



TIC FEDERATIONS CONSUMER PRODUCT MARKET SURVEY

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TIC Federations Market Survey

Facts and Figures on Consumer Product Compliance and Safety

January 2018

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Abstract

The purpose of this market survey is to compare the compliance rate of certain categories of consumer products available on the open market in North America and Europe that were assessed by: (1) a first-party evaluation (commonly referred to as Supplier's Declaration of Conformity (SDoC)) and (2) an independent third-party conformity assessment body (CAB). This survey was carried out to improve understanding of **the impact different approaches to conformity assessment can have on compliance outcomes that affect consumer product safety.**

The results of the market survey show that third-party testing, inspection, and certification provided higher levels of compliance when compared to SDoC: **17% of the self-declared products showed dangerous faults, compared to less than 1% dangerous faults for products that were third-party certified.**

This survey sheds light on the value added by third-party conformity assessment in providing higher levels of confidence in compliance with safety standards and regulations and the important role it plays in consumer product safety.

1. Survey Goals and Methodology

This market survey was carried out throughout the years 2014-2016. The purpose of the survey was to compare the regulatory compliance rates of a sample of products that were self-declared (SDoC) and others that were certified by accredited independent third parties. The intent was to gather a picture of the state of compliance for certain products categories in both the European and North American markets.

The product categories chosen are illustrated in **Figure 1**. The criteria or rationale for selecting these product categories were:

- Low end small household electrical appliances
- Wide market distribution
- Established safety standards
- Relevant potential of causing harm to consumers

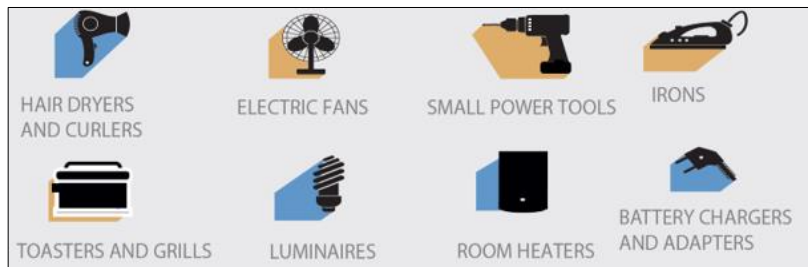
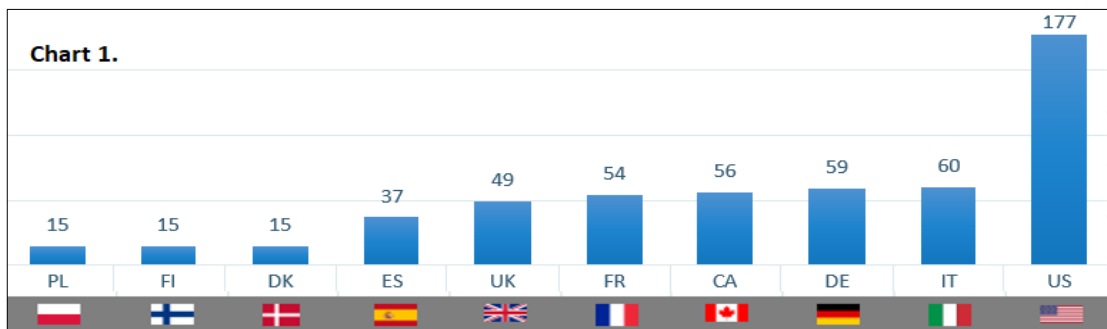


Figure 1. Product categories

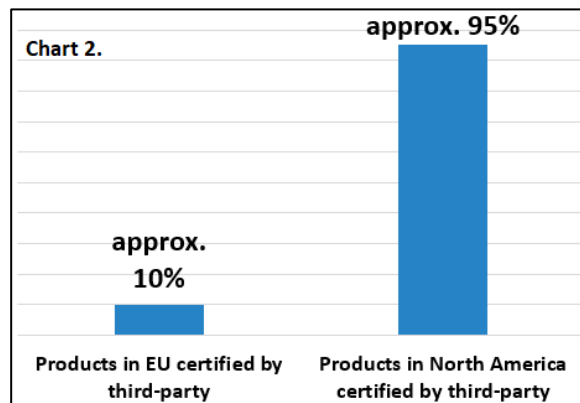
537 Samples were purchased from regular stores throughout North America and Europe. The distribution is illustrated in Chart 1.



