## EPA's Safer Choice Criteria for Specialized Industrial Products

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Specialized Industrial Products (SIPs) are a distinct subgroup of products that meet tailored criteria under the Safer Choice program. Safer Choice uses the term "specialized" for this subset of industrial/institutional (I/I) products to distinguish them based on performance requirements from other, more common I/I products, like cleaners and detergents, and to indicate that they require certain ingredients with special, high-performance functionalities. To earn the Safer Choice label, a candidate product and its ingredients must meet the general SIP criteria, in section II, as well as the subclass-specific requirements, in section III.

## I. Context

The Safer Choice approach to product review and certification focuses on identifying the safest possible chemical ingredients within the functional classes that are necessary for a product to perform well. Evaluating the human and environmental health characteristics of ingredients in their functional-class context allows Safer Choice to: compare the toxicological characteristics of chemistries that serve a similar purpose; identify the characteristics that help distinguish the safer members of the class; determine which members of the class meet Safer Choice safer chemical criteria, as well as drive the class toward innovative new formulations. Safer Choice has developed functional-class criteria based on these principles to define safer chemicals for use in cleaning formulations in general and for the following functional-use classes: surfactants, solvents, chelating agents, and fragrances (see <u>Safer Choice Master Criteria and Ingredient Class Criteria</u>).

The Safer Chemical Ingredients List (SCIL, at <u>https://www.epa.gov/saferchoice/safer-ingredients</u>) is a list of chemical ingredients that the Safer Choice program has evaluated and determined to be safer than traditional chemical ingredients. The listed chemicals are safer alternatives, grouped by their functional-use class and assigned a code (i.e., green circle, green half-circle, yellow triangle, and grey square). SIP ingredients are included on SCIL, with restricted high-performance ingredients designated by a yellow triangle under the Specialized Industrial Chemical functional-use class.

Recognizing the potential to encourage and ensure safer formulations in specialized and technical applications, like floor finishes and strippers, the Safer Choice program has included certification for safer specialized industrial and institutional products. To accommodate the greater functional demands placed on the chemistry in SIPs, Safer Choice will allow limited exceptions to its standard criteria (designed for chemicals used in basic cleaning and similar applications), as described below.

To be specific, high-performance ingredients for industrial products that do not meet the Master Criteria must: serve a critical and specialized functional need in the formulation; be present at the lowest level that achieves its function; and be the subject of active continuous improvement efforts and a search for innovative alternatives. Additionally, ingredients with a yellow-triangle designation must not cumulatively exceed 10 percent of a certified product as sold per Section 4.2.8 of the <u>Safer Choice</u> and Design for the Environment (DfE) Standard.

Manufacturers must also design and market qualifying products for use only in industrial and institutional settings and monitor them for potential adverse health effects and report any such occurrences to Safer Choice. Further, Safer Choice will ensure that the ingredients allowed will be from the safest in their functional class, and, at a minimum, no ingredient in a SIP will be a listed carcinogen, mutagen or reproductive or developmental toxicant, or a persistent, bioaccumulative, and toxic chemical.

As product types appropriate for application of these criteria come to Safer Choice's attention, they will be posted in section III, along with the specific product and functional-class criteria under which they qualify for the Safer Choice label.

## **II.General Criteria**

Given the significant potential for safer formulation, Safer Choice will certify certain products designed for specialized industrial and institutional applications. To qualify for certification, candidate products must comply with the provisions in the Safer Choice and DfE Standard, with the following limited exceptions and conditions:

- All ingredients must comply with the general component-specific requirements in section 5 of the Safer Choice and DfE Standard, except for certain highperformance ingredients;
  - All ingredients on SCIL with a yellow-triangle designation must not cumulatively exceed 10 percent of a certified product as sold (unless noted otherwise in section III).

