



### Product Description

Refrigerating Appliances include full-sized, compact, portable, and stationary refrigerating appliances. Product types include refrigerators, freezers, dehumidifiers, minibars, wine and beverage coolers, unitary air conditioners (through-the-wall and window-mount), packaged-terminal air conditioners, and air-source heat pumps.

### Mission

The mission of The Sustainability Consortium (TSC) is to improve the sustainability of products when they are made, purchased, and used, with a focus on manufacturers and the retail buyers who decide what products to carry in stores. The information in this document is drawn from our detailed research on known and potential social and environmental impacts across product life cycles. TSC acknowledges that other issues exist, but we have included here those that are most relevant to the decision making of retail buying teams and manufacturers. The topics are listed alphabetically for ease of reading; the order does not represent prioritization or other criteria.

### Sustainability Insights



#### Animals

##### Animal welfare

Manufacturers should obtain refrigerants from suppliers who use alternative testing methods, where legally available, to reduce the need for animal testing. Animal testing is used to substantiate the safety of refrigerants.



#### Use of Resources

##### Climate and energy

Manufacturers should work with their metal and insulation supply chains to reduce the use of energy and associated generation of pollutants, including greenhouse gases, by manufacturing processes. In addition, they should select refrigerants and blowing agents that minimize greenhouse gas generation and ozone depletion when released.

##### Disposal and end-of-life

Manufacturers should participate in product stewardship programs, design products with reuse, refurbishment, and product end-of-life in mind, improve transparency concerning chemicals and materials used, and engage downstream partners to ensure that products are responsibly managed. Discarded appliances need to be collected, treated, and disposed of responsibly to ensure that the product and valuable components and materials are available for further reuse or recycling, that workers are protected, and that pollution is minimized.

##### Material efficiency

Production of metal and plastic components depletes both energy and metal resources, and improper disposal can represent a loss of otherwise reusable material. Manufacturers should minimize these impacts by designing products that optimize durability while using the least possible amount of material overall, as well as more material that is recyclable and comes from recycled sources.

### **Product efficiency**

Manufacturers should design refrigerating appliances to be energy efficient in operation, engage consumers about efficient use behaviors, and have power management features available and enabled by default. This is important because there is a significant amount of electricity used to operate a refrigerating appliance.

### **Transportation and logistics**

Products are transported by land, sea, and air. Manufacturers should select carriers that use fuel-efficient vehicles to reduce emissions. Carriers can address fuel efficiency through preventative maintenance, the use of alternative fuels, and the selection of optimal vehicles, routes, and transport modes. Transportation efficiency can also be improved by maximizing load capacity in vehicles and optimizing the packing of transport vehicles.



## **Workers and Communities**

### **Conflict minerals**

Conflict minerals, including gold and ores that produce tantalum, tin, and tungsten, are those that are mined in areas where armed groups responsible for human rights abuses control mining operations and profit from mineral sales. Manufacturers should work to ensure that materials in their products are sourced responsibly to help improve stability and quality of life for miners and their communities.

### **Workers**

Manufacturers should procure electronic components from suppliers that transparently address worker health and safety and labor rights and perform audits when needed. This is important because rights to freedom of association, equal opportunity and treatment, and fair wages may not be protected, or forced labor may be used, in some parts of the world.