Samples were selected at random off the shelves of national retailers. The samples contained a mix of both known brands and no-name brands.

As representative of the actual respective markets, **approximately 10% of the products sourced in EU were certified by an independent third-party, whereas those purchased in North America were certified 95% of the time.** This is due to the different legislative approaches discussed in section 3.4.

A product that was third-party certified means that an independent certification body conducted extensive review of a product’s manufacturing process and determined that the product complies with the applicable legislation. The conformity assessment process includes periodic testing, inspection, market surveillance and factory auditing by the independent conformity assessment body. It provides assurance of ongoing compliance throughout the entire production process with corrective actions in place if non-conformities or issues are identified during the process.



A product that was self-declared means that the manufacturer or supplier of that product conducted the conformity assessment and made an attestation that the product complies with the applicable requirements.

In order to assess the conformity of the products with legislative requirements, a series of safety tests were conducted at an independent lab against established standards (Harmonised European standards for European products, and the corresponding UL/CSA standards for North American products). For a list of standards used, please see *Annex 1*. The safety tests were based on a subset of the most relevant and applicable safety clauses (e.g. heating, abnormal operations, double insulations, warnings etc) within the standards.

The independent laboratory was selected based on the following characteristics:

- Not affiliated to any IFIA or CEOC International member
- Notified Body for Low Voltage Directive
- Familiar with the product categories
- Familiar with market surveillance protocols

Following the laboratory tests, products were listed in one of four categories based on the corresponding risk¹ as elaborated in Figure 2. This report overviews the rate at which dangerous products were detected.

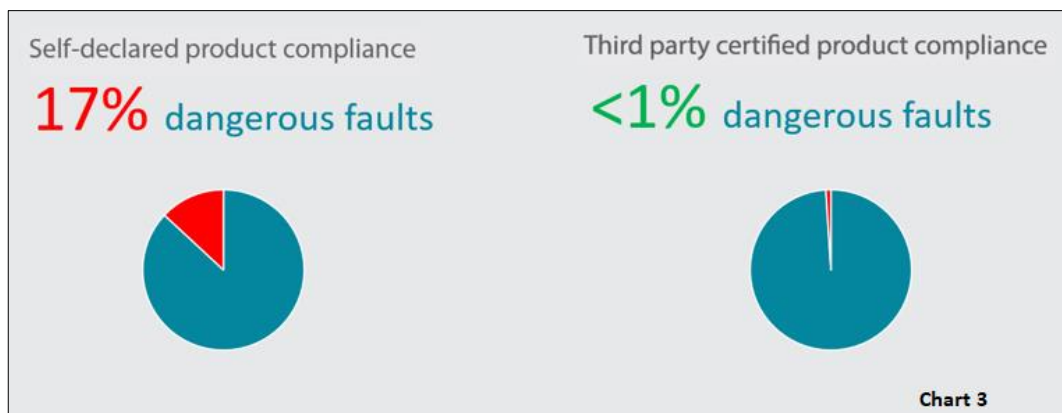
Pass	Slight	Medium	Dangerous
<ul style="list-style-type: none"> • All safety tests were conducted with satisfactory results 	<ul style="list-style-type: none"> • Minor safety failures were detected such as marking labels and safety instruction faults 	<ul style="list-style-type: none"> • Medium risk faults were detected such as mechanical faults 	<ul style="list-style-type: none"> • Safety critical failures with high risk of fire/permanent injury were detected (e.g. Access to movable live parts)

Figure 2.

2. Results

2.1 Overall results

Chart 3 shows that of all products tested, **17% of the self-declared products showed dangerous faults, compared to less than 1% dangerous faults for products that were third-party certified:**



¹ These categories were based on the judgement of the independent laboratory conducting the safety tests, with reference to the RAPEX risk assessment guidelines.

