

Light Source Lasts 12 Years - No Electricity Needed

December 13 2007, by Lisa Zyga



A company called MPK is designing a light source that will glow continuously for more than 12 years without any additional energy.

The material, dubbed "Litrosphere," can cover a standard sheet of paper for a cost of about 35 cents, and comes in a variety of colors. It's also flexible, and can take the form of either paint or injection-molded plastic. The material is not affected by the heat or cold, can withstand 5,000 pounds, and stays on constantly.

According to the company's patent, the material is based on betavoltaics and uses the radioactive gas tritium as the power source. The beta particles from the tritium radiