

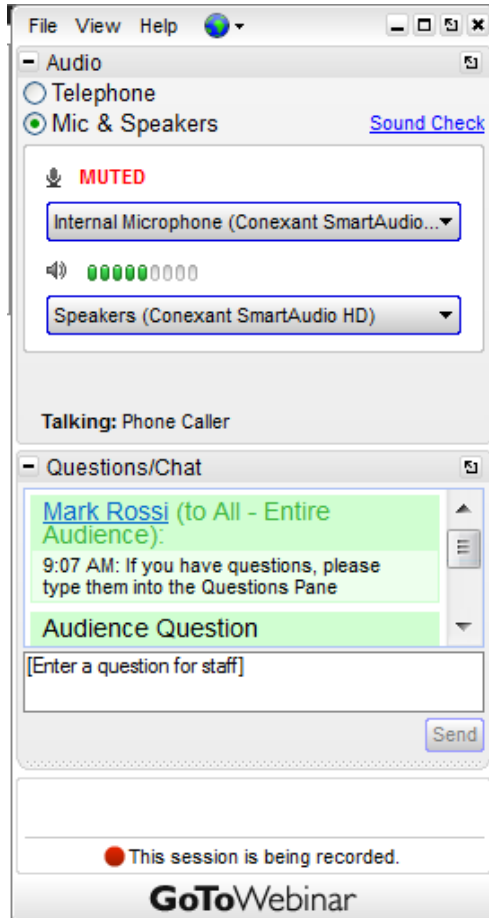


A Dive into GreenScreen® List Translator

March 24, 2016

Questions?

- **Post your question to the Questions pane in your GoToWebinar Control Panel**
- Any unanswered questions can be asked at greenscreen@cleanproduction.org
- Presentation and recording will be available at www.greenscreenchemicals.org



Speakers



Dr. Mark Rossi
Executive Director
Clean Production Action



Dr. Michelle Turner
GreenScreen Program Manager



Dr. Michel Dedeo
Staff Chemist
Healthy Building Network

GreenScreen® for Safer Chemicals

A method for chemical hazard assessment
developed by Clean Production Action

- Publicly transparent
- Systematic
- Comprehensive
- Scientifically robust

<http://www.greenscreenchemicals.org/method/method-documents>

GreenScreen Method Overview

Choose Chemicals

- Intentionally added
- Impurities \geq 100 ppm
- Feasible, relevant transformation products

Collect Data

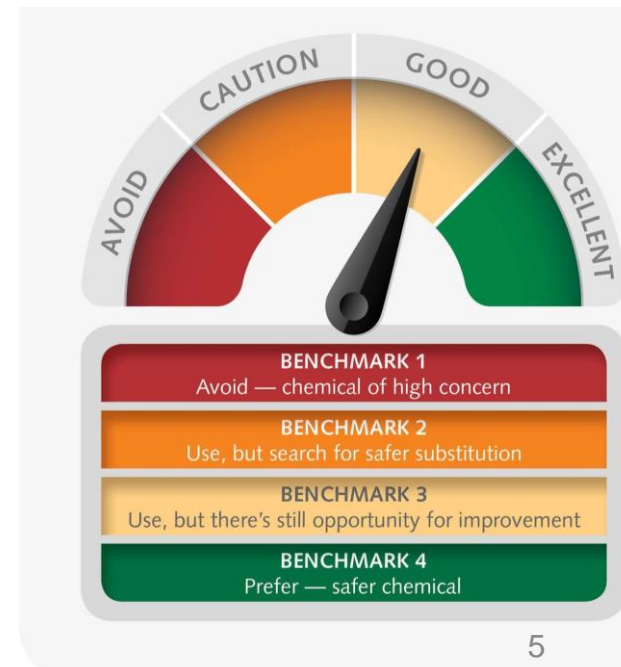
- Measured data from standardized tests, literature
- Specified Lists
- Analogs, modeled data for gaps

Classify Hazards

- 18 endpoints
- Hazard Criteria
- vH, H, M, L, vL

Assign Benchmark

- Benchmark criteria
- Place chemicals on continuum of hazard



GreenScreen Hazard Endpoints

Human Health Group I	Human Health Group II and II*	Environmental Toxicity & Fate	Physical Hazards
Carcinogenicity	Acute Mammalian Toxicity	Acute Aquatic Toxicity	Reactivity
Mutagenicity & Genotoxicity	Systemic Toxicity & Organ Effects	Chronic Aquatic Toxicity	Flammability
Reproductive Toxicity	Neurotoxicity	<i>Other Ecotoxicity Studies when available</i>	
Developmental Toxicity	Skin Sensitization	Persistence	
	Respiratory Sensitization		
Endocrine Activity	Skin Irritation	Bioaccumulation	
	Eye Irritation		

GreenScreen Benchmark Criteria



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



Use but Still Opportunity for Improvement

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

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



Use but Search for Safer Substitutes

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

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

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

BENCHMARK U

- Unspecified Due to Insufficient Data

The combination of hazard classifications for 18 assessed endpoints translates into a Benchmark score ranging from 1-4

GreenScreen List Translator

- Developed as first step to identify chemicals of high concern
- Provides stream-lined evaluation of hazards using a “List of Lists” approach
- Use to screen out known “bad actors” due to hazards such as carcinogenicity, reproductive and developmental toxicity, persistence in environment

See Annex I of newly released GreenScreen Guidance v1.3

GreenScreen List Translator Scores

List Translator Score	Relationship to Benchmark Score	Interpretation
LT-1	Likely Benchmark 1	Chemical is present on one or more lists that would likely result in a Benchmark 1. Further review will almost always confirm.
LT-P1 (Possible)	Typically Benchmark 1 or 2	Chemical is present on a list that would likely result in either a Benchmark 1 or Benchmark 2.
LT-UNK (Unknown)	May result in <i>any</i> benchmark	Further review may result in any Benchmark. May be a safer chemical. May be a poorly researched chemical. May be a hazardous chemical.
LT-2, 3, and 4 (DO NOT EXIST)	N/A	List Translator identifies known hazards. These scores do not exist.

GreenScreen List Translator Assessment Procedure

1. Assess and classify hazards

List Translator Hazard Summary Table																				
Group I Human					Group II and II* Human								Ecotox		Fate		Physical		Multiple	
C	M	R	D	E	AT	ST		N		SnS	SnR	IrS	IrE	AA	CA	P	B	Rx	F	Multiple
						single	repeat ed*	single	repeat ed*	*	*									
			M or L	H or M	H	H		M	M or L			M	H			VH or H			H	Multi*

2. Assign a List Translator score

3. Make informed decisions

GreenScreen Specified Lists

- List Translator is built on 42 authoritative and screening lists

GREENSCREEN LIST TRANSLATOR VERSION 1.3 SPECIFIED LISTS

Last Updated: March 8, 2016

ID	Abbreviation	CPA List Type	List Name	Associated GreenScreen Hazard Endpoints	URL and/or Reference
1	AOEC – Asthmagens	Authoritative B	Association of Occupational and Environmental Clinics (AOEC) – Exposure Code List	Respiratory Sensitization	The main AOEC website is at the first link below. The current list of substances can be searched or listed from the webpage at the second link below.
					http://www.aeec.org/tools.htm http://www.aeecdata.org/ExpCodeLookup.aspx
2	Boyes – Neurotoxicants	Screening B	Chemicals with Neurotoxicity-Based Occupational Exposure Standards (NIOSH/OSHA)	Developmental Toxicity including Developmental Neurotoxicity, Neurotoxicity	“Neurotoxicology and Behavior” chapter, William K. Boyes, Ph.D., et al.(eds.), in Patty’s Industrial Hygiene and Toxicology, 2001 by John Wiley & Sons, Inc. Published Online: April 16, 2001. Chemicals listed in Table 25.1. (Updated 2012 version does not contain Table 25.1)
					http://onlinelibrary.wiley.com/doi/10.1002/0471435139.tox025/abstract
3	EC – CEPA Toxic Substances (Sched 1)	Screening B	Canadian Environmental Protection Act, 1999 (CEPA 1999): CEPA Toxic	PBT in “Multiple Endpoints”	A description of the CEPA Toxic Substances listing program appears at the first link. The current substance list is at the second link.
					http://www.ec.gc.ca/CEPARRegistry/subs_list/ToxicList.cfm http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=ODA2924D-1&wsdoc=4ABEFFC8-5BEC-B57A-F4BF-11069545E434

List Translator Hazard Classification

GREENSCREEN VERSION 1.3 HAZARD CRITERIA

Last Updated: March 8, 2016

Information Type	Information Source	List Type	High (H)	Moderate (M)	Low (L)	
Data	GHS Criteria & Guidance		GHS Category 1A (Known) or 1B (Presumed) for any route of exposure	GHS Category 2 (Suspected) for any route of exposure or limited or marginal evidence of carcinogenicity in animals (See Guidance)	Adequate data available, and negative studies, no structural alerts, and GHS not classified.	
Carcinogenicity (C)	A Lists	US EPA – IRIS Carcinogens (1986)	Group A, B1 or B2	Group C	Group E	
		US EPA – IRIS Carcinogens (1996, 1999, 2005)	Known or Likely		Not Likely	
		EU – REACH Annex XVII CMRs	Category 1 or 2	Category 3		
		EU – Annex VI CMRs	Carc 1A or 1B	Carc 2		
		EU – GHS (H-Statements)	H350 or H350i	H351		
		EU – R-Phrases	R45 or R49	R40		
		EU – SVHC Authorisation List	Carcinogenic – Banned unless Authorised			
		“GHS – [COUNTRY]* Lists (*Australia, the European Union, Indonesia, Japan, Korea, Malaysia, New Zealand, Taiwan and Thailand)”	Category 1A or 1B	Category 2	Not Classified	
		IARC	Group 1 or 2a	Group 2b	Group 4	
		MAK	Carcinogen Group 1 or 2	Carcinogen Group 3A or 3B, 4, or 5		
		US CDC – Occupational Carcinogens	Occupational Carcinogen			
		US NIH – Report on Carcinogens	Known or Reasonably Anticipated			
		CA EPA – Prop 65	Carcinogen			
	B Lists	US EPA – IRIS Carcinogens (1986)	Authoritative	Group D		
		US EPA – IRIS Carcinogens (1999)	Authoritative	Suggestive Evidence, but not sufficient to assess human carcinogenic potential		
	US EPA – IRIS Carcinogens (2005)	Authoritative	Suggestive evidence of carcinogenic potential			
	IARC	Authoritative	Group 3			
	CA EPA – Prop 65 (with qualifications)*	Authoritative	Carcinogen – specific to chemical form or exposure route			

Specified Lists Types

List Type	Description	Possible Combinations
Authoritative Lists	Listing is based on a comprehensive expert review by a recognized authoritative body, and results in a classification with a higher level of confidence	Authoritative A* Authoritative B**
Screening Lists	Listing results in a classification with a lower level of confidence because at least one of the following is true: <ol style="list-style-type: none"> the list was developed using a less comprehensive review The list was compiled by an organization that is not considered to be authoritative The list was developed using predominantly or exclusively estimated data The list was developed to identify chemicals for further review and/or testing 	Screening A* Screening B**

* A lists: Single endpoint with one hazard classification or only one possible List Translator Score

** B lists: Multiple endpoints and/or hazard classifications

Specified List Rules

What if a chemical appears on more than one list for a given hazard endpoint?

TABLE A-3. **Trumping Rules for Lists**

	Column 1	Column 2	Column 3	Column 4	Column 5
Row 1		Authoritative A	Authoritative B	Screening A	Screening B
Row 2	Authoritative A	Most Conservative	Most Conservative	Authoritative A	Authoritative A
Row 3	Authoritative B		Most Conservative	Authoritative B	Authoritative B
Row 4	Screening A			Most Conservative	Most Conservative
Row 5	Screening B				Most Conservative

List Translator Hazard Table

Example: Methyl Ethyl Ketone CAS # 78-93-3



List Translator Hazard Table																				
Group I Human					Group II and II* Human								Ecotox		Fate		Physical		Multiple	
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>M or L</i>	<i>H or M</i>	H	H		<i>M</i>	<i>M or L</i>			M	H			<i>vH or H</i>			H	<i>Multi*</i>

1. Hazard Classification

- vH = very High
- H = High
- M = Moderate
- L = Low
- vL = very Low
- Blank = no results

2. Level of Confidence:

- **Bold** = Authoritative A List
- *Italics* = Authoritative B or Screening A or B List

GreenScreen List Translator Assessment Procedure



1. Assess and classify hazards

List Translator Hazard Summary Table																				
Group I Human					Group II and II* Human								Ecotox		Fate		Physical		Multiple	
C	M	R	D	E	AT	ST		N		SnS	SnR	IrS	IrE	AA	CA	P	B	Rx	F	Multiple
						single	repeat ed*	single	repeat ed*	*	*									
			M or L	H or M	H	H		M	M or L			M	H				VH or H		H	Multi*

2. Assign a List Translator score

LT-UNK

LT-P1

LT-1

3. Make informed decisions

List Translator Scoring Criteria

Equivalent to Benchmark 1 Scoring Criteria



TABLE A-7. **List Translator Scoring Algorithm**

LT-1 Criteria	Answer (Y or N)
a. High Toxicity (Group I)	
b. High P (< vH) AND High B AND very High Toxicity (Ecotox or Group II) OR High Toxicity (Group I or II*)	
c. very High P AND very High B	
d. very High P AND very High Toxicity (Ecotox or Group II) OR High Toxicity (Group I or II*)	
e. very High B AND very High Toxicity (Ecotox or Group II) OR High Toxicity (Group I or II*)]	

Human Health Group I: Carcinogenicity (C), Mutagenicity & Genotoxicity (M), Reproductive Toxicity (R), Developmental Toxicity including Neurodevelopmental Toxicity (D), and Endocrine Activity (E)

Human Health Group II: Acute Toxicity (AT), Systemic Toxicity & Organ Effects (ST-single), Neurotoxicity (N-single), Skin Irritation (IrS), and Eye Irritation (IrE)

Human Health Group II*: Systemic Toxicity & Organ Effects* Repeated Exposure (ST-repeated), Neurotoxicity – Repeated Exposure (N-repeated), Skin Sensitization (SnS) and Respiratory Sensitization (SnR)

Environmental Toxicity & Fate (Ecotox): Acute Aquatic Toxicity (AA), Chronic Aquatic Toxicity (CA), Other Ecotoxicity studies when available, Persistence (P), Bioaccumulation (B)

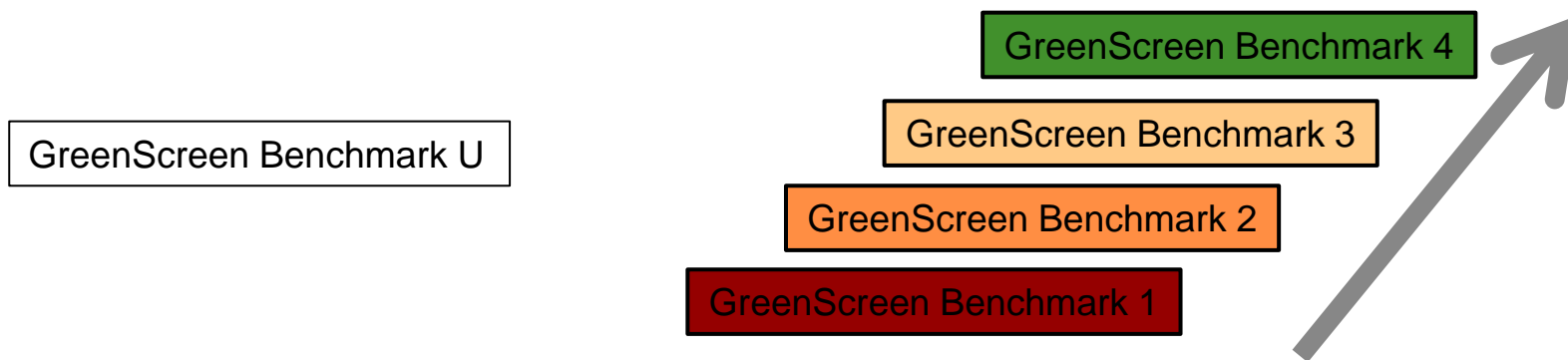
Physical Hazards: Reactivity (Rx), and Flammability (F)

List Translator Scores

Score	“Bad Actor”	Scoring Rule
LT-1	Yes	Chemical appears on an AUTHORITATIVE list and results in a YES for one or more scoring criteria.
LT-P1 (Possible)	Maybe	Chemical appears on a SCREENING list and results in a YES for one or more scoring criteria.
LT-UNK (Unknown)	Don’t Know	Chemical present on Specified List but results in a NO to ALL scoring criteria

Resolving LT-P1s

1. GreenScreen Assessment



2. Comprehensive assessment of hazards driving List Translator Score only

LT-1

OR

LT-UNK

GreenScreen List Translator Assessment Procedure

1. Assess and classify hazards

List Translator Hazard Summary Table																				
Group I Human					Group II and II* Human								Ecotox		Fate		Physical		Multiple	
C	M	R	D	E	AT	ST		N		SnS	SnR	IrS	IrE	AA	CA	P	B	Rx	F	Multiple
						single	repeat*	single	repeat*	*	*									
			M or L	H or M	H	H		M	M or L			M	H			VH or H			H	Multi*

