



# ***GreenScreen® for Safer Chemicals and LEED v4 Material Ingredient Credits***

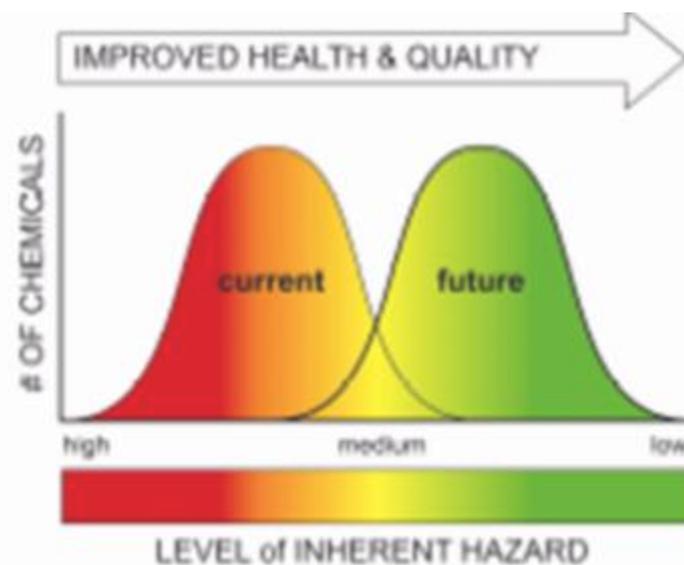
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Webinar

Lauren Heine, Ph.D.,  
Co-Director Clean Production Action  
Director GreenScreen Program  
[lauren@cleanproduction.org](mailto:lauren@cleanproduction.org)

# What is GreenScreen<sup>®</sup> for Safer Chemicals?

- A method for Chemical Hazard Assessment (CHA) developed by Clean Production Action
- Supports the 12 Principles of Green Chemistry
- Builds on USEPA Design for Environment (DfE) and other national and international precedents i.e., Globally Harmonized System (GHS) and OECD
- Open, transparent, freely accessible and peer reviewed



# GreenScreen (GS) Tools

- **Full GreenScreen**

- Systematic evaluation of chemicals based on 18 hazard endpoints
- Standard hazard assessment format
- Identifies inherently safer chemicals
- Requires technical expertise
- Best to use licensed GS Profiler

- **GS List Translator**

- Readily identifies known hazards
- Based on authoritative hazard lists
- Doesn't require toxicology expertise
- Automated!



# What GreenScreen List Translator Is

- Maps chemicals on GS specified lists to GS hazard criteria and overall scores
- Identifies known “bad actor” chemicals using authoritative and screening hazard lists
- Provides a useful “sandbox” for reviewing formulations
- Aided by software automation



# Automation of the GS List Translator: Software Partners

Pharos Chemical and  
Material Library (CML)

The Wercs  
GreenWERCS

the signal news & notes | building product library | chemical and material library | certifications and scoring

## FORMALDEHYDE

CAS RN: 50-00-0

Direct Chemical and Compound Hazard Quickscreen Detailed Hazard Listings

Very High Hazard of...

- IMMEDIATE** US EPA - Extremely Hazardous Substances (EPA-AHT): Extremely Hazardous Substances - GreenScreen Benchmark Unspecified (and 17 others)
- SKIN IRRITATION** EC - CLP/HS Hazard Statements (HS) H-314 Causes severe skin burns and eye damage - GreenScreen Benchmark Unspecified (and 4 others)

High Hazard of...

- CANCER** Intl Agency for Resrch on Cancer - Cancer Monographs (IARC) Group 1: Agent & carcinogenic to humans - GreenScreen Benchmark 1 (and 10 others)
- RESPIRATORY** Japan NITE/NOE - GHS Classifications (GHS-Japan): Respiratory sensitizer - Category 1 - GreenScreen Benchmark Unspecified (and 1 other)
- EYE IRRITATION** Japan NITE/NOE - GHS Classifications (GHS-Japan): Serious eye damage / eye irritant - Category 2A - GreenScreen Benchmark Unspecified
- SKIN SENSITIZER** Japan NITE/NOE - GHS Classifications (GHS-Japan): Skin sensitizer - Category 1 - GreenScreen Benchmark Unspecified (and 2 others)
- ACUTE AQUATIC** Korea NIEP - GHS Classification (GHS-Korea): Hazardous to the aquatic environment (acute) - Category 1 (H400 - Very toxic to aquatic life) - GreenScreen Benchmark Unspecified (and 1 other)
- FLAMMABLE** Québec CST - WHMS Classifications (WHMS) Class B1 - Flammable gases - GreenScreen Benchmark Unspecified (and 1 other)

Medium Hazard of...

- GEN TOXICITY** Japan NITE/NOE - GHS Classifications (GHS-Japan): Germ cell mutagenicity - Category 2 - GreenScreen Benchmark Unspecified

Potential concern...

- HAZARDOUS AIR POLLUTANT** US EPA - Hazardous Air Pollutants (HAPs): Hazardous Air Pollutant subject to the Clean Air Act - Not evaluated by GreenScreen (and 9 others)

**View Products Containing This Chemical**

**Compound Groups**  
This chemical is a member of the following compound group:  
**Formaldehyde compounds**

**Tags for this chemical**  
There are no tags for this chemical yet.  
[Add a New Tag](#)

**Sources**  
**Hazardous Substances Database (HSD)** (link)

**CAS Variants**  
Formal

http://greenwercs.dev.hewercs.com/private/desktop.aspx

Center For a Livable World | Environment | Front Page | Voice of America | Streamline For Bases | Chemical Problem Solver | World Clock and Imports | Partners Red | New Music

GreenWERCS **GreenScreen™ List Translator Tool**

Sample Hazardous Material (1000004)

Check out related calls for source list information Download Product Assessment

Chemical	CAS Number	Hazardous	List Number	Group # Name										PPE	Physical	MSDS		
				Group 1 Name	Group 2 Name	Group 3 Name	Group 4 Name	Group 5 Name	Group 6 Name	Group 7 Name	Group 8 Name	Group 9 Name	Group 10 Name					
Sample Hazardous Material (1000004)																		
<b>HAZARDOUS MATERIAL</b>																		
US EPA - Extremely Hazardous Substances (EPA-AHT): Extremely Hazardous Substances - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EC - CLP/HS Hazard Statements (HS) H-314 Causes severe skin burns and eye damage - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Intl Agency for Resrch on Cancer - Cancer Monographs (IARC) Group 1: Agent & carcinogenic to humans - GreenScreen Benchmark 1	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Japan NITE/NOE - GHS Classifications (GHS-Japan): Respiratory sensitizer - Category 1 - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Japan NITE/NOE - GHS Classifications (GHS-Japan): Serious eye damage / eye irritant - Category 2A - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Japan NITE/NOE - GHS Classifications (GHS-Japan): Skin sensitizer - Category 1 - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Korea NIEP - GHS Classification (GHS-Korea): Hazardous to the aquatic environment (acute) - Category 1 (H400 - Very toxic to aquatic life) - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Québec CST - WHMS Classifications (WHMS) Class B1 - Flammable gases - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Japan NITE/NOE - GHS Classifications (GHS-Japan): Germ cell mutagenicity - Category 2 - GreenScreen Benchmark Unspecified	50-00-0	Y	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

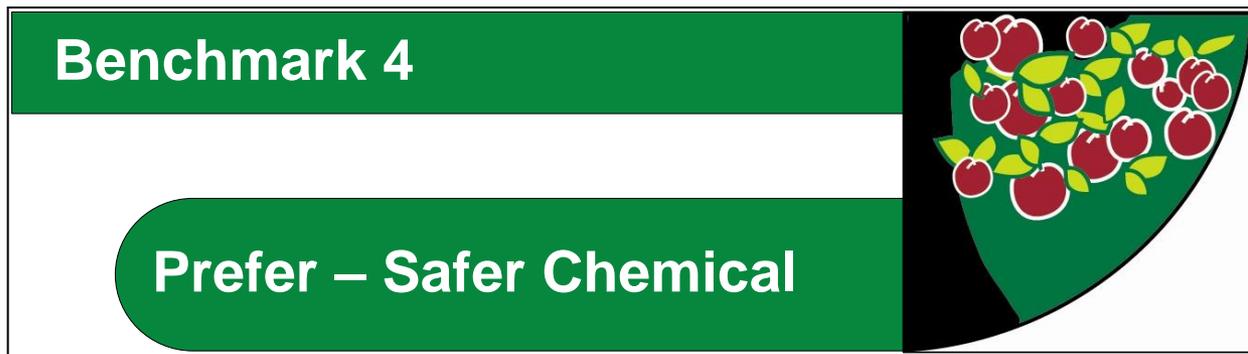
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

# What the GreenScreen List Translator Is Not

- It does NOT include a full assessment of data
- It does NOT represent a comprehensive review
- It does NOT review transformation products
- It does NOT identify safer chemicals

To identify safer alternatives, **need to perform a full GreenScreen assessment**



# Why Perform a Full GS Assessment?

- Uses ALL available data
  - Scientific literature, test data, analogs, “read-across”, hazard lists, Q/SAR models
- Increases confidence in results
- Identifies safer alternatives...
  - not just chemicals of concern
- Helps to “know what you know ...and what you don’t know”
  - Hazards AND data gaps

# How to Do a Full GreenScreen™ Assessment

1. Assess and classify hazards
2. Apply the Benchmarks
3. Make informed decisions



# Step 1: Assess Hazards and Populate Hazard Summary Table

Green Screen Hazard Ratings																			
Group I Human					Group II and II* Human								Ecotox		Fate		Physical		
Carcinogenicity	Mutagenicity	Reproductive Toxicity	Developmental Toxicity	Endocrine Activity	Acute Toxicity	Systemic Toxicity		Neurotoxicity		Skin Sensitization*	Respiratory Sensitization*	Skin Irritation	Eye Irritation	Acute Aquatic Toxicity	Chronic Aquatic Toxicity	Persistence	Bioaccumulation	Reactivity	Flammability
						single	repeated*	single	repeated*										
<i>L</i>	<b>L</b>	<b>L</b>	<b>M</b>	<i>M</i>	<b>L</b>	<b>L</b>	<b>L</b>	<b>vH</b>	<b>H</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>H</b>	<b>H</b>	<b>vL</b>	<b>L</b>	<b>M</b>	<b>L</b>

## Level of Concern:

- **vH = very High**
- **H = High**
- **M = Moderate**
- **L = Low**
- **vL = very Low**
- **DG = Data Gap**

## Level of Confidence:

- **Bold = High confidence**
- *Italics = Low confidence*

# Step 2: Benchmarks Support Continual Improvement

- ABBREVIATIONS**
- P** Persistence
  - B** Bioaccumulation
  - T** Human Toxicity and Ecotoxicity

This chemical passes all of the criteria.

## BENCHMARK 4

Low P\* + Low B + Low T (Ecotoxicity, Group I, II and II\* Human) + Low Physical Hazards (Flammability and Reactivity) + Low (additional ecotoxicity endpoints when available)



**Prefer—Safer Chemical**

## BENCHMARK 3

- a. Moderate P or Moderate B
- b. Moderate Ecotoxicity
- c. Moderate T (Group II or II\* Human)
- d. Moderate Flammability or Moderate Reactivity



If this chemical and its breakdown products pass all of these criteria, then move on to Benchmark 4.

**Use but Still Opportunity for Improvement**

## BENCHMARK 2

- a. Moderate P + Moderate B + Moderate T (Ecotoxicity or Group I, II, or II\* Human)
- b. High P + High B
- c. High P + Moderate T (Ecotoxicity or Group I, II, or II\* Human)
- d. High B + Moderate T (Ecotoxicity or Group I, II, or II\* Human)
- e. Moderate T (Group I Human)
- f. Very High T (Ecotoxicity or Group II Human) or High T (Group II\* Human)
- g. High Flammability or High Reactivity



If this chemical and its breakdown products pass all of these criteria, then move on to Benchmark 3.

**Use but Search for Safer Substitutes**

## BENCHMARK 1

- a. PBT = High P + High B + [very High T (Ecotoxicity or Group II Human) or High T (Group I or II\* Human)]
- b. vPvB = very High P + very High B
- c. vPT = very High P + [very High T (Ecotoxicity or Group II Human) or High T (Group I or II\* Human)]
- d. vBT = very High B + [very High T (Ecotoxicity or Group II Human) or High T (Group I or II\* Human)]
- e. High T (Group I Human)



If this chemical and its breakdown products pass all of these criteria, then move on to Benchmark 2.

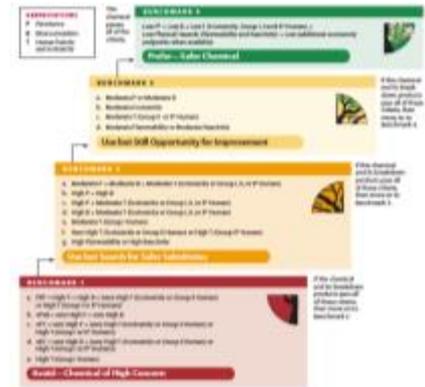
**Avoid—Chemical of High Concern**

**Benchmark U =**  
Undetermined due to insufficient data

**← BM 1 Aligned with Regulatory Drivers**

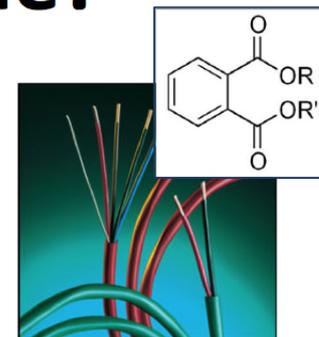
# Step 3: Make Informed Decisions

- Benchmarks provide a simple 1-4 score that supports taking action
  - BM1 – avoid/phase out
  - BM2 – manage, to use safely
  - BM3 – getting there
  - BM4 – inherently low hazard
- Can be used by non experts in toxicology to support product design, procurement, policies and regulations

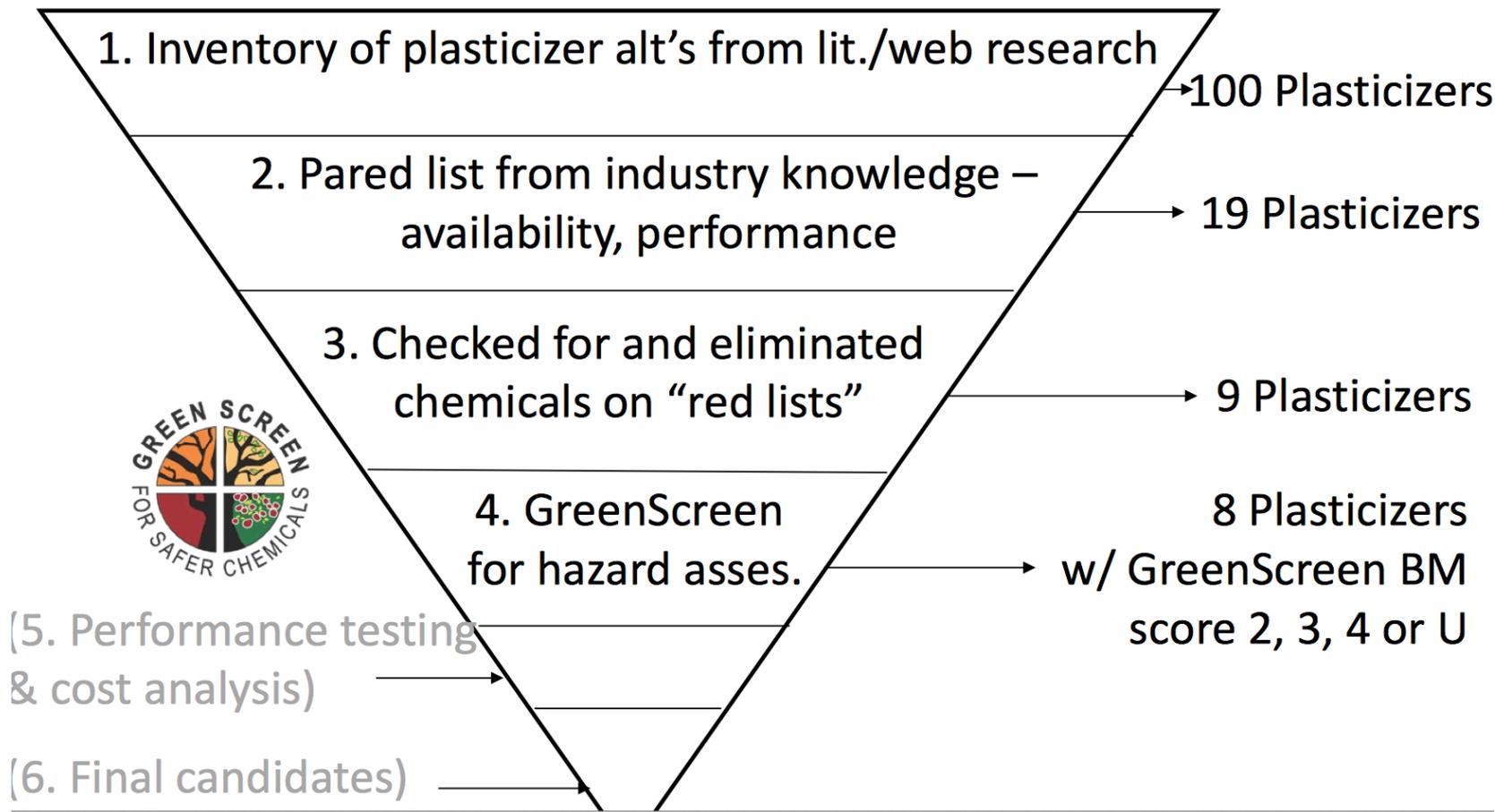


## Why did the GC3 focus the pilot on DEHP phthalate plasticizer & wire and cable?

- Phthalates are of interest to many GC3 members
  - Many are toxic
  - High exposure potential from plastics
  - Used in many different plastic products
  - Focus of numerous regulations
  - Many companies need to eliminate them and find safer substitutes
- Wire & cable is of interest to many GC3 members
- DEHP is the most commonly used plasticizer for wire and cable
- Leverages Univ. of Mass. Lowell's expertise in plastics engineering



# Project Approach



# Applications for GreenScreen

1. IC2 Alternatives Assessment Guidance and Regulations in various US State governments
2. Materials Procurement to identify chemicals of concern and safer alternatives
3. Product Development -- new chemicals and new formulations
4. Corporate Policies
5. Normative Reference in various standards, scorecards and ecolabels

# Two Paths to LEED v4 Credit

## Material Ingredient Reporting

Nutrition Facts		
Serving Size: 100g (3.5oz)		
Amount Per Serving		
	Amount	% Daily Value*
<b>Total Fat</b>		
Total Fat	10g	20%
Saturated Fat	5g	10%
Trans Fat	0g	0%
<b>Cholesterol</b>		
Cholesterol	100mg	20%
<b>Total Carbohydrates</b>		
Total Carbohydrates	10g	20%
Dietary Fiber	4g	8%
Sugars	4g	8%
Sugars (Added)	0g	0%
<b>Protein</b>		
Protein	10g	20%
<b>Vitamins</b>		
Vitamin A	10%	20%
Vitamin C	10%	20%
Calcium	10%	20%
Iron	10%	20%

\*Percent Daily Values are based on a diet of other people's secrets.

