



Press Release

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SANYO Announces New “eneloop” Rechargeable Batteries

*Industry No. 1^{*1} Rechargeable Batteries – Rechargeable up to “Approx. 1,500 times”^{*2},
Factory Pre-charged using Solar Power*

Munich, May 6, 2010 SANYO Component Europe GmbH (SANYO) proudly announces the release of the new, upgraded AA- and AAA-size “eneloop” rechargeable batteries five years from the initial product launch. The new “eneloop” is able to be recharged approximately 1,500 times^{*2}, a new milestone for the rechargeable battery industry, making eneloop the industry No. 1^{*1}.

Since the batteries were first announced on November 14, 2005, “eneloop” has become well-known around the world, as it has revolutionized the consumer-use rechargeable battery segment with its unique features: “rechargeable approximately 1,000 times”^{*2}, “coming pre-charged, making it usable immediately after purchase”, and its unique design departing from the look of traditional batteries.

The latest breakthrough allowing “eneloop” to be recharged up to 1,500 times^{*2} has been realized by applying newly-developed recharging technologies. In addition, the batteries get pre-charged at the factory by using clean energy generated from renewable solar power. However, the specifications of eneloop will remain as they are: Both types are having a nominal voltage of 1,2 V. The Mignon-eneloop (AA) has a rating capacity of 2000 mAh, the Micro-eneloop (AAA) does have a rating capacity of 800 mAh. SANYO will start selling the upgraded AA- and AAA-size “eneloop” in Europe from the beginning of June.

Main Features

1. Industry No. 1^{*1} Rechargeable battery, rechargeable “approximately 1,500 Times”^{*2}, realized by upgrades of “material,” “manufacturing method,” and “structure”

Incorporating new technologies for “material,” “manufacturing method,” and “structure” developed through the knowledge gained since the first release of “eneloop” in November 2005, the number of times a battery can be recharged has been increased by the factor 1.5 to “approximately 1,500 times”^{*2} compared to the conventional models^{*3}, which makes the total number of times it is able to be recharged the industry No. 1^{*1}. With the ability to recharge the battery more times, the new “eneloop” is both more economically competitive and enhanced in environmental awareness as it means the amount of overall battery waste will be reduced.

Introduction of the new technologies

(1) Advanced materials: Development of a “highly-durable super-lattice alloy”

The durability of SANYO’s original “super-lattice alloy,” a negative-electrode material used in “eneloop”, has been enhanced by homogenizing the crystalline structure (a reduction of crystals with an irregular atomic order is irregular) as well as improving its composition (the ratio of constituent element) to reduce the deterioration of the super-lattice alloy by repeated charge and discharge.

(2)Advanced manufacturing method: Developed technology to protect the surface of the super-lattice alloy

A new additive to the negative electrode material, “super-lattice alloy”, and a new additive coating technology was developed. By protecting the alloy surface, deterioration of the “super-lattice alloy” by repeated use can be reduced.

(3) Advanced structure: Use of strong/thin outer case

The new “eneloop” adopts the same strong/thin outer case used for SANYO’s industry-leading level^{*1} high-capacity AA-size rechargeable batteries, the “Ni-MH2700 Series.” This improves the internal cell space efficiency and optimizes the balance of battery components, leading to an increase in the number of times a battery can be recharged.

2. Charged “eneloop” will be “ready to use even after 3 years^{*4}”, thanks to SANYO’s industry-leading self-discharge control technology

Rechargeable batteries typically have a “self-discharge” characteristic which gradually reduces charged energy over time. This is considered the downside of typical rechargeable batteries. It renders them inconvenient since they can not be used immediately after being purchased, requiring the batteries to be charged to start using them and recharged if they have been left on the shelf for a period of time. Since “eneloop” batteries have a low self-discharge rate, they are pre-charged and usable immediately after purchase like dry cell batteries. The new “eneloop” battery continues this tradition, and a fully-charged “eneloop” will be “ready to use off the shelf even after 3 years^{*4}” of storage. By using SANYO’s original “super-lattice alloy” for negative electrode material and improvement of materials and structure, a fully-charged “new eneloop” battery can maintain “approximately 75%^{*5} of charged power even after 3 years”, ensuring that power is available when needed.

3. Solar energy used for factory pre-charging

The new “eneloop” batteries will be charged in Japan by “green power” from photovoltaic generation. This means that a part of the electric power used for manufacturing (the amount equivalent used for factory pre-charging) is generated using clean, renewable solar energy.

Other Features

- Outer covering label used to prevent damage from repeated mounting/dismounting
- Stable discharge voltage ensures longer lasting power than a dry cell battery even in low temperatures or when using it with a device that requires a large amount of electricity, such as a digital camera.

- Can be recharged without ever worrying about memory effect.

About SANYO

SANYO Electric Co., Ltd. is a leading company for energy and environment, providing solutions for energy, environment and lifestyle applications. SANYO Component Europe GmbH (a fully incorporated subsidiary of SANYO Electric Co. Ltd.) is a supplier of highly developed environmental and energy solutions. The company offers an extensive range of batteries, rechargeable batteries, and photovoltaic modules as well as high-quality and innovative electronic components and semiconductors. The headquarters of SANYO Component Europe is located in Munich with subsidiaries in the UK and France.

You can find more information about SANYO Component Europe at <http://www.eneloop.info/>, <http://www.sanyo-component.com>

You can find more information about SANYO at: <http://www.sanyo.com/>.

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*1 As of October 6, 2009, for commercially available nickel-metal hydride batteries

*2 General estimate based on the JIS C8708 2007 (7.4.1.1) testing conditions

(The number of times a battery can be recharged changes according to the use conditions and equipment used.).

*3 SANYO's size AA eneloop battery (HR-3UTG) and size AAA eneloop battery (HR-4UTG)

*4 A fully-charged battery will be capable of discharging 75% of its initial capacity after 3 years

of storage at room temperature. (AA: 740mA discharge current, 1.0V/cell discharge cut voltage)

*5 SANYO's evaluation by leaving fully-charged batteries at room temperature (20 C)

(740mA discharge current, 1.0V/cell discharge cut voltage)