



Safer Choice Program

Michigan Green Chemistry &
Engineering Conference

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DfE is now Safer Choice



EPA's Safer Choice was formerly known as Design for the Environment (DfE)

- 40+ years EPA expertise in assessing chemical safety
- Safer Choice Program has 15+ years experience reviewing products
- Voluntary program



A Family of Labels



Optional Label for
Industrial &
Institutional Use



Fragrance-Free
Label

What does the Safer Choice label mean?



- Verification by a trusted government agency that products contain only safer chemical ingredients and that they are:
 - Safer for families, pets, communities, and the environment
 - Safer for workers and work places
 - Works well
- An appealing label that purchasers can trust
 - Facilitates rapid decision-making



Safer Choice-labeled Products



www2.epa.gov/saferchoice/products

- List of qualified products
 - Updated every two weeks
 - More than **2,000** listed products
 - About **650** consumer/retail
 - Remaining are industrial & institutional
- Broad range of product categories. Most are laundry and cleaning products (e.g., detergents, all-purpose cleaners, degreasers)
- Potential for expansion to personal care products, adhesives, lubricants, and more



Safer Choice Product Types



■ Facility/Household Cleaning

- All-Purpose Cleaners, Appliance Cleaners & Rinse Aids
- Automatic Dishwasher Products
- Carpet Cleaners & Floor Care Products
- Degreasers
- Dish Detergents & Soaps
- Granite/Stone/Wood/Leather Cleaners
- Kitchen/Countertop Cleaners
- Laundry Detergents, Fabric Softeners & Pre-Treaters
- Odor Removers
- Pet Care Products
- Toilet Bowl Cleaners
- Tub/Tile Cleaners
- Window/Glass Cleaners

■ Health & Beauty

- Hand Soaps
- *Shampoos*
- *Conditioners*
- *Lotions*
- *Others?*

■ Automotive & Outdoor

- Athletic Field Paint
- Car Care Products
- Outdoor Furniture Cleaners
- Oven/Grill/Barbeque Cleaners
- Parts Washers
- Tire Additives
- Vehicle/Parts Wash Additives

Response to New Label



- *Consumer Reports (July 2014):*
 - Found that many consumers are willing to pay more for safer cleaning products
 - Also noted that Safer Choice-labeled products are often comparable to or less costly than cleaners without the label
- *Consumer Reports (May 2015):*
 - Consumer Reports dedicated a full page the Safer Choice label, explaining “why we like the label”
- *Recent Partner-conducted Survey:*
 - Majority of consumers responded that the new label would be a compelling reason to try a product



Safer Choice and Purchasing Requirements



- Government purchasing:
 - Executive Order 13693
- Using Safer Choice products can help maintain LEED Certification
 - Under LEED EBOM v4 as Design for the Environment (DfE)
<http://bit.ly/1Ni09ro>
- Institutional purchasing:
 - State and local procurement guidelines

Executive Order 13693



Section 3(i)(ii)(C)

(i) promote sustainable acquisition and procurement by ensuring that each of the following environmental performance and sustainability factors are included to the maximum extent practicable for all applicable procurements in the planning, award, and execution phases of the acquisition by:

...

(ii) purchasing sustainable products and services identified by EPA programs including:

(A) Significant New Alternative Policy (SNAP) chemicals or other alternatives to ozone-depleting substances and high global warming potential hydrofluorocarbons, where feasible, as identified by SNAP;

(B) WaterSense certified products and services (water efficient products);

(C) Safer Choice labeled products (chemically intensive products that contain safer ingredients); and

(D) SmartWay Transport partners and SmartWay products (fuel efficient products and services);

What's behind the label?



To use the label products must:

- Meet the Safer Choice Standard
 - Every chemical ingredient is reviewed for human health and environmental safety
 - Product level requirements include: performance, packaging, and ingredient disclosure
- Be covered under a Partnership Agreement between the manufacturer and EPA
 - Renewed every 3 years
- Undergo annual audits

<http://www2.epa.gov/saferchoice/standard>

Safer Choice Criteria



- Review every ingredient
 - Compare to ingredients of similar functionality (promotes green chemistry)
 - Evaluated under Safer Choice Criteria for Safer Chemical Ingredients
 - Lists
 - Literature
 - Analogous chemicals – Structural Activity Relationships (SAR)
 - New Chemicals Program and Globally Harmonized System for Hazard Communication (GHS)
- Review formulations as a whole
 - Synergistic effects
 - Performance testing



Safer Choice Chemical Hazard Endpoints



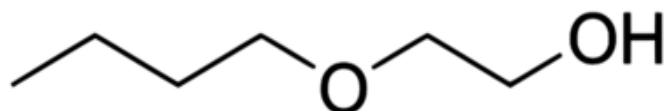
Human Health Effects

- Carcinogenicity
- Mutagenicity
- Reproductive and developmental toxicity
- Neurotoxicity
- Repeated dose toxicity
- Respiratory sensitization
- Skin sensitization
- Others

Environmental Fate and Toxicity

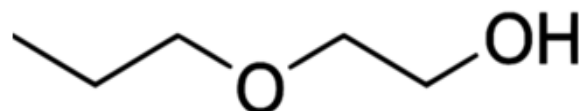
- Persistence
- Bioaccumulation
- Degradation products
- Eutrophication
- Aquatic toxicity
- Others

Going Beyond Lists



2-Butoxyethanol

- Frequently included in lists of solvents of concern
 - Cal/OSHA Hazardous Substances List
- Human health concerns include hemolysis leading to toxicity in kidney, spleen and liver.
- **Not allowed in Safer Choice products**



2-Propoxyethanol

- Not widely recognized as a solvent of concern
 - Not on Cal/OSHA Hazardous Substances List
- Similar human health concerns including hemolysis leading to toxicity in kidney, spleen and liver.
- **Not allowed in Safer Choice products**

How Safer Choice Supports Safer Chemistry



- The Program provides resources to identify safer products and safer chemicals
 - Safer Chemical Ingredients List
 - Staff expertise
- Functional class ingredient criteria
 - Gives companies a basis for choosing safer and highly effective chemicals for their products
 - Helps set a benchmark for designing safer chemicals
 - Improves market for safer chemicals

Safer Chemical Ingredients List



www2.epa.gov/saferchoice/safer-ingredients

- Living list of **725+** safer chemicals that meet EPA's Safer Chemical Criteria
- Potential for expansion
- Uses
 - Research whether proposed formulations might be eligible for Safer Choice
 - Sustainability measure for products not carrying the Safer Choice label
 - Highlight innovation and meet demand for safer chemicals

Safer Choice Home

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List

How to List on SCIL

Safer Choice Standard and
Criteria

Related Programs

DfE Alternatives
AssessmentsDfE Life-Cycle
Assessments

DfE for Pesticides

Safer Detergents
Stewardship Initiative

Program History

Connect with Safer Choice

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Safer Chemical Ingredients List

On this page:

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- [Overview of the Safer Chemical Ingredients List](#)
- [Technical notes about about the list](#)
- [Additional resources](#)




Related Information

For chemical manufacturers and raw material suppliers looking for information on how to list a chemical on the Safer Chemical Ingredients List (SCIL), [visit our step-by-step guide](#).

Safer Chemical Ingredients List

- The listed chemicals are safer alternatives, grouped by their [functional-use class](#).[†]
- Chemicals are marked as a [green circle](#), [green half-circle](#), [yellow triangle](#), or [grey square](#).*
- This list includes many of the chemicals evaluated through the Safer Choice Program. It does not include confidential chemicals. There may be chemicals not included in this list that are also safer.

[+ Expand all](#)[› Antimicrobial Actives](#)[▼ Chelating Agents](#)Evaluated chemicals that meet [Criteria for Chelating and Sequestering Agents](#)

▼ Common Name	↕ CAS Registry Number
 2-Butenedioic acid (2Z)-, ammonium salt (1:?), homopolymer, hydrolyzed, sodium salts	181828-06-8
 Alanine, N,N-bis(carboxymethyl)-, sodium salt (1:3)	164462-16-2
 Aspartic acid, N-(1,2-dicarboxyethyl)-, tetrasodium salt	144538-83-0

GreenBlue's CleanGredients®



www.cleangredients.org

- Database of proprietary ingredients that meet Safer Choice criteria
- Marketing tool for chemical suppliers – ingredients are listed by trade name
- CleanGredients reviews include consideration of preservatives, residuals, and specific composition requirements (e.g., EO/PO ratio for surfactants)

Questions?



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Safer Choice Product Review Process