<https://ec.europa.eu/docsroom/documents/17107/attachments/1/translations/en/renditions/native>

2.2 By Region

Percentage of dangerous products per country:

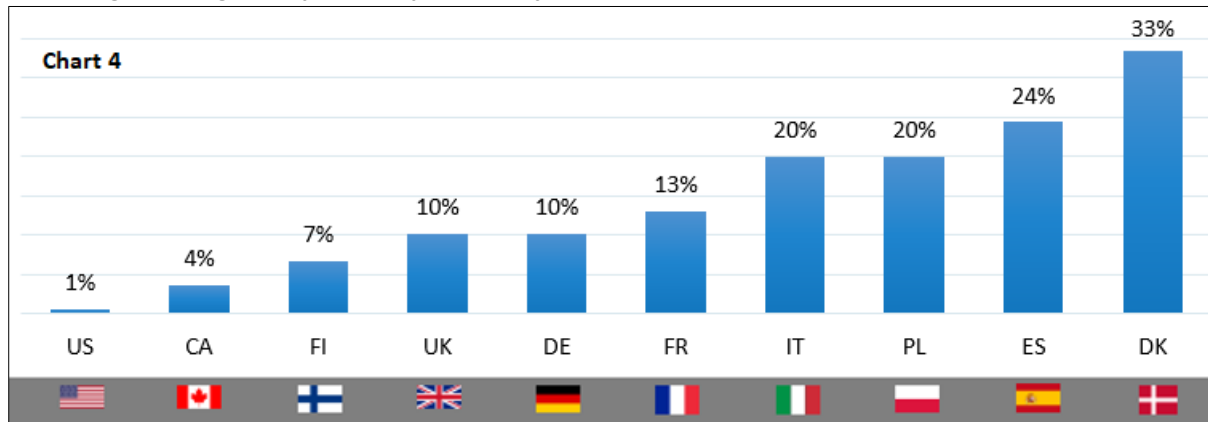
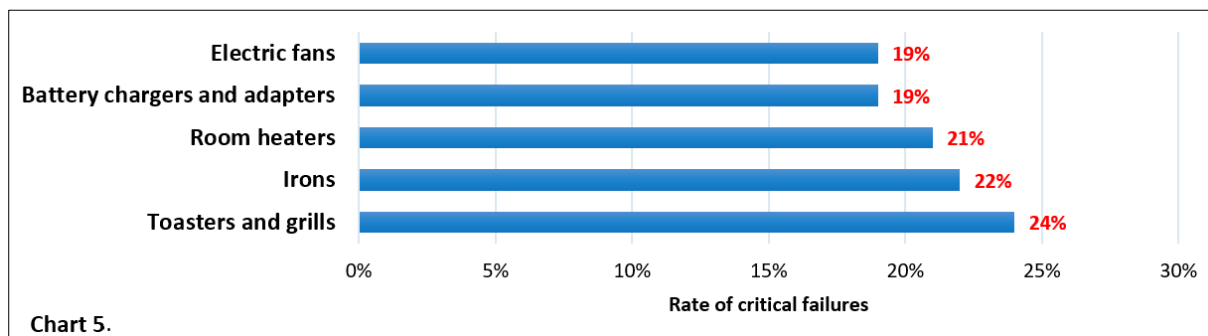


Chart 4 above shows the breakdown by country. Countries that rely on a third-party model presented lowest rates of dangerous faults. Conversely, countries that rely on a SDoC model presented higher rates of dangerous faults. Also, as discussed in section 3.3 and 3.4, there are a series of considerations for deciding which conformity assessment model to use. The SDoC model requires a fully funded market surveillance and strict penalties, among other tools, that can function as deterrents and prevent the unsafe products from entering the market.

2.3 By Product









Looking at the differences in compliance by product category as per **Chart 6**, **Chart 5** illustrates the self-declared product categories that demonstrated the highest levels of safety critical failures:



For these categories, all products that were **third-party certified presented zero critical failures**, with the exception of irons, which demonstrated two critical failures². (Please view Annex 1 for corresponding standard used during safety tests)

² When critical failures are found in products bearing third-party certification marks, the conformity assessment body is alerted and empowered to act. This involves engaging the manufacturer and identifying why the product is not compliant—often the result of changes in the supply chain.