## Material Ingredient Optimization



# LEED for New Construction and Major Renovations (v4-draft)

		<b>POSSIBLE: 1</b>
IPc1	Integrative process	1
	<b>LOCATION &amp; TRANSPORTATION</b>	<b>POSSIBLE: 16</b>
LTc1	LEED for Neighborhood Development location	16
LTc2	Sensitive land protection	1
LTc3	High priority site	2
LTc4	Surrounding density and diverse uses	5
LTc5	Access to quality transit	5
LTc6	Bicycle facilities	1
LTc7	Reduced parking footprint	1
LTc8	Green vehicles	1
	<b>SUSTAINABLE SITES</b>	<b>POSSIBLE: 10</b>
SSp1	Construction activity pollution prevention	REQUIRED
SSc1	Site assessment	1
SSc2	Site development - protect or restore habitat	2
SSc3	Open space	1
SSc4	Rainwater Mgmt	3
SSc5	Heat Island reduction	2
SSc6	Light pollution reduction	1
	<b>WATER EFFICIENCY</b>	<b>POSSIBLE: 11</b>
WEp1	Outdoor water use reduction	REQUIRED
WEp2	Indoor water use reduction	REQUIRED
WEp3	Building-level water metering	REQUIRED
WEc1	Outdoor water use reduction	2
WEc2	Indoor water use reduction	6
WEc3	Cooling tower water use	2
WEc4	Water metering	1
	<b>ENERGY &amp; ATMOSPHERE</b>	<b>POSSIBLE: 33</b>
EAp1	Fundamental commissioning and verification	REQUIRED
EAp2	Minimum energy performance	REQUIRED
EAp3	Building-level energy metering	REQUIRED
EAp4	Fundamental refrigerant Mgmt	REQUIRED
EAc1	Enhanced commissioning	6
EAc2	Optimize energy performance	18
EAc3	Advanced energy metering	1
EAc4	Demand response	2
EAc5	Renewable energy production	3
EAc6	Enhanced refrigerant Mgmt	1
EAc7	Green power and carbon offsets	2

	<b>MATERIAL &amp; RESOURCES</b>	<b>POSSIBLE: 13</b>
MRp1	Storage and collection of recyclables	REQUIRED
MRp2	Construction and demolition waste Mgmt planning	REQUIRED
MRC1	Building life-cycle impact reduction	5
MRc2	Building product disclosure and optimization - environmental product declarations	2
MRc3	Building product disclosure and optimization - sourcing of raw materials	2
MRc4	Building product disclosure and optimization - material ingredients	2
MRc5	Construction and demolition waste Mgmt	2

	<b>INDOOR ENVIRONMENTAL QUALITY</b>	<b>POSSIBLE: 16</b>
EQp1	Minimum IAQ performance	REQUIRED
EQp2	Environmental tobacco smoke control	REQUIRED
EQc1	Enhanced IAQ strategies	2
EQc2	Low emitting materials	3
EQc3	Construction IAQ Mgmt plan	1
EQc4	IAQ assessment	2
EQc5	Thermal comfort	1
EQc6	Interior lighting	2
EQc7	Daylight	3
EQc8	Quality views	1
EQc9	Acoustic performance	1

	<b>INNOVATION</b>	<b>POSSIBLE: 6</b>
INc1	Innovation	5
INc2	LEED Accredited Professional	1

	<b>REGIONAL PRIORITY</b>	<b>POSSIBLE: 4</b>
RPc1	Regional priority	4

<b>TOTAL</b>	<b>110</b>		
40-49 Points CERTIFIED	50-59 Points SILVER	60-79 Points GOLD	80+ Points PLATINUM

# LEED v4 Material Disclosure and Optimization Credits

**Total 2 points possible (achieve both or either)**

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Requirements	Material Ingredient Reporting Credit OPTION 1 (1 LEED point)	Material Optimization Credit OPTION 2 (1 LEED point)
✓ 20 different permanently installed products (≥ 5 mfrs.)	YES	NO
✓ 25% of permanently installed building products by cost	NO	YES
✓ Disclosure level for ingredients (via product inventory)	1000 ppm	100 ppm

# LEED v4 Credit Language for Option 1

## Requirements

### 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).

- Manufacturer Inventory. The manufacturer has published complete content inventory for the product following these guidelines:
  - A publicly available inventory of all ingredients identified by name and Chemical Abstract Service Registration Number (CASRN)
  - Materials defined as trade secret or intellectual property may withhold the name and/or CASRN but must disclose role, amount and GreenScreen benchmark, as defined in GreenScreen v1.2.
- Health Product Declaration. The end use product has a published, complete Health Product Declaration with full disclosure of known hazards in compliance with the Health Product Declaration open Standard.
- Cradle to Cradle. The end use product has been certified at the Cradle to Cradle v2 Basic level or Cradle to Cradle v3 Bronze level.
- USGBC approved program. Other USGBC approved programs meeting the material ingredient reporting criteria.

# LEED v4 Credit Language for Option 2

## Requirements

### Option 2: material ingredient optimization (1 point)

Use products that document their material ingredient optimization using the paths below for at least 25%, by cost, of the total value of permanently installed products in the [project](#).

- GreenScreen v1.2 Benchmark. Products that have fully inventoried chemical ingredients to 100 ppm that have no Benchmark 1 hazards:
  - If any ingredients are assessed with the GreenScreen List Translator, value these products at 100% of cost.
  - If all ingredients are have undergone a full GreenScreen Assessment, value these products at 150% of cost.
- Cradle to Cradle Certified. End use products are certified Cradle to Cradle. Products will be valued as follows:
  - Cradle to Cradle v2 Gold: 100% of cost
  - Cradle to Cradle v2 Platinum: 150% of cost
  - Cradle to Cradle v3 Silver: 100% of cost
  - Cradle to Cradle v3 Gold or Platinum: 150% of cost
- International Alternative Compliance Path – REACH Optimization. End use products and materials that do not contain substances that meet REACH criteria for substances of very high concern. If the product contains no ingredients listed on the REACH Authorization or Candidate list, value at 100% of cost.
- **USGBC approved program**. Products that comply with USGGBC approved building product optimization criteria.

