



UL 1989

STANDARD FOR SAFETY

Valve Regulated or Vented Batteries with Aqueous Electrolytes

UL Standard for Safety for Valve Regulated or Vented Batteries with Aqueous Electrolytes, UL 1989

Sixth Edition, Dated September 21, 2023

Summary of Topics

This Sixth Edition of ANSI/UL 1989 dated September 21, 2023 has been issued with a new Standard title of "Valve Regulated or Vented Batteries with Aqueous Electrolytes" and scope expansion to cover valve regulated or vented batteries for mobile application, and reflects the latest ANSI approval date.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated July 28, 2023.

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SEPTEMBER 21, 2023



ANSI/UL 1989-2023

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UL 1989

Standard for Valve Regulated or Vented Batteries with Aqueous Electrolytes

First Edition – November, 1992
Second Edition – December, 1996
Third Edition – December, 2006
Fourth Edition – March, 2010
Fifth Edition – October, 2013

Sixth Edition

September 21, 2023

This ANSI/UL Standard for Safety consists of the Sixth Edition.

The most recent designation of ANSI/UL 1989 as an American National Standard (ANSI) occurred on September 21, 2023. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to ULSE at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 These requirements cover valve regulated or vented batteries with aqueous electrolytes that can be used in various applications including stationary applications such as instrument batteries, enclosed batteries, emergency lighting batteries, emergency power batteries and uninterruptible power supply batteries, portable applications such as portable power tool batteries, and mobile applications such as industrial truck batteries.

1.2 These requirements only address potential risks unique to the utilization of a battery supply in a product. Products employing a battery supply shall comply with the basic requirements contained in this Standard applicable to the type of product and its intended use.

1.3 These requirements are intended to address aqueous electrolyte valve regulated or vented batteries such as lead acid, nickel-metal hydride, nickel zinc, or nickel cadmium, etc., and do not cover risks that may be unique to certain chemistries, such as the fire and explosion risks of lithium batteries. Lithium batteries are outside the scope of this Standard.

1.4 A battery system composed of vented or valve regulated types with battery management controls and other battery system components, and other chemistries or battery types used in stationary and motive auxiliary power applications are covered by the Standard for Batteries for Use in Stationary and Motive Auxiliary Power Applications, UL 1973.

2 Components

2.1 A component of a product covered by this Standard shall:

- a) Comply with the requirements for that component as specified in this Standard;
- b) Be used in accordance with its rating(s) established for the intended conditions of use; and
- c) Be used within its established use limitations or conditions of acceptability.

2.2 A component of a product covered by this Standard is not required to comply with a specific component requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product;
- b) Is superseded by a requirement in this Standard; or
- c) Is separately evaluated when forming part of another component, provided the component is used within its established ratings and limitations.

2.3 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

2.4 A component that is also intended to perform other functions such as overcurrent protection, ground-fault circuit-interruption, surge suppression, any other similar functions, or any combination thereof, shall comply additionally with the requirements of the applicable standard(s) that cover devices that provide those functions.