Chart 6.

Product Category (amount tested)	3rd party certified	3rd party certified critical failure rate	SDoC	SDoC critical failure rate
 Hair dryers and curlers (128 tested)	63	0%	65	9%
 Fans (66 tested)	34	0%	32	19%
 Small power tools (31 tested)	13	0%	18	11%
 Toasters / grills (61 tested)	27	0%	34	24%
 Luminaires (67 tested)	27	0%	40	13%
 Room Heaters (59 tested)	30	0%	29	21%
 Irons (66 tested)	25	8%	41	22%
 Chargers/adapters (59 tested)	23	0%	36	19%

3. The Independent TIC Sector

3.1 About IFIA, CEOC and the Testing, Inspection and Certification Sector

IFIA and CEOC are the international federations representing the independent testing inspection and certification (TIC) sector globally. Together, they represent the world’s leading international testing, inspection and certification bodies active in over a hundred countries around the world with a combined turnover of roughly €25 billion and a highly qualified work force of over 400,000 employees.

In the consumer product field specifically, IFIA and CEOC members provide technical expertise during all stages of the value chain: from the design of a product to the sourcing of materials, auditing of suppliers, production, distribution and post-retail—ensuring products placed on the market meet safety, quality, performance and sustainability standards.

Furthermore, IFIA members implement the IFIA Compliance code: a rigorous business code of conduct reviewed by independent auditors and covering 5 key principles:

- Integrity
- Conflicts of Interest
- Confidentiality
- Anti-bribery
- Fair marketing

3.2 What is Conformity Assessment and Why It Matters

Conformity assessment is the *“demonstration that specified requirements relating to a product, process, system, person or body are fulfilled”*³

Conformity with requirements is critical to a well-functioning market. Conformity Assessment:

- Protects health and safety by providing greater confidence that products are compliant with relevant rules and regulations
- Increases buyer confidence by providing details on the characteristics and/or performance of a product and substantiating advertising and labelling claims

3.3 Conformity Assessment Approaches

In general, there are three approaches to conformity assessment: **First-Party** (manufacturer), **Second-Party** (purchaser or user) and **Third-Party** (independent entity).

First-Party Conformity Assessment: “Performed by the person or organization that provides the object”⁴, that is, **the supplier or manufacturer demonstrates that a product or service fulfils specified requirements**, and it is typically used when there is a lower level of risk associated with non-compliance and with the product. In First Party Conformity Assessment, the resulting statement of conformity is commonly referred to as the Supplier’s Declaration of Conformity (SDoC). For a First-Party conformity assessment model to work:⁵

- The risk of noncompliance must be low
- The risk of the product must be low
- There is confidence that manufacturers understand the technical, regulatory and market requirements and has satisfactory control over their supply chain
- There are adequate penalties for placing noncompliant products in the market, which include but are not limited to:
 - civil and criminal penalties
 - product recall, and/or
 - product bans
- There is a fully-funded post market surveillance system in place that quickly and effectively removes noncompliant products from the market in order to avoid injury and societal costs. A post market surveillance system should consist of:
 - mechanism for customer complaints,
 - marketplace surveillance and testing,
 - factory surveillance and testing,
 - regular independent audits of individual manufacturers’ declarations of conformity

³ The International Organization for Standardization (ISO) and International Electrotechnical Commission’s International Standard ISO/IEC 17000:2004: <https://www.iso.org/standard/29316.html>

⁴ <https://www.iso.org/standard/29316.html>

⁵ ACIL: <https://c.ymcdn.com/sites/www.acil.org/resource/resmgr/imported/ACILsDoCPositionPaper.pdf>

A fully-funded market surveillance system is a key requirement for a first-party conformity assessment model to be successful and avoid a high incidence of non-compliant products on the market that can contribute to health and safety issues and other socio-economic costs.

