mark
LEED v4 COMPLIANT CERTIFICATION MARK


Step 1: Product Inventory
LEED CREDIT OPTION 2 – Optimization Using GS List Translator (Valued at 100%)
• Conduct early research to help the project team identify products that contribute to multiple credits and options.
• Create a rough list of products/materials/ingredients/chemicals to get an idea of the scope of work.
Can you identify CASRN's at or above 100 ppm reporting threshold, either directly from your suppliers or using a Consultant?
NO
DOES NOT Meets Option 2
YES
Step 2: Chemical Hazard Assessment
Assess all CASRNs using GreenScreen List Translator*
Are there LT-1's*
YES
DOES NOT Meets Option 2
NO
Are there LT-P1's*?
YES
Hire a 3rd party Licensed Profiler to resolve LT-P1 scores
LT-1's or BM-1's
NO
Are all ingredients LT-UNK's?
YES
Step 3: Reporting
Product Meets Option 2 (100%)
No LT-1's or BM-1's
OPTIONAL Step 4: Obtain Certification Mark
Engage Third-Party GreenScreen LEED Certifier to issue a LEED v4 COMPLIANT certification mark
LEED v4 COMPLIANT CERTIFICATION MARK
* A Certified and valid full GreenScreen always trumps GS List Translator results


Step 1: Product Inventory
LEED CREDIT OPTION 2 -- Optimization Using FULL GreenScreen (Valued at 150%)
• Conduct early research to help the project team identify products that contribute to multiple credits and options.
• Create a rough list of products/materials/ingredients/chemicals to get an idea of the scope of work.
Can you identify CASRN's at or above 100 ppm reporting threshold, either directly from your suppliers or using a Consultant?
NO
DOES NOT Meets Option 2
YES
Step 2: Chemical Hazard Assessment
Obtain Certified and valid GreenScreen assessments for all CASRNs (directly from GS Profiler or from GS Store)
GS Benchmark 1's?
YES
DOES NOT Meets Option 2
NO
If GS Benchmark U, is worst case Benchmark 1**?
YES
NO
GS Benchmark 2's or higher?
YES
Step 3: Reporting
Product Meets Option 2 (150%)
OPTIONAL Step 4: Obtain Certification Mark
Engage Third-Party GreenScreen LEED Certifier to issue a LEED v4 COMPLIANT certification mark
LEED v4 COMPLIANT CERTIFICATION MARK
** Assume high hazards for any data gaps to create a worst case scenario Benchmark

LEED v4 Compliance
Third Party Certification

Sample Client Base

Why Third-Party Certification?

- Confusion in marketplace
- Lack of accuracy
- Ensures completion to proper thresholds
- Ensures compliance to LEED v4 Material Ingredient Credit Options
  - Manufacturer's Inventory
  - Optimization x2

Certification Procedure

- Step 1: Contact approved LEED v4 GreenScreen Certifier
- Step 2: Data Collection and Desk Audit
  - Initial Data Collection Phase (includes call(s) with manufacturer contact)
  - Desk Top Analysis to verify manufacturer's claims
  - Conclusion call to report results of verification
  - A final report will be submitted to the manufacturer documenting the audit process

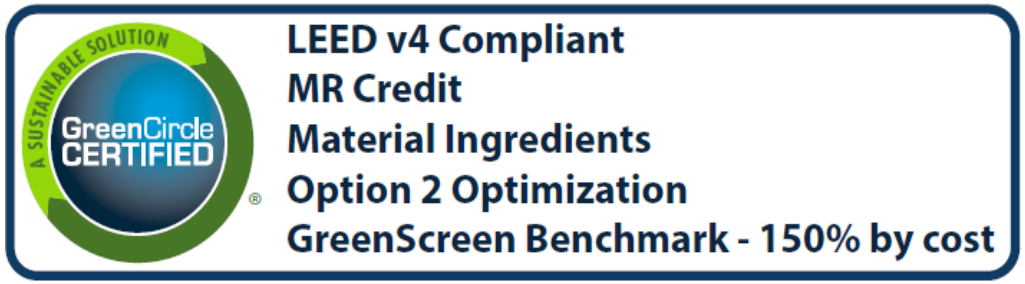
Documentation Needed for Certification

- Fully Completed Product Inventory
- Purchase Orders (sampling) for all ingredients within your product
- All MSDS or SDS sheets for all ingredients within your product
- A Technical Sheet or MSDS/SDS for your product (as applicable)
- A copy of either your Manufacturer's Inventory or Statement of Disclosure (pending the option)
- Copies of valid and certified GreenScreen Assessment Summary Reports (if applicable)

Certification Procedure (Cont.)

- Step 3: LEED v4 Compliant marks
  - Marks applied directly to Manufacturer's Inventory or Statement of Disclosure documentation for submittal in LEED v4 projects.
  - Online Product Database: Manufacturer documentation can be uploaded and stored on the Online Product database for download and reference by architects, designers, or other LEED professionals.

Certification Marks



GREENSCREEN® FOR SAFER CHEMICALS

A SUSTAINABLE SOLUTION GreenCircle CERTIFIED

Sample Manufacturer's Inventory Report

Company Name Here

"Company slogan here"

123 E. My Address Avenue • Chicago, IL 60614-0240

Phone: (312) 555-5555 • Fax: (312) 555-5555 • http://www.companywebsite.com

LEED v4 Compliant
MR Credit
Material Ingredients
Option 1 Manufacturer Inventory

LEED v4 Material Ingredient Credit, Reporting Option: Manufacturer Inventory
Product Name: Fancy Fence™
Reporting Threshold: 1000ppm

Ingredients	CAS #	Percent of Final Product	Constituents of Ingredients	Percent of Constituents	Function of Constituent	List Translator or Benchmark score	Hazard
PET	25038-59-9	89.27%					
Titanium Dioxide	1344-28-1	1.60%					
Calcium Carbonate	1317-65-3	7.56%					
Antioxidant	Proprietary MIXTURE	0.68%	CAS 1	95%	Inhibits oxidation	LT-1	High-Carcinogen
			CAS 2	5%		Not required - Below 1000 ppm in final product	
Impact modifier	Proprietary MIXTURE	0.89%	CAS 3	85%	Improves impact resistance	LT-UNK	
			CAS 4	10%		Not required - Below 1000 ppm in final product	
			CAS 5	5%		Not required - Below 1000 ppm in final product	

Sincerely,

John Smith

John Smith, VP of Operations

Sample Report Optimization (100%)

Company Name Here

"Company slogan here"

123 E. My Address Avenue • Chicago, IL 60614-0240

Phone: (312) 555-5555 • Fax: (312) 555-5555 • http://www.companywebsite.com

LEED v4 Material Ingredient Credit, Optimization Option: Statement of Disclosure
Product Name: Fancy Fence™
Reporting Threshold: 100ppm

To Whom It May Concern,

In Company Name's commitment to holistic sustainability, we take pride in not only focusing on reducing the life cycle environmental impacts of our products but also in reducing our products' impact on human health. This document is to be used as a Statement of Disclosure verifying that there are no GreenScreen LT-1 chemicals (to the 100ppm level) within the Fancy Fence™ product. Company Name continues to excel in the realm of sustainability, and takes pride in the fact that Fancy Fence™ does not have any GreenScreen LT-1 chemicals.

For questions or concerns, please contact me at John.Smith@companyname.com.

These claims have been certified by GreenCircle Certified, LLC. Please refer to certificate number 00-0000, for further reference. Please contact Annie Bevan at annie@greencirclecertified.com for questions in regard to certification.

Sincerely,

John Smith, VP of Operations
Company Name

Sample Report Optimization (150%)

LEED v4 Compliant
MR Credit
Material Ingredients
Option 2 Optimization
GS List Translator - 100% by cost

Company Name Here

"Company slogan here"

123 E. My Address Avenue • Chicago, IL 60614-0240
Phone: (312) 555-5555 • Fax: (312) 555-5555 • http://www.companywebsite.com

LEED v4 Material Ingredient Credit, Optimization Option: Statement of Disclosure
Product Name: Fancy Fence™
Reporting Threshold: 100ppm

To Whom It May Concern,

In Company Name's commitment to holistic sustainability, we take pride in not only focusing on reducing the life cycle environmental impacts of our products but also in reducing our products' impact on human health. This document is to be used as a Statement of Disclosure verifying that there are no GreenScreen LT-1 chemicals (to the 100ppm level) within the Fancy Fence™ product. Company Name continues to excel in the realm of sustainability, and takes pride in the fact that Fancy Fence™ does not have any GreenScreen LT-1 chemicals.

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Sincerely,

John Smith

John Smith, VP of Operations
Company Name

Challenges

- Resistant suppliers
- Lack of available certified and valid GreenScreen Assessments
- Lack of understanding of GreenScreen tool and methodology

Benefits of Certification

- Transparency
- Assurance
- Brand Recognition
- Preference

Consensus Group Plan

- Contact Lauren or Annie in regard to interest in participation in:
  - Consensus Group
  - Pilot
- Doodle Poll to be sent last week of February 2015 for call sometime Mid-Late March 2015
- Kick off Call Mid-Late March 2015-Webinar on How to Document (30-45 minutes)
- Manufacturer Review of How To Document, includes:
  - Personal Follow up calls with Lauren/Annie re comments (April/May 2015)
  - Deadline for comment Mid-May 2015
- How To Document to be published on CPA website
  - Est. June 2015

Participation in Consensus or Pilot

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