

The Swedish manufacturer Nilar AB and the Netherlands based designer and system manufacturer of battery energy storage solutions (BESS) Mc Energy BV work close together providing high-end, safer-than-safe energy storage systems.

## Introduction

Nilar AB has developed a so called “Safer-than-Safe” NiMH (Nickel Metal Hydride) smart battery specifically for energy storage solutions. This NiMH battery forms a reliable, and powerful alternative for the commonly used Li-Ion battery types. One of the questions we receive most is how the NiMH battery stands up against the Li-Ion battery and which specific characteristics distinguishes the NiMH from the Li-Ion battery. In this product information sheet we will explain the hows and whats.

## Comparison table

Subject		NiMH	Li-Ion
<i>Safety</i>			
	Electrolyte	Waterbased electrolyte (non flammable)	Lithium organic solvent (highly flammable)
	Battery fire	No hydrogen flouride gases emitted. Easy to manage fire, no explosions.	Toxic gases evaporate during burning electrolyte (hydrogen flouride) – hard to manage fire, explosion hazards
<i>Temperature</i>			
	Range	-20°C to +50°C	+5°C to +45°C
	Charging	Over Charge tolerant	Restricted charging/discharging window
<i>Service life</i>			
	Lifetime	low self-aging, +20 years <sup>1</sup>	Self aging, ~10 years
<i>Circularity</i>			
	Recyclability	Recyclable Nickel based chemistry, Recyclable battery construction (Bi-polar)	Limited recyclability both when it comes to chemistry and design.
	Design	Bi-polar design (patented)	Cylindrical,prismatic, pouch etc
	Assembly	Easy to (dis)assemble	Not made to be disassembled
	End of life	High end of life value due to high Nickel content.	Low end of life value
<i>Transport</i>			
	Restrictions	None <sup>2</sup>	Restricted by transport regulations
<i>Reconditioning</i>			
	Reconditioning option	Patented Nilar technology by adding O <sub>2</sub> (Oxygen) to refurbish the electrolyte and bring back the full capacity of the battery	Not possible

<sup>1</sup> NiMH batteries are used in the Toyota Prius and often outlive the lifetime of the car itself.

<sup>2</sup> Because of the safety of the technology NiMH batteries can be transported by air, road or sea without extra safety concerns and restrictions.

Check out the company profiles and news of Nilar and Mc Energy on their respective LinkedIn pages:

[www.linkedin.com/company/nilar](http://www.linkedin.com/company/nilar)  
[www.linkedin.com/company/mc-energy-by](http://www.linkedin.com/company/mc-energy-by)



Product information



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