



**CSA R7001:21**  
National Standard of Canada



# Sustainability standard for household refrigeration appliances



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***Sustainability standard for  
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Association of Home Appliance Manufacturers  
AHAM 7001-2021  
Third Edition



CSA Group  
CSA R7001:21  
Second Edition



Underwriters Laboratories Inc.  
UL 7001  
Third Edition

## Sustainability Standard for Household Refrigeration Appliances

October 27, 2021





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## Preface

This is the second edition of CSA R7001, the third edition of UL 7001, and the most recent version of AHAM 7001, Sustainability Standard for Household Refrigeration Appliances.

This harmonized standard was prepared by the Association of Home Appliance Manufacturers (AHAM), CSA Group, and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Committee are gratefully acknowledged.

This standard was prepared by CSA Technical Committee on Sustainability of Household Appliances under the jurisdiction of CSA Strategic Steering Committee on Business Management and Sustainability and has been formally approved by the CSA Technical Committee. This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

The environmental performance of refrigeration home appliances is commonly evaluated on the single environmental attribute of electricity consumption during use. This Standard takes a multi-attribute, life cycle approach to measuring a broad spectrum of environmental and social impacts of refrigeration home appliances as a means of assessing sustainability performance. The multi-attribute approach was developed using representative product life cycle assessment (LCA) information along with other key factors such as hot-spot or hot-button analyses influencing product environmental performance. The attributes and criteria in this Standard are drawn from a much larger list and reflect the understanding of the attributes and criteria that are most prominent in sustainable performance and over which the manufacturers of these products have control. This approach, detailed in Annex A, determined the environmental attributes of refrigeration appliances for inclusion in this Standard. The authors acknowledge that revisions to this Standard will be considered periodically and that future editions may consider a broader range of sustainability criteria.

It has been contemplated by all parties that this Standard will be updated to reflect new U.S. Department of Energy or Natural Resources Canada minimum energy performance standards for refrigeration products. Many of the measurements included in this Standard are unique and have not been conducted on other appliance categories. The Standard's committees expect to learn much from the application of this First Edition in subsequent years. The use of this Standard and self-assessment by refrigeration products manufacturers and external third-party assessment bodies will be used to improve the Standard in drafting the second and subsequent editions.

This Standard was written specifically for products placed on the market in the United States and Canada. At the present time, a number of the calculations are based on systems and designs of products in North America.

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## Foreword

The Association of Home Appliance Manufacturers (AHAM), CSA Group, and Underwriters Laboratories Inc. (UL), as a Task Force, under the jurisdiction of the AHAM Major Appliance Engineering Council, CSA Strategic Steering Committee on Business Management and Sustainability, and UL Environment, collaborated with experts and stakeholders to initiate development of product standards for home appliances as the first step in a broader product sustainability initiative. The overall goal of this family of standards is to provide meaningful product sustainability performance information to consumers and stakeholders. It is intended for this initiative to drive innovation and continual improvement in the sustainability performance of home appliances by empowering consumers. This Standard is based on product life cycle information and consideration for consumer expectations. It provides information for consumers, governments, retailers, and other program developers to help distinguish between products based on environmental criteria.

AHAM, CSA, and UL would like to acknowledge the assistance of PE INTERNATIONAL and Five Winds Strategic Consulting whose staff served as experts and project managers.

### AHAM

The Association of Home Appliance Manufacturers (AHAM) represents manufacturers of major, portable, and floor care home appliances, and suppliers to the industry in the U.S. and Canada. AHAM's membership includes over 150 companies throughout the world. AHAM is also a standards development organization, accredited by the American National Standards Institute (ANSI), and authors numerous appliance performance testing standards used by manufacturers, consumer organizations, and governmental bodies to rate and compare appliances. AHAM administers several appliance rating verification programs, employing third party laboratories. AHAM's consumer safety education program has educated millions of consumers on ways to properly and safely use appliances such as portable heaters, clothes dryers, and cooking products.

### CSA

Canadian Standards Association (operating as "CSA Group") is a not-for-profit membership-based association serving business, industry, government, and consumers in the global marketplace. As a solutions-oriented organization, we work around the world to develop standards that address real needs such as enhancing public safety and health, advancing the quality of life, helping to preserve the environment, and facilitating trade.

### UL

Underwriters Laboratories Inc. (UL) is a global independent safety science company offering expertise across five key strategic businesses: Product Safety, Environment, Life & Health, Knowledge Services, and Verification Services. Our breadth, established objectivity, and proven history mean we are a symbol of trust and enable us to help provide peace of mind to all. In addition to being a leader in safety science, UL is a world leader in standards development for safety, health, and sustainability. Through more than a century of involvement in the standards and conformity assessment community, UL is recognized for its unrivaled technical expertise, and our Standards are used to evaluate and certify products and systems. UL Standards are used by manufacturers to help them design products and systems to meet the requirements for certification, by code development organizations that adopt and reference them in their codes, and by certification organizations that utilize UL requirements for their own certifications.

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# Sustainability Standard for Household Refrigeration Appliances

## 1 Scope

1.1 This Standard covers two-phase refrigerant compression-type refrigeration appliances for household use included within the scope of the U.S. Department of the Energy (DoE) and Canadian Federal Energy Efficiency Regulations minimum energy performance requirements. This includes the following product categories:

- (a) refrigerators;
- (b) refrigerator-freezers;
- (c) chest and upright freezers; and
- (d) compact refrigerator/freezers.

1.2 This Standard does not cover absorption-type refrigerators or refrigeration appliances for commercial use.

## 2 General

2.1 In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the Standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the Standard. Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and may be written as requirements. Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

## 3 References

### 3.1 Normative references

3.1.1 Where reference is made to any Standards, such reference shall be considered to refer to the latest editions and revisions thereto available at the time of printing, unless otherwise specified.

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*The Competition Act, R.S.C. 1985 c. C-34*

*Consumer Packaging and Labelling Act, R.S.C. 1985, c. C-38*

*Textile Labelling Act, R.S.C. 1985, c. T-10*

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