# Understanding Ingredients, Hazards and Product Impacts



Product Content  
Inventory

*What is inside?*

Ingredient Hazard  
List Screening

*Is it a listed hazard?*

*What else do we know  
about the hazards?*

*What are the other  
product impacts?*

Ingredient Hazard  
Full Assessment

C2C Product  
Assessment

# Understanding Ingredients, Hazards and Product Impacts

DIY

Product Content Inventory

Ingredient Hazard List Screening

Ingredient Hazard Full Assessment

C2C Product Assessment



GS Profiler or C2C Assessor

# GreenScreen Centric Compliance Pathways: Material Ingredient Reporting

	Amount Per Serving	% Daily Value*
Total Calories	80	
Calories from Fat	25	
Total Fat	5g	10%
Saturated Fat	2g	4%
Trans Fat	0g	
Cholesterol	10mg	20%
Sodium	45mg	9%
Total Carbohydrates	17g	34%
Dietary Fiber	4g	8%
Sugars	4g	8%
Protein	2g	4%
Other Ingredients		
*Percent Daily Values are based on a diet of other people's trade secrets.		

## Material Ingredient Reporting (1 point)

- (DIY) Do It Yourself!
  - Manufacturers can earn **disclosure credit** by using HPD to disclose (inventory to 1000ppm)
  - Manufacturers can earn **disclosure credit** by fully disclosing material ingredients (inventory to 1000ppm)- NO trade secret ingredients



# GreenScreen Centric Compliance Pathways: Material Ingredient Optimization

## Material Ingredient Optimization (1 point)

Products valued at **100%** of cost



- (DIY) Do It Yourself!
  - Earn **optimization credit** by screening ingredients with GS List Translator (inventory to 100ppm)
    - Use HPD Builder which is linked to GS List Translator via Pharos Chemical and Material Library (CML) or use GS List Translator directly
    - Earn credit for products with No LT-1 or LT-P1 chemicals.
      - Print report as documentation.

# GreenScreen Centric Compliance Pathways: Material Ingredient Optimization

## Material Ingredient Optimization (1 point)

Products valued at **100%** of cost



- Use GS Profiler
  - For **products containing LT-P1 (Possible Benchmark 1)** chemicals, engage GS Profiler to resolve relevant endpoints and report results

# GreenScreen Centric Compliance Pathways: Material Ingredient Optimization

Material Ingredient Optimization (1 point)  
Products valued at **150%** of cost



- Use GS Profiler Only
  - Earn **optimization credit by** engaging GS Profiler to screen ingredients using full GreenScreen method (inventory to 100ppm); Credit for product with no Benchmark 1 chemicals

# Training and Assessment Resources

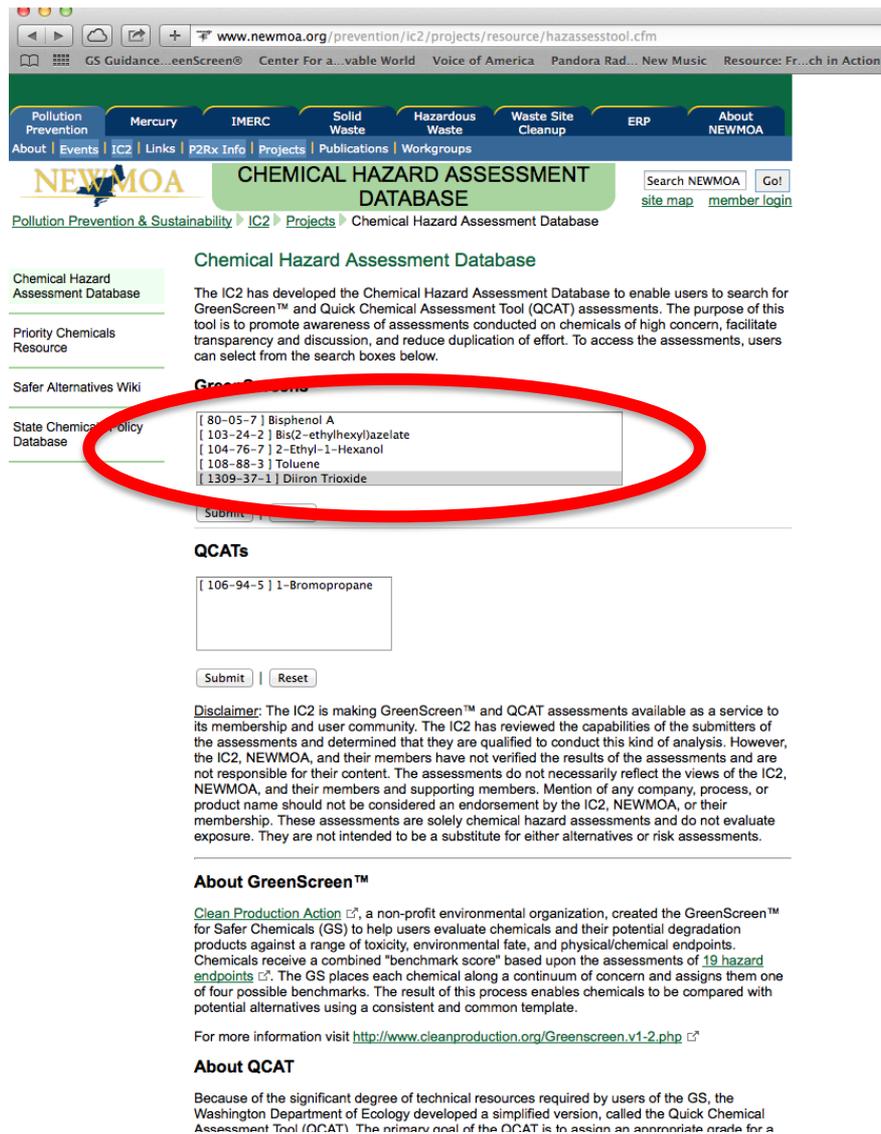
- Training opportunities
  - Upcoming 1-Day Workshops in Cleveland (April 3) Buffalo (June 4)
  - Customized trainings available
  - Certified Practitioner Program; starting soon.
  - See GreenScreen website for webinars, continuing education credit, etc.
- Value of engaging a licensed GS Profiler
  - Qualified to perform full GS assessments
  - Resolve GS List Translator Possible Benchmark 1 (LT-P1) classifications
  - Obtain and protect supplier CBI

- Licensed Profilers include:

- ToxServices LLC
- NSF International
- SciVera Services



# GreenScreen Repositories



www.newmoa.org/prevention/ic2/projects/resource/hazassesstool.cfm

GS Guidance...eenScreen@ Center For a...vable World Voice of America Pandora Rad... New Music Resource: Fr...ch in Action

Pollution Prevention Mercury IMERC Solid Waste Hazardous Waste Waste Site Cleanup ERP About NEWMOA

About | Events | IC2 | Links | P2Rx Info | Projects | Publications | Workgroups

**NEWMOA** CHEMICAL HAZARD ASSESSMENT DATABASE

Search NEWMOA Go!

site map member login

Pollution Prevention & Sustainability > IC2 > Projects > Chemical Hazard Assessment Database

### Chemical Hazard Assessment Database

The IC2 has developed the Chemical Hazard Assessment Database to enable users to search for GreenScreen™ and Quick Chemical Assessment Tool (QCAT) assessments. The purpose of this tool is to promote awareness of assessments conducted on chemicals of high concern, facilitate transparency and discussion, and reduce duplication of effort. To access the assessments, users can select from the search boxes below.

Chemical Hazard Assessment Database

Priority Chemicals Resource

Safer Alternatives Wiki

State Chemical Policy Database

**GreenScreen™**

- [ 80-05-7 ] Bisphenol A
- [ 103-24-2 ] Bis(2-ethylhexyl)azelaate
- [ 104-76-7 ] 2-Ethyl-1-Hexanol
- [ 108-88-3 ] Toluene
- [ 1309-37-1 ] Diiron Trioxide

Submit

**QCATs**

[ 106-94-5 ] 1-Bromopropane

Submit | Reset

**Disclaimer:** The IC2 is making GreenScreen™ and QCAT assessments available as a service to its membership and user community. The IC2 has reviewed the capabilities of the submitters of the assessments and determined that they are qualified to conduct this kind of analysis. However, the IC2, NEWMOA, and their members have not verified the results of the assessments and are not responsible for their content. The assessments do not necessarily reflect the views of the IC2, NEWMOA, and their members and supporting members. Mention of any company, process, or product name should not be considered an endorsement by the IC2, NEWMOA, or their membership. These assessments are solely chemical hazard assessments and do not evaluate exposure. They are not intended to be a substitute for either alternatives or risk assessments.

### About GreenScreen™

[Clean Production Action](#), a non-profit environmental organization, created the GreenScreen™ for Safer Chemicals (GS) to help users evaluate chemicals and their potential degradation products against a range of toxicity, environmental fate, and physical/chemical endpoints. Chemicals receive a combined "benchmark score" based upon the assessments of [19 hazard endpoints](#). The GS places each chemical along a continuum of concern and assigns them one of four possible benchmarks. The result of this process enables chemicals to be compared with potential alternatives using a consistent and common template.

For more information visit <http://www.cleanproduction.org/Greenscreen.v1-2.php>

### About QCAT

Because of the significant degree of technical resources required by users of the GS, the Washington Department of Ecology developed a simplified version, called the Quick Chemical Assessment Tool (QCAT). The primary goal of the QCAT is to assign an appropriate grade for a

# GreenScreen Repositories

www.newmoa.org/prevention/ic2/projects/resource/chemicaldetail.cfm

GS Guidance...eenScreen® Center For a...vable World Voice of America Pandora Rad... New Music Resource: Fr...ch in Action WHO | Forum

Pollution Prevention Mercury IMERC Solid Waste Hazardous Waste Waste Site Cleanup ERP About NEWMOA

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Pollution Prevention & Sustainability > IC2 > Projects > Priority Chemicals Resource > Chemical Detail

Priority Chemicals Resource **Chemical Detail**

**Diiron Trioxide (1309-37-1)**

Additional information on this chemical can be found at the United States National Library of Medicine's [ChemIDplus Lite web site](#).

**GreenScreen™ Assessment** View source View key

Group I Human					Group II Human								Ecotox			Fate		Physical		
C	M	R	D	E	AT	ST		N		SnS	SnR	IrS	IrE	AA	CA	Eo	P	B	Rx	F
						single	repeat	single	repeat											
M	L	L	L	DG	L	M	M						M	M	L	L	H	M	L	L

The [full assessment](#) is available as a PDF document

**GreenScreen™ Benchmark Score** View key

<b>Benchmark 2</b>	✓ Non verified
Moderate Concern	Verified

Last Modified 06/04/2013

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 129 Portland Street, Suite 602; Boston, MA 02114-2014;  
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 Comments contact: [webmaster@newmoa.org](mailto:webmaster@newmoa.org)



## **GreenScreen™ Assessment for Diiron Trioxide (CAS# 1309-37-1)**

**GreenScreen™ Version 1.2 Criteria, Information Sources and Specified Lists - Draft Assessment**

***Note: Validation Has Not Been Performed on this Green Screen Assessment***

**Chemical Name: Diiron Trioxide (Fe<sub>2</sub>O<sub>3</sub>)**

**Green Screen Assessment Prepared By:**

Name: Patricia Beattie, PhD, DABT

Title: Vice President

Organization: SciVera, LLC

Date: August 8, 2012

**Revised: September 10, 2013**

**Quality Control Performed By:**

Name: Wiebke Droege, PhD

Title: Director, Research

Organization: SciVera LLC

Date: August 8, 2012

**Confirm application of the *de minimus* rule<sup>1</sup>:** (if no, what *de minimus* did you use?) Yes

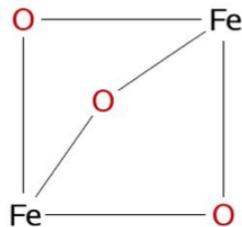
**Chemical Name (CAS #):** Diiron Trioxide (CAS# 1309-37-1)

**Also Called:** Ferric Oxide, Hematite, C. I. Pigment 101, Red Iron Oxide, Iron(III)oxide, C.I. 77491, Red Iron Oxide 190, Iron Oxide (Fe<sub>2</sub>O<sub>3</sub>), Bayferrox 130, Blood stone

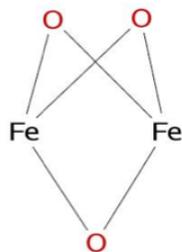
**Chemical Surrogates, analogs or moieties used in this assessment (CASs #):** Triiron tetraoxide (Fe<sub>3</sub>O<sub>4</sub>, CAS# 1317-61-9)

**Chemical Structure(s):**

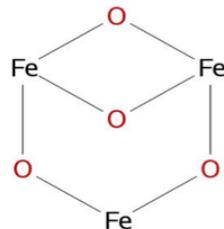
\*Note: Include chemical structure(s) of all surrogates, analogs (and /or moieties) used in the assessment.



Fe<sub>2</sub>O<sub>3</sub>



Fe<sub>2</sub>O<sub>3</sub>



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## ToxServices GS-181

Naphthalene Sulfonate (CAS #36290-04-7) Streamlined GreenScreen Assessment

REPORT / SURVEY published 11/26/2013 by ToxServices LLC.

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## ToxServices GS-175

Sodium sulfate (CAS# 7757-82-6) Streamlined GreenScreen Assessment

REPORT / SURVEY published 09/09/2013 by ToxServices LLC.

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## ToxServices GS-143

Zirconium Acetate (CAS #7585-20-8) GreenScreen Assessment

REPORT / SURVEY published 06/29/2013 by ToxServices LLC.

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## ToxServices GS-131

Dragonite™ (CAS #1332-58-7) GreenScreen Assessment

REPORT / SURVEY published 11/09/2013 by ToxServices LLC.

Priced From:

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# Summary

- GreenScreen is a versatile chemical hazard assessment method that is open, transparent, freely available and scientifically credible – builds on DfE, GHS, and other national and international precedents.
- It is being integrated into standards, ecolabels, alternatives assessment guidance, product design, development and procurement
- Working to make it accessible via different options including “DIY” and licensed third parties GS Profilers
- USGBC LEED v4 credits for ingredient disclosure and optimization are increasing demand for greater transparency of ingredients and associated hazards and setting the stage for product optimization to promote greater health and safety in the build environment.

## **Contact Information**

**Lauren Heine, Ph.D.**  
**Co-Director Clean Production Action**  
**Director GreenScreen Program**  
**lauren@cleanproduction.org**  
**360-220-2069**