CLEAN PRODUCTION ACTION

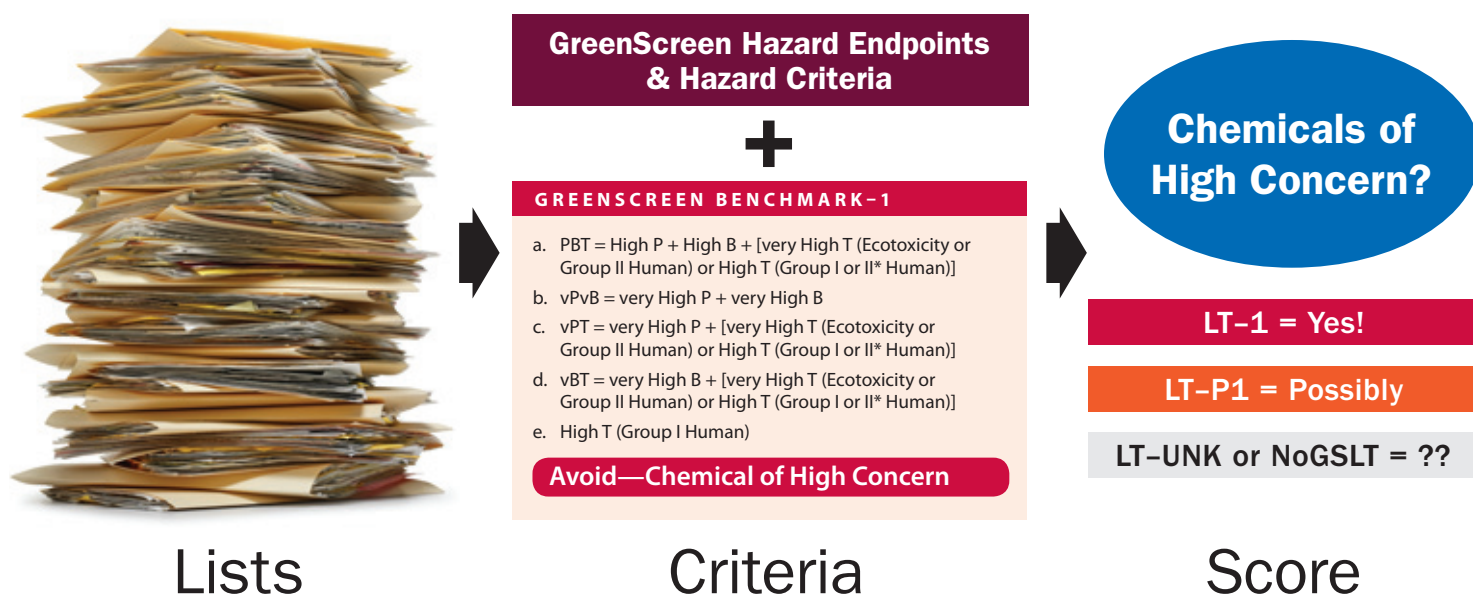# GreenScreen List Translator™

What is the GreenScreen List Translator

The GreenScreen List Translator is a list-based hazard screening method designed to help users quickly identify known and established chemicals of high concern.

It does this by evaluating chemicals based on information from over 40 hazard lists and then "translates" this information into a score indicating whether a given chemical is a "chemical of high concern" as defined by GreenScreen® for Safer Chemicals. The lists used, collectively designated as GreenScreen Specified Lists, are developed by authoritative scientific bodies convened by international, national and state governmental agencies, intergovernmental agencies and NGOs. A chemical is assessed using these GreenScreen Specified Lists and the GreenScreen hazard criteria to assign hazard levels to the relevant hazard endpoints.

Similar to a GreenScreen assessment, the hazard classifications for endpoints in a GreenScreen List Translator screen are then used to derive a GreenScreen List Translator score. The List Translator scoring criteria align with the GreenScreen Benchmark-1 criteria (Avoid – Chemical of High Concern).

GreenScreen Hazard Endpoints & Hazard Criteria

+

GREENSCREEN 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)

Avoid—Chemical of High Concern

Chemicals of High Concern?

LT–1 = Yes!

LT–P1 = Possibly

LT–UNK or NoGSLT = ??

Lists   **Criteria**   **Score**

Automated software allow users to quickly find a chemical's List Translator score. Currently, over 2,000 chemicals have been identified as LT-1 chemicals.