Second-Party Conformity Assessment

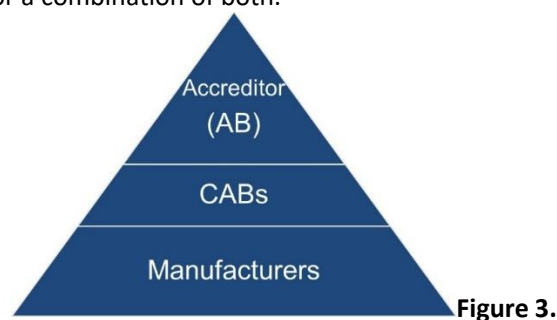
“Performed by a person or organization that has a user interest in the object”⁶, that is, the end user or entity acting in the interests of the end user, or an individual or group whose primary interest is in fulfilment of requirements demonstrates for itself that specified requirements are fulfilled.

Second parties may not always have business models that allow them to maintain the infrastructure, processes and technical competence to cost-effectively take advantage of this approach. Also, costs of goods and services can increase if suppliers face a high number of demands from individual second parties each carrying out their own conformity assessment. Therefore, second parties often rely on third-party conformity assessment to fulfil their confidence needs in a cost-effective manner.

Third-Party Conformity Assessment

Performed “by a person or body whose interests in the product are independent from those of first parties and whose interests in fulfilment of requirements are independent from those of second parties.”⁷

Independent third-party conformity assessment bodies (CABs) may be accredited and regularly assessed by accreditation bodies as proof of qualification (competence) to provide services as a result of accreditation to international ISO/CASCO standards such as: ISO/IEC 17025 for testing, ISO/IEC 17020 for inspection and ISO/IEC 17065 for certification. This accreditation also includes an in-depth review of their documented management systems used to assure ongoing compliance with these international standards. The accreditation bodies may be either government bodies, recognized accreditation bodies operating under international guides or a combination of both.



Third-party is widely relied upon in many markets when⁸:

- There may be a **higher risk associated with non-compliance**
- There may be a **higher risk from products**
- There is need for an **independent** demonstration to the supply and demand chain such as consumers, manufacturers and regulators that a product fulfils specified requirements
- There is need for **higher levels of confidence and assurance of compliance** with safety, health or environmental requirements
- Manufacturers seek to **reduce in-house compliance** costs or apply third-party as an added value to their own quality and conformity assessment procedures to gain global market access and protect their brands and reputation
- There are **limited government resources to fully fund market surveillance systems**

⁶ <https://www.iso.org/standard/29316.html>

⁷ <https://www.iso.org/standard/29316.html>

⁸ ACIL:

<http://c.ymcdn.com/sites/www.acil.org/resource/resmgr/imported/The%20Value%20of%20Third%20Party%20Certification.pdf>

3.4 The North American and European Approaches to Conformity Assessment

Government agencies and institutions are responsible for determining policy goals to fulfil their missions to protect health, safety and the environment and must balance the costs of their programs against the level of confidence needed when determining the appropriate conformity assessment model. The requirement for a particular level of rigor in the conformity assessment process is generally determined by the risks associated with the product, process, or service and its scope of use. The appropriate conformity assessment mechanism is also determined by other market factors, such as the legal system and the general philosophy of pre-market conformity assessment versus a fully funded post-market surveillance system. **The confidence level needed is based on the risk of non-compliance and what market-driven mechanisms exist as mitigation tools for non-compliance.** Part of a full analysis would include the pre-market and post-market structure that would be required. The choice of that structure has implications for costs of related government infrastructure, socio-economic costs, costs of establishing and sustaining technical competency levels, and capacity of those providing the service.

While this is not an in-depth comparison between the European Union (EU) and North American conformity assessment regimes, there are important differences between the European and North American approaches that are worth highlighting:

- **Manufacturers of consumer products in the EU** operate under the New Legislative Framework⁹ which stipulates that the sole responsibility of conformity for consumer products is placed on the manufacturers themselves and primarily relies on first-party conformity assessment (SDoC). Reliance on this approach requires a fully funded national post-market surveillance system as well as penalties and other deterrence to ensure compliance and avoid non-safe products being placed on the market¹⁰.
- **This differs from the conformity assessment regime in place in North America** which, as a result of various federal, state and provincial legislation, places a substantially greater role for third-party certification for high risk products. In addition, market driven aspects such as product liability and retailers' programs also provide further incentive for reliance on third-party conformity assessment for risk mitigation. This preventive approach is financed by the product manufacturer, importer or trader. The necessity for subsequent governmental intervention, for which the public authorities have to maintain appropriate resources, is considerably reduced.¹¹

For example, in 2008, the US Occupational Safety and Health Administration (OSHA), a division of the US Department of Labor, estimated that implementing a first-party system, in lieu of the current use of accredited third parties, would cost the Agency approximately \$360 million

⁹ https://ec.europa.eu/growth/single-market/goods/new-legislative-framework_en

¹⁰ **For more information on product non-compliance on the EU market view the following reports:**

ProSafe - Joint Action 2014 tackles product safety issues across the EU:

http://www.prosafe.org/images/Documents/Newsletters/2017.11.22-JA2014_D2.6a-Final_newsletter-PROSAFE.pdf

European Commission Inception Impact Assessment on Internal Market for Goods – Enforcement and Compliance: [http://ec.europa.eu/smart-](http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_grow_007_enforcement_compliance_en.pdf)

[regulation/roadmaps/docs/2017_grow_007_enforcement_compliance_en.pdf](http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_grow_007_enforcement_compliance_en.pdf)

Market surveillance of playground equipment by Swedish Consumer Agency -

<https://www.konsumentverket.se/globalassets/publikationer/produkter-och-tjanster/barnprodukter-och-leksaker/rapport-2016-15-market-surveillance-of-playground-equipment-konsumentverket.pdf>

¹¹ https://www.vdtuev.de/en/dok_view?oid=584744

annually, compared to \$1 million annually required to operate the third-party Nationally Recognized Testing Laboratory (NRTL) program¹².

4. Conclusion






The results of the market survey show that third-party certification provided higher levels of compliance and lower levels of dangerous faults against applicable requirements when compared to supplier declaration of conformity: **self-declared products presented 17% dangerous faults, compared to <1% dangerous faults for products that were third-party certified.**

Due to the small sample size and other study limitations, no generalizations can be made of these findings. Nonetheless, the survey sheds light on the added value of accredited independent third-party conformity assessment in providing higher levels of confidence of compliance with safety standards and regulations, and the important role it plays in consumer product safety.

¹² <https://www.regulations.gov/document?D=OSHA-2008-0032-0099>

Annex 1


EUROPE

CATEGORIES	STANDARD
 <p>Adapters</p>	<p>EN 60950-1:2006 + A11: 2009 +A1:2010 + A12:2011 +A2:2013- Information technology equipment - Safety - Part 1: General requirements</p>
 <p>Luminaires</p>	<p>EN 60598-2-1: 1989 (FIXED) Luminaires - Part 2: Particular requirements - Section 1: Fixed general purpose luminaires or EN 60598-2-4: 1997 (PORTABLE) Luminaires - Part 2: Particular requirements - Section 4: Portable general purpose luminaires used in conjunction with EN 60598-1:2008-10 + A11:2009-05 Luminaires - Part 1: General requirements and tests</p>
 <p>Small Power Tools</p>	<p>EN 60745-1 Hand-held motor-operated electric tools. Safety. General requirements plus EN 60745-2-3 Hand-held motor-operated electric tools - Safety - Part 2-3: Particular requirements for grinders, polishers and disk-type sanders EN 60745-2-2 Hand-held motor-operated electric tools. Safety. Particular requirements for screwdrivers and impact wrenches</p>
 <p>Room Heaters</p>	<p>EN 60335-2-30:2009 Household and similar electrical appliances - Safety - Part 2: Particular requirements for for room heaters used in conjunction with EN 60335-1 (2012) + AC (2012) Household and similar electrical appliances – Safety Part 1: General requirements</p>
 <p>Toasters, Grills or similar</p>	<p>EN 60335-2-9:2003 + A1:2004 + A2:2006 + A11:2001 + A12:2007 + A13:2010 Household and similar electrical appliances - Safety - Part 2: Particular requirements for grills, toasters and similar portable cooking appliances</p>

 <p>Fans</p>	<p><i>used in conjunction with</i> EN 60335-1 (2012) + AC (2012) Household and similar electrical appliances – Safety Part 1: General requirements</p> <p>EN 60335-2-80 (2003) + A1 (2004) + A2 (2009) Household and similar electrical appliances - Safety – Part 2: Particular requirements for fans</p> <p><i>used in conjunction with</i> EN 60335-1 (2012) + AC (2012) Household and similar electrical appliances – Safety Part 1: General requirements</p>
 <p>Hair Dryers Hair Curlers and straighteners</p>	<p>EN 60335-2-23 (2003) + A1 (2008) + A11 (2010)+ A11/Ec (2012) Household and similar electrical appliances - Safety Part 2: Particular requirements for appliances for skin or hair care</p> <p><i>used in conjunction with</i> EN 60335-1 (2012) + AC (2012) Household and similar electrical appliances – Safety Part 1: General requirements</p>
 <p>Electric Irons</p>	<p>EN 60335-2-3 (2002) + A1:2005 + A2:2008 + A11:2010 Household and similar electrical appliances - Safety Part 2: Particular requirements for electric irons</p> <p><i>used in conjunction with</i> EN 60335-1 (2012) + AC (2012) Household and similar electrical appliances – Safety Part 1: General requirements</p>


NORTH AMERICA


USA

CATEGORIES	STANDARD
 <p>Adapters</p>	<p>UL 60950-1 ed.2 Information technology equipment - Safety - Part 1: General requirements</p>

 Luminares  Room Heaters  Small Power Tools  Toasters, Grills or similar	<p>UL 1598: 2010 UL Standard for Safety for Luminares</p> <p><i>UL 1278:2014</i> <i>Movable and Wall - or Ceiling-Hung Electric Room Heaters</i></p> <p>UL 60745-2-1 Hand-Held Motor-Operated Electric Tools - Safety - Part 2-1: Particular Requirements for Drills and Impact Drills</p> <p>UL 1026:2012 Electric Household Cooking and Food Serving Appliances</p>
 Fans  Hair Dryers Hair Curlers and straighteners	<p>UL 507 STANDARD FOR SAFETY Electric Fans</p> <p>UL 1278 Standard for Movable and Wall- or Ceiling-Hung Electric Room Heaters</p> <p>UL 859 STANDARD FOR SAFETY Household Electric Personal Grooming Appliances</p>
 Electric Irons	<p>UL 60335-2-3 Standard for Safety of Household and Similar Part 2: Particular requirements for electric irons <i>used in conjunction with</i> UL 60335-1 Part 1: General requirements</p>

CANADA

CATEGORIES	STANDARD
 Adapters	<p>UL 60950-1 ed.2</p>

 <p>Luminaires</p>	<p>Information technology equipment - Safety - Part 1: General requirements</p> <p>UL 1598: 2010 UL Standard for Safety for Luminaires</p> <p>UL 1786 Direct Plug-In Nightlights</p> <p>UL 153 Standard for Portable Electric Luminaires</p>
 <p>Small Power Tools</p>	<p>IEC 60745-2-3 Hand-held motor-operated electric tools - Safety - Part 2-3: Particular requirements for grinders, polishers and disk-type sanders</p> <p>IEC 60745-2-2 Hand-held motor-operated electric tools - Safety - Part 2-2: Particular requirements for screwdrivers and impact wrenche</p>
 <p>Room Heaters</p>	<p>CSA C22.2 No. 46 Electric air heaters</p>
 <p>Toasters, Grills or similar</p>  <p>Fans</p>  <p>Hair Dryers Hair Curlers and straighteners</p>	<p>CSA C22.2 No 64, Household Cooking and Liquid-Heating Appliances</p> <p>UL 507 STANDARD FOR SAFETY Electric Fans</p> <p>UL 1278 Standard for Movable and Wall- or Ceiling-Hung Electric Room Heaters</p> <p>CSA C22.2 No. 36, Hairdressing equipment.</p> <p>UL 859 STANDARD FOR SAFETY Household Electric Personal Grooming Appliances</p>



Electric Irons

C22.2 NO. 81-14 - Electric irons