- 2) High-performance ingredients that do not meet the Safer Choice Master Criteria must:
  - a) Serve a critical and specialized functional need in the formulation;
  - b) Be selected from among the safest in their class, as measured against the Safer Choice Master Criteria;
  - c) Exclude listed carcinogens, mutagens and reproductive or developmental toxicants, and persistent, toxic and bioaccumulative substances, as per the Master Criteria (at <u>www.epa.gov/saferchoice/standard#tab-2</u>, specifically, tables 2, 3, and 6b; or per authoritative flagging lists for reproductive and developmental toxicity);, specifically, tables 2, 3, and 6b; or per authoritative flagging lists for reproductive and developmental toxicity).
  - d) Be limited in the finished product to the maximum extent possible, as appropriate to the product class;
  - e) Be the subject of active continuous improvement efforts and a search for innovative alternatives, as verified during annual audits; and
  - f) Be added to EPA's SCIL as a yellow-triangle Specialized Industrial Chemical and highlighted as allowed for functionality.
- 3) In addition, manufacturers must design and market qualifying products for use only in industrial and institutional settings; and
- 4) Must monitor qualifying products for potential adverse health effects and report any occurrences to EPA's Safer Choice program.

## III. Qualifying SIP Classes and Components

Floor finishes. Floor finishes that meet the Safer Choice and DfE Standard and the safer ingredient criteria—with special requirements for plasticizers and pH adjusters—will be eligible for certification by Safer Choice.

To qualify, the formulation must meet the General Criteria in section II as well as the following parameters:

- a) Plasticizers must have a human and environmental health profile at least on a par with tributoxyethyl phosphate and not exceed 3.0 percent (weight-by-weight) in the formulation; and
- b) Any pH adjusters must have a human and environmental health profile at least on a par with ammonium hydroxide (ammonium carbonate or ammonium bicarbonate) and not exceed 1.0 percent (weight-by-weight) in the formulation.

Floor strippers. Floor strippers that meet the Safer Choice and DfE Standard and the safer ingredient criteria—with special requirements for solubilizers and solvents—will be eligible for certification by Safer Choice.

To qualify, the formulation must meet the General Criteria in section II as well as the following parameters:

- a) Small amine solubilizers must have a human and environmental health profile at least on a par with monoethanolamine and not exceed 8.0 percent (weight-by-weight) in the formulation; and
- a) Any solvents must have a human and environmental health profile at least on a par with benzyl alcohol or propylene glycol phenyl ether.

(\*Small amines: Water-soluble compounds having a basic nitrogen functional group. The amine nitrogen atom may be mono- (primary amines), di- (secondary amines) or tri-substituted (tertiary amines). The organic aliphatic substituent(s) may include ether and/or hydroxyl functional groups. Small amines serve as solubilizing agents and pH adjusters. Typical small amines will have MW <200 and no more than 9 carbon atoms.)

Field paints. Field paints that meet the Safer Choice and DfE Standard and the safer ingredient criteria—with special requirements for pH adjusters and certain non-readily-biodegradable components—will be eligible for certification by Safer Choice.

To qualify, the formulation must meet the General Criteria in section II as well as the following parameters:

- a) Any pH adjusters must have a human and environmental health profile at least on a par with ammonium hydroxide and not exceed 1.0 percent (weight- by-weight) in the formulation; and
- b) The total percentage of non-readily-biodegradable ingredients (excluding inorganics) must not exceed 10.0 percent (weight-by-weight) in the formulation.

Grease and Paint Removers. Grease and paint removers that meet the Safer Choice and DfE Standard and the safer ingredient criteria will be eligible for certification by Safer Choice.

To qualify, the formulation must meet the General Criteria in section II as well as the following parameters:

a) Any solvent must have a human and environmental health profile at least on a par with benzyl alcohol or acetone.

The following chart summarizes the qualifying SIP classes and components: floor finishes, floor strippers, field paints, and grease and paint removers. It indicates the product type, components and their functional attributes, and current alternatives for which Safer Choice, its product manufacturer partners, health and environmental advocates, and others are seeking safer alternatives.

Product Type	Component	Functional Attributes	Current Alternatives
Floor Finish	Plasticizer	Causes components to form a surface coating that is durable, slip resistant, and has other properties	Tributoxyethyl phosphate (TBEP)
	pH adjuster	Modifies the product pH	Ammonium hydroxide; Ammonium carbonate; Ammonium bicarbonate
Floor Stripper	Solubilizer	Serves multiple functions, including pH adjustment, keeping ingredients in solution, and solvency to break down the finish	Small amines
	Solvent	Helps break down the finish	Benzyl alcohol; Propylene glycol phenyl ether
Field Paint	pH adjuster	Modifies the product pH	Ammonium hydroxide
Grease and Paint Remover	Solvent	Removes difficult-to- dissolve materials from a variety of substrates	Benzyl alcohol; Acetone