Focus of GreenScreen List Translator is GreenScreen Benchmark 1 Criteria

LT1	known chemical of high concern
LT-P1	possible chemical of high concern
LT UNK/NoGSLT	unknown if it's a chemical of high concern or not

- A List Translator score of "LT-1", or **likely Benchmark-1**, means the List Translator hazard classifications for a chemical meet one or more of the GreenScreen Benchmark-1 criteria. If a GreenScreen assessment were conducted, the chemical would most likely be assigned a score of Benchmark-1. Currently, over 2,000 chemicals have been identified as LT-1 chemicals.

- A List Translator score of "LT-P1", or **possible Benchmark-1**, means the List Translator hazard classifications for a chemical meet one or more of the GreenScreen Benchmark-1 criteria, but the information is based on screening lists and/or there is some uncertainty about the classification for key endpoints. Further research is needed on the flagged endpoint(s) to determine if the chemical would be assigned a score of GreenScreen Benchmark-1.

- A List Translator score of "LT-UNK," or **Unknown**, indicates a chemical was present on a GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LT-P1 score.

- A List Translator score of "NoGSLT" indicates a chemical is not found on any of the GreenScreen Specified Lists.

Since only a small fraction of chemicals in commerce have been reviewed by the organizations that publish these lists, a chemical's absence from one or more lists does NOT mean that the chemical has a low hazard profile. It may mean the chemical has not been reviewed by the body publishing the list or that the chemical has not yet been well tested. Thus, more research is needed to determine its hazard profile and whether it is a chemical of high concern or not.

A GreenScreen List Translator assessment is a useful first screening step. A more comprehensive assessment such as a GreenScreen® for Safer Chemicals assessment is recommended as a next step, particularly for scores other than LT-1, to identify emerging chemicals of concern and safer alternatives. For a GreenScreen assessment, in addition to presence or absence of a chemical on the GreenScreen Specified Lists, assessors review all information available for the 18 hazard endpoints including test data, scientific literature, computer modeling data, and data for structurally similar chemicals (analogs). Beyond known hazards of the

chemical, the assessor evaluates how the chemical is transformed in the environment and its data gaps, and employs transparent decision making logic to assign a Benchmark score. A GreenScreen assessment is recorded in a 20-plus-page comprehensive report.

GreenScreen List Translator Automated Tools — a quick and easy way to identify chemicals of high concern and prioritize action towards safer alternatives

Although one could derive a GreenScreen List Translator score manually, CPA has partnered with organizations[1] to create automated tools based on the GreenScreen List Translator method. Users can simply input a chemical abstract service number (CAS) or chemical name into software to quickly find a chemical's List Translator score. This allows rapid screening of chemicals in products or manufacturing processes. Product designers, workers, brand manufacturers and retailers can quickly identify chemicals of concern to prioritize for action such as elimination, restriction and/or substitution with safer alternatives. For example workers can run the chemicals listed on their Material Safety Data Sheets through an online List Translator tool to learn more about the hazards of the chemicals with which they are working.

Eg. ~ 2000 Chemicals

GreenScreen List Translator Tool

Known Chemicals of High Concern (LT–1)
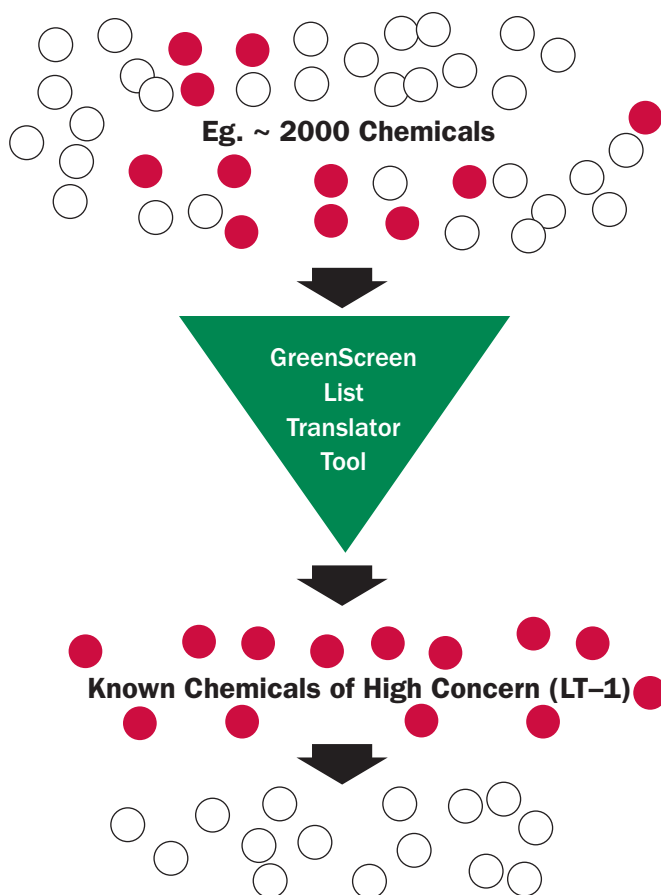
The US Green Building Council has incorporated GreenScreen for Safer Chemicals and GreenScreen List Translator as pathways to material ingredient credits in the Leadership in Energy and Environmental Design (LEED v4) Standard.

GreenScreen List Translator is a quick first step in identifying chemicals of high concern

The figure on page 2 demonstrates how a large group of chemicals can be quickly assessed to identify LT-1 chemicals for priority action. Chemicals given scores of LT-P1 or LT UNK can be further assessed to determine their Green-Screen Benchmark scores. GreenScreen Benchmark scores range progressively from Benchmark-1 (Avoid – Chemical of High Concern) to Benchmark-4 (Prefer – Safer Chemical) as well as Benchmark U – Unspecified due to insufficient data. A combination of GreenScreen List Translator and GreenScreen allows systematic and informed decision making by chemical users. For a full overview of GreenScreen Benchmark scores and how GreenScreen List Translator is applied visit *https:// www.greenscreenchemicals.org/learn/learn-about-greenscreen*.

Sustainability Standards use GreenScreen List Translator

LEED—Leadership in Energy and Environmental Design (LEED v4) Standard, now incorporates GreenScreen and GreenScreen List Translator as options to gain credits for safer chemicals in building materials.

The Health Product Declaration® (HPD) Open Standard provides a standard format and instructions to accurately, reliably and consistently report the contents of a building product, and associated health information. GreenScreen List Translator forms the foundation of the hazard screening method incorporated into the standard.

GreenScreen Certified™ is a certification standard that uses Green-Screen to promote the use of safer chemicals in products by achieving one of four increasingly stringent levels, namely Bronze, Silver, Gold and Platinum. GreenScreen Certified is currently available for textile chemicals, furniture and fabrics, and firefighting foams, with more certification standards planned for release in 2021 and 2022. All produces certified to the Silver level must meet Restricted Substance List requirements and be free of any LT-1 chemicals.

Companies Use GreenScreen List Translator

Google's Healthy Materials Program incorporates Green-Screen as part of its process to identify environmentally

The GreenScreen Certified Standard for Textile Chemicals uses List Translator and Benchmark scores to specify four levels of progress to safer chemicals: Bronze, Silver, Gold, and Platinum.

preferable building products and materials. Under this Program, manufacturers can submit product information into the Portico database for scoring and assessment. Products are awarded points depending on level of disclosure and absence of chemicals assigned a List Translator score of LT-1 or a GreenScreen score of Benchmark-1. Products which earn sufficient points are available to be specified and procured for Google design and construction projects around the globe.

Klean Kanteen, manufacturer of stainless steel water bottles, used GreenScreen List Translator scores to screen and define acceptable materials for their new durable bottle coating. Klean Kanteen used GreenScreen Benchmark scores to communicate with suppliers how to replace any LT-1 chemicals with transparently safer alternatives. The company was able to select safer materials among available options based on GreenScreen assessments.

H&M identifies chemicals of concern to avoid by using GreenScreen List Translator and they further note that the GreenScreen for Safer Chemicals methodology allows information "to be presented in a user-friendly way, which is important in a global and complex supply chain, including stakeholders with less understanding of toxicological parameters."

GreenScreen List Translator is the source of chemicals of high concern for chemical footprinting.

A chemical footprint measures the mass or the number of chemicals of high concern over a defined scope, for example in a product, manufacturing process or a space, such as a room.

The Chemical Footprint Project (CFP) publishes a reference list of chemicals of high concern that aligns with chemicals assigned a GreenScreen List Translator score of LT-1. The CFP reference list is updated periodically to reflect changes in the underlying lists used by GreenScreen List Translator. The CFP reference list is currently composed of approximately 2,200 chemicals and chemical groups. In 2015 GOJO, a leading global manufacturer of hand sanitizing products, including Purell, became the first company to publicly set a chemical footprint reduction goal, of 50% by 2020.

ENDNOTE

1   The Healthy Building Network has automated the GreenScreen List Translator in Pharos *https://www.pharosproject.net*. Another online provider is Toxnot *https://toxnot.com*.