2. Assign a List Translator score

LT-UNK

LT-P1

LT-1

3. Make informed decisions

List Translator Results

Three Levels of Results



1. List Translator Score

LT-UNK

LT-P1

LT-1

2. Hazard(s) Driving Score

Carcinogenicity

3. List Names and Categories

 Intl Agency for Rsrch on Cancer - Cancer Monographs - Group 1: Agent is carcinogenic to humans

 Cal/EPA - Chemicals Known to Cause Cancer & Reproductive Toxicity - Cancer

Pharos Chemical & Material Library

46 authoritative hazard lists



- [About the CML](#)
- Showing 1 - 66 of 66 results
- [AOEC - Asthmagens](#)
- [AOEC Exposure Codes - Asthmagen List](#)
- [Agency: Association of Occupational and Environmental Clinics \(AOEC\)](#)
- [Type: Chemical Hazard List](#)
- [IARC](#)
- [Monographs On the Evaluation of the Health Hazards of Chemicals](#)
- [Abbreviation: IARC](#)
- [Agency: International Agency for Research on Cancer \(IARC\)](#)
- [Type: Chemical Hazard List](#)
- [Boyes - Neurotoxicants](#)
- [Chemicals with occupational health and safety concerns](#)
- [Agency: Pattys Toxicology](#)
- [Type: Chemical Hazard List](#)

AOEC Exposure Codes - Asthmagen List

Agency: Association of Occupational and Environmental Clinics (AOEC)

- General Information
- Specific Health or Ecosystem Hazards
- Materials Listed (273)
- Admin

Description:

The AOEC is a non-profit organization dedicated to "[facilitating] the prevention and treatment of occupational and environmental illnesses and injuries through collaborative reporting and investigation of health problems."

The AOEC Exposure Code List was developed to help identify emerging occupational and environmental health concerns, including but not limited to asthma.

The AOEC Exposure Code List includes plants, animals etc.

The AOEC Exposure Code List includes AOEC criteria. Criteria include the type of asthmagen, inhalation challenge, diagnosis – evidence of specific stimuli, exposure to asthma).

Formal criteria for the (Reactive Airways Disease) pulmonary medicine AOEC criteria, the AOEC exposures are selected other stakeholders.

Exposures designated

- **Rs** = Reviewed
- **Rr** = Reviewed
- **Rrs** = Reviewed
- **R-** = reviewed
- **G** = Substances that are generally accepted as asthmagens.

Pharos Exclusions: The Pharos listing for AOEC currently includes only

RESPIRATORY	Medium Hazard: Asthma
RESPIRATORY	High Hazard: Asthma
RESPIRATORY	High Hazard: Asthma
RESPIRATORY	High Hazard: Asthma
RESPIRATORY	Potential Concern Hazard
RESPIRATORY	Medium Hazard: Susceptible
RESPIRATORY	Medium Hazard: Asthma

CAS RN	Material Name
2746-19-2	(1,2,3,6)-1,2,3,6-tetrahydro-3,6-methanophthalic anhydride
111-41-1	(2-AMINOETHYL)ETHANOLAMINE
68391-01-5	(C10-14) ALKYL DIMETHYL BENZYL AMMONIUM CHLORIDE
68155-39-5	(C10-14) ALKYL DIMETHYL BENZYL AMMONIUM CHLORIDE
123-77-3	1,1,1-trichloro-2,2,2-trifluoroethane
693-23-2	1,1,1-trichloro-2,2,2-trifluoroethane
694-83-7	1,1,1-trichloro-2,2,2-trifluoroethane
85-42-7	1,2-dichloroethane
9072-91-7	1,2-dichloroethane
26590-20-5	1,2-dichloroethane



