

MARKING

20 General

20.1 A battery shall be marked with the manufacturer's name, trade name, or trademark and model designation.

20.2 A battery shall be marked with the word "WARNING" and the following or an equivalent statement: "Risk of fire, explosion, and burns. Do not recharge, disassemble, crush, heat above 212°F, or incinerate."

Exception No. 1: A cylindrical battery that is smaller in capacity than 300 milliampere hours and a coin, button, or pin battery is not required to be marked if the tests indicate these risks are not obtained.

Exception No. 2: A battery found not to present a risk under one or more of the conditions specified in Sections 8 – 19 need not be marked for those conditions.

Exception No. 3: A battery that is between 300 – 950 milliampere hours in capacity may be marked with the word "WARNING" and an abbreviated statement similar to the following: "Risk of explosion. Do not recharge, open, or incinerate." If space does not permit marking on the battery, this marking may be on the smallest unit package.

Exception No. 4: A user-replaceable battery may be marked with the word "CAUTION" in place of "WARNING."

20.3 The packaging for a user-replaceable battery shall be marked with the word "CAUTION" and the following or equivalent statements:

"Risk of fire and burns. Do not recharge, disassemble, heat above 212°F, or incinerate. Keep battery out of reach of children and in original package until ready to use. Dispose of used batteries promptly. Never put batteries in mouth. If swallowed, contact your physician or local poison control center."

Exception No. 1: The last two sentences are applicable only for a cell or battery that is less than 1.25 inch (32 mm) diameter by 0.15 inch (3.8 mm) thick.

Exception No. 2: Packaging for a battery found not to present a risk under one or more of the conditions specified in Sections 8 – 19 need not be marked for those conditions.

20.4 The end product with a user-replaceable lithium battery shall be permanently marked adjacent to the battery:

"Replace battery with (battery manufacturer's name or end product manufacturer's name, part number) only. Use of another battery may present a risk of fire or explosion. See owners manual for instructions."

Exception: If it is not feasible to include these instructions on the end product, the information may be included in the operating or maintenance instructions providing the battery or battery compartment is marked with the following:

"See operating or maintenance instructions for type of battery to be used."

20.5 The operating or maintenance instructions shall provide the user with complete instructions as to how to replace and dispose of a used battery. This information shall include the following:

a) A warning notice stating the following or the equivalent:

"CAUTION - The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 100°C (212°F), or incinerate. Replace battery with (battery manufacturers name or end product manufacturer's name and part number) only. Use of another battery may present a risk of fire or explosion.

b) Complete instructions as to how to replace the battery ending with the statement:

"Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire "

20.6 If a manufacturer produces a battery at more than one factory, each battery package shall have a distinctive marking to identify it as the product of a particular factory.

Added 20.6 effective April 26, 1996

Subjects 1642, 2054

333 Pfingsten Road
Northbrook, IL 60062
April 29, 1999

**TO: Industry Representatives on the Industry Advisory Conference of UL for Lithium Batteries
Casualty Council of Underwriters Laboratories Inc.
Electrical Council of Underwriters Laboratories Inc.
Fire Council of Underwriters Laboratories Inc.
Subscribers to UL's Standards Service for Lithium Batteries
Subscribers to UL's Standards Service for Household Commercial Batteries
Subscribers to UL's Listing Service for Household Commercial Batteries
Subscribers to UL's Recognition Service for Sealed Nickel Batteries, and Lithium Batteries**

SUBJECT: Performance Testing of Batteries

UL announces a program to include additional performance testing as part of the Listing and Recognition programs for Household and Commercial, Sealed Nickel, and Lithium Batteries. The performance testing will include determination of battery capacity at various temperatures, capacity retention following long term storage, cycle life, and determination of internal resistance. This testing can be conducted in accordance with the proposed ANSI and IEC standards for portable primary and rechargeable batteries and can be done during a submittal for battery Listing or Recognition or conducted independently.

UL will also participate with industry in any future development of ANSI or IEC performance test procedures and requirements.

This bulletin should be kept with your copy of the standard.

Questions regarding interpretation of requirements should be directed to the responsible UL Staff. Please see Appendix A of this bulletin regarding designated responsibility for the subject product categories. Please contact Joseph Allen or John Hawley for information regarding battery performance testing.

SUBJECT 1642

-2-

APRIL 29, 1999

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APPENDIX A

DESIGNATED RESPONSIBILITY FOR UL PRODUCT CATEGORIES

BBCV2, LITHIUM BATTERIES – COMPONENT
 BBET2, NICKEL, SEALED BATTERIES – COMPONENT
 BBFS, HOUSEHOLD AND COMMERCIAL BATTERIES

The individuals shown in the following tables are involved with the investigation of products covered under the subject categories. The Primary Designated Engineer (shown in UPPERCASE letters) coordinates the establishment and uniform interpretation of UL requirements applicable to the product categories. The Designated Engineers (shown in lowercase letters) work with the Primary Designated Engineer to interpret requirements and maintain standards.

Should you have questions regarding the interpretation of the requirements proposed in this bulletin or any adopted requirements that affect your product, you are encouraged to contact the individual at the office to which you normally submit your products.

The Industry Advisory Conference (IAC) Chairman for the subject categories is John Hawley at UL's Northbrook office. The IAC Chairman oversees the significant interpretations made by the Primary Designated Engineer and arbitrates any differences regarding interpretation of UL requirements.

CCN	Office/Subsidiary	Responsible Engineer	Extension
BBCV2	Northbrook	JOSEPH ALLEN	43103
	RTP	Stephen Derynck	11663
	Santa Clara	Andrea Cote	32940

CCN	Office/Subsidiary	Responsible Engineer	Extension
BBET2	Camas	Daniel Deatherage	55682
	Northbrook	JOSEPH ALLEN	43103
	Santa Clara	Andrea Cote	32940

CCN	Office/Subsidiary	Responsible Engineer	Extension
BBFS	Northbrook	JOSEPH ALLEN	43103
	Taiwan	Cannon Sun	70323

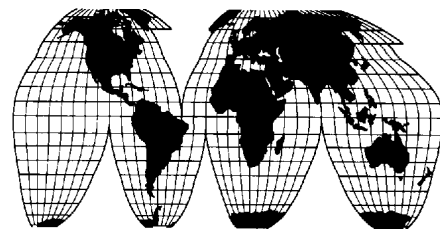
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SUBJECT 1642

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APRIL 29, 1999

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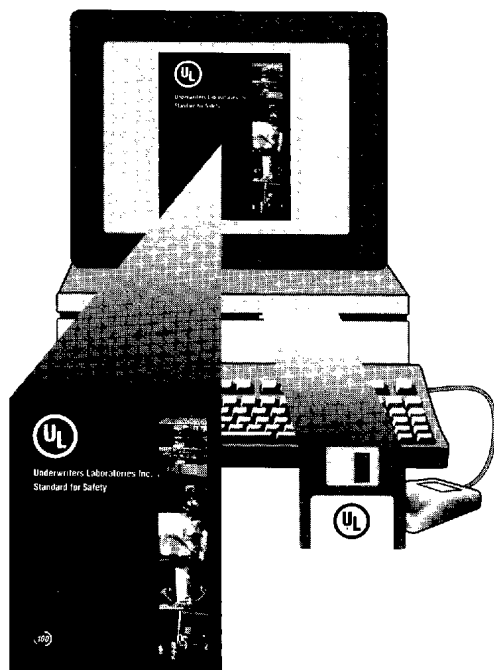
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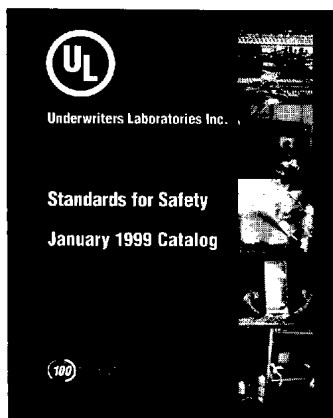
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