Pharos Chemical & Material Library

20 Restricted Substance Lists



SCP Candidate List



C2C Banned List



LBC Red List



DfE SCIL



REACH Exempt



Hazardous 100+ Chemicals



Level Annex B Chemicals of Concern



Pharos Chemical & Material Library

Over 37,000 substances
Almost 500 chemical classes



Building Products

Chemicals and Materials

Hazards

Certifications

Dashboard

Logout

Dashboard / Chemicals and Materials

Chemicals and Materials

Showing 1 - 100 of 35,980 results

CAS RN	Material Name	Hazard			GreenScreen
		Substance	Residual	Manufacturing	
81972-48-7	_ _{2,6} -Bis(1-methylethyl) phenyl]-_ _{[[[2,6-bis(1-methylethyl)phenyl]carbonimidoyl]amino]poly[nitrilomethanetetraylnitril o[2,4,6-tris(1-methylethyl)-1,3-phenylene}	●			LT-UNK
193159-06-7	_ ₃ -(1-oxoprop-2-enyl)-1-oxypropyl]dimethoxysilyloxy-_ ₃ -(1-oxoprop-2-enyl)-1-oxypropyl]dimethoxysilyl poly(dimethylsiloxane)	●			LT-UNK
874299-53-3	_ ₄ -(Hydroxy-kO)- _{3,8} -bis2-(hydroxy-kO)-5-nitrophenylazo-kN1-7-(phenylamino-kN)-2-naphthalenesulfonato(5-)-bis3-(hydroxy-kO)-4-2-(hydroxy-kO)-1-naphthalenylazo-kN1-7-nitro-1-naphthalenesulfonato(3-)-dichromate(5-), disodium trihydrogen	●			LT-P1
67375-30-8	_ _{-CYPERMETHRIN}	●			LT-P1
18304-13-7	_ _{-D-Glucopyranoside, 1,3,4,6-tetrakis-O-(2-cyanoethyl)-β-D-fructofuranosyl 2,3,4,6-tetrakis-O-(2-cyanoethyl)-}	●			LT-UNK

Search term

Type

Used in Product Category

Has a full GreenScreen assessment

Restricted lists include [+ Add](#)

Restricted lists do not include

Include residuals in selected filters above

Filter results

Pharos Chemical & Material Library

Search by Chemical Name or CAS



Building Products

Chemicals and Materials

Hazards

Certifications

Dashboard

Logout

Dashboard / Chemicals and Materials

Chemicals and Materials

Showing 1 - 100 of 35,980 results

CAS RN	Material Name	Hazard			GreenScreen
		Substance	Residual	Manufacturing	
81972-48-7	_[2,6-Bis(1-methylethyl) phenyl]-_-[2,6-bis(1-methylethyl)phenyl]carbonimidoyl]amino]poly[nitrilomethanetetraylnitril o[2,4,6-tris(1-methylethyl)-1,3-phenylene	●			LT-UNK
193159-06-7	_[3-(1-oxoprop-2-enyl)-1-oxypropyl]dimethoxysilyloxy-_[3(1-oxoprop-2-enyl)-1-oxypropyl]dimethoxysilyl poly(dimethylsiloxane)	●			LT-UNK
874299-53-3	_-4-(Hydroxy-kO)-3,8-bis2-(hydroxy-kO)-5-nitrophenylazo-kN1-7-(phenylamino-kN)-2-naphthalenesulfonato(5-)-bis3-(hydroxy-kO)-4-2-(hydroxy-kO)-1-naphthalenylazo-kN1-7-nitro-1-naphthalenesulfonato(3-)-dichromate(5-), disodium trihydrogen	●			LT-P1
67375-30-8	_-CYPERMETHRIN	●			LT-P1
18304-13-7	_-D-Glucopyranoside, 1,3,4,6-tetrakis-O-(2-cyanoethyl)-β-D-fructofuranosyl 2,3,4,6-tetrakis-O-(2-cyanoethyl)-	●			LT-UNK

Search term

butyl benz

- [136-60-7] **BUTYL BENZOATE**
- [85-68-7] **BUTYL BENZYL PHTHALATE (BBP)**
- [120-50-3] **isobutyl benzoate**
- [1074-92-6] **1-methyl-2-tert-butyl benzene**

Restricted lists include

Restricted lists do not include

Include residuals in selected filters above

Pharos Chemical & Material Library

What are the known hazards?

Dashboard / Chemicals and Materials / [85-68-7] BUTYL BENZYL PHTHALATE (BBP)

[85-68-7] BUTYL BENZYL PHTHALATE (BBP)

Developmental cause harm to including birth weight and biological problems that are Direct Hazards

GreenScreen LT-1 (Likely Benchmark 1), H - Developmental Toxicity incl. developmental neurotoxicity (Group I Human Health Effects, Authoritative A)

Compound Groups

Life Cycle Research

GreenScreen

DEVELOPMENTAL



US NIH - Reproductive & Developmental Monographs - A-Clear evidence of adverse developmental toxicant effects

+ 3

REPRODUCTIVE



EC - REACH SVHCs for authorisation - Toxic to reproduction - Banned unless authorized

+ 6

CANCER



US EPA - IRIS Carcinogens - (1986) Group C - Possible human carcinogen

+ 1

ENDOCRINE



EC/Oslo-Paris Conv - Priority PBTs & EDs & equivalent concern - Endocrine disruptor - Chemical for Priority Action

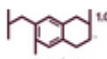
+ 3

GENE MUTATION



Japan METI/MOE - GHS Classifications - Germ cell mutagenicity - Category 2

ACUTE AQUATIC



EC - CLP/GHS Hazard Statements - H400 - Aquatic Acute 1 - Very toxic to aquatic


+ 5


[85-68-7] BUTYL BENZYL PHTHALATE (BBP)

What is its GreenScreen List Translator rating?

 General Information

 Hazards

 Compound Groups

 Life Cycle Research

 GreenScreen

 Admin

 Add GreenScreen Full Assessment



Green Screen for Safer Chemicals Full Assessment: *None available*

Highest concern GreenScreen score : LT-1 (Likely Benchmark 1)

[1309-64-4] ANTIMONY TRIOXIDE

Has it been fully GreenScreen assessed?

[General Information](#)
[Hazards](#)
[Compound Groups](#)
[Life Cycle Research](#)
[GreenScreen](#)

GreenScreen for Safer Chemicals Full Assessment Chemical Benchmark: Benchmark 1

[Download GreenScreen Assessment](#)

Group I Human					Group II and II* Human								
C	M	R	D	E	AT	ST		N		SnS*	SnR*	IrS	IrE
						single	repeat*	single	repeat*				
M	M	M	L	DG	L	-	H	-	L	L	DG	M	M

Eye Irritation/Corrosivity

Moderate (high confidence)
 Antimony trioxide was assigned a score of Moderate for Eye Irritation based on tests results provided within the EPA's DfE alternatives assessment which indicates antimony trioxide produced reversible mild eye irritation in rabbits. DfE categorizes antimony trioxide as a low eye irritant which corresponds to a moderate score under GreenScreen Eye Irritation/Corrosivity. The score was based on empirical data provided within EPA's Alternatives

Organic: Inorganic

Profiler: [Rosenblum Environmental](#) (Clean Production Action Toxicologist)

Date of Assessment: 2014-02-09

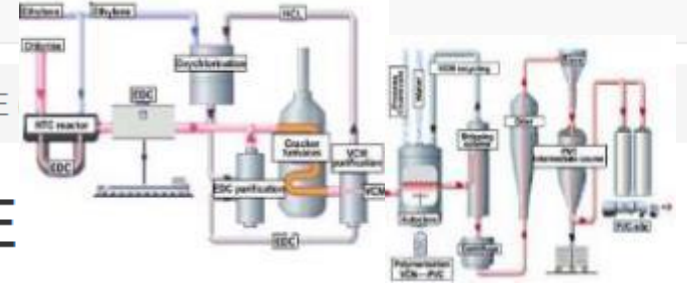
Version: 1.2

Type of GreenScreen: Certified

Summary Explanation:

Antimony trioxide was assigned a Benchmark Score of 1 based on high systemic repeat dose toxicity and very high persistence.

What other chemical info does Pharos have?



[85-68-7] BUTYL BENZYL PHTHALATE

- General Information
- Hazards
- Compound Groups
- Life Cycle Research**
- GreenScreen

Life Cycle Research Status: Preliminary literature review drafted

Life Cycle Chemicals - Known and Potential Residuals:

*What is it made from?
Likely residuals?*

Material	Hazard			Type	Frequency	Notes
	Substance	Residual	Manufacturing			
[100-44-7] BENZYL CHLORIDE	●			Monomer	Integral	🗨️
[71-36-3] N-BUTANOL	●		●	Monomer	Integral	🗨️
+ [85-44-9] PHTHALIC ANHYDRIDE	●	●	●	Monomer	Integral	🗨️

This material is used in the life cycle of:

What is made from it?

[9002-86-2] POLYVINYL CHLORIDE (PVC)	●	●	●	Additive - Non-reactive	Occasional/Rare	🗨️
--------------------------------------	---	---	---	-------------------------	-----------------	----

[85-68-7] BUTYL BENZYL PHTHALATE (BBP)

what chemical classes is it in?

General Information

Hazards

Compound Groups

Life Cycle Research

GreenScreen

Admin

+ Add a compound group

Compound Groups (2):

- Butylbenzyl phthalate and metabolite
- PHTHALATES (orthophthalates)

Pharos Chemical & Material Library

How to Sign Up

← → ↻ https://pharosproject.net



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Welcome to Pharos!

2 weeks free, then \$21/month

New! Try **CompAIR**: Pharos' Volatile Ingredients Calculator

Think You Know Everything There is to Know About Volatile Content?
Think again.

- Multiple methods of measurement and reporting
- Exempt chemicals can still pose health hazards
- Varying amounts of product required for application

CompAIR is FREE to use and lets you:

- Measure and compare volatile ingredients in wet-applied products as installed
- Create a library of wet-applied products to compare
- Measure volatile content avoided through product selection
- Save and edit your product library
- Export and share your results



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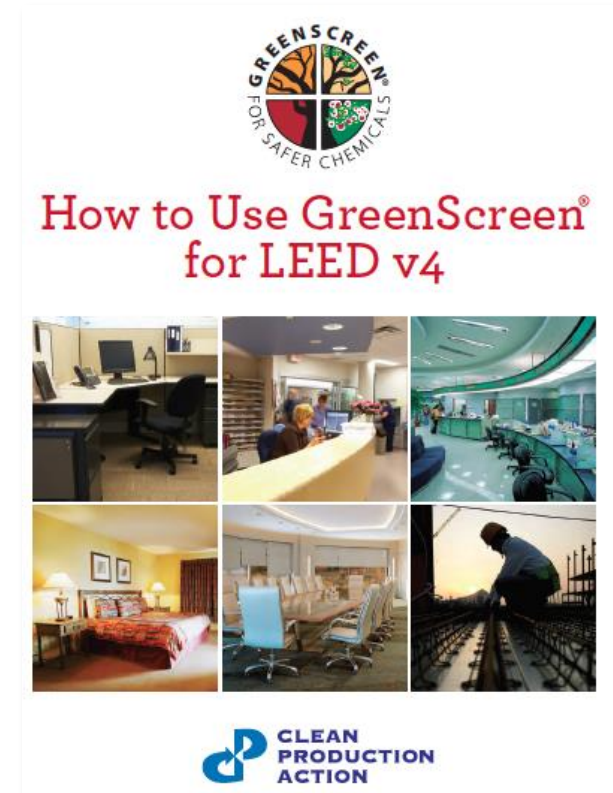
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List Translator in Practice

- Screen out LT-1 chemicals during product design, alternative assessment processes
- Prioritize chemicals for further review and phase out
- Develop restricted substances lists
- Sharing hazard information, e.g. Health Product Declaration
- Meeting standards, e.g. LEED v4

List Translator and LEED v4

- LEED v4 Building product disclosure and optimization – material ingredients
- Option 1 – Material ingredient reporting
 - List Translator scores for proprietary ingredient reporting (role, amount, hazard)
- Option 2 – Material ingredient optimization
 - No LT-1 or Benchmark-1 chemicals



<http://greenscreenchemicals.org/practice/leed>

GreenScreen® for Safer Chemicals Practitioner Program 2016



GreenScreen®
Practitioner Program

Application Deadline **April 15, 2016**

For more information visit:

<http://www.greenscreenchemicals.org/training/certified-practitioner-program>

<http://www.greenscreenchemicals.org/resources/entry/webinar-greenscreen-practitioner-program>

Questions?



- **Post your question to the Questions pane in your GoToWebinar Control Panel**

- Any unanswered questions can be asked at greenscreen@cleanproduction.org

- Presentation and recording will be available at www.greenscreenchemicals.org



Contact Information



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ID	GreenScreen Supporting List Information		GreenScreen List Translator					
	List	Sublist Category	Green Screen Hazard	List Type	A or B	Hazard Range	Display in Hazard Box (See Notes)	List Translator Score
152	G&L – Neurotoxic Chemicals	Neurotoxic	Neurotoxicity-Any Exposure	Screening	B	vH, H, or M	UNK	UNK
153	IARC	Group 1 – Agent is Carcinogenic to humans	Carcinogenicity	Authoritative	A	H	H	1
154	IARC	Group 2a – Agent is probably Carcinogenic to humans	Carcinogenicity	Authoritative	A	H	H	1
155	IARC	Group 3 – Agent is not classifiable as to its carcinogenicity to humans	Carcinogenicity	Authoritative	B	H, M or L	UNK	UNK
156	IARC	Group 4 – Agent is probably not carcinogenic to humans	Carcinogenicity	Authoritative	A	L	L	UNK
157	IARC	Group 2b – Possibly carcinogenic to humans	Carcinogenicity	Authoritative	A	M	M	UNK
158	MAK	Carcinogen Group 1 – Substances that cause cancer in man	Carcinogenicity	Authoritative	A	H	H	1
159	MAK	Carcinogen Group 2 – Considered to be carcinogenic for man	Carcinogenicity	Authoritative	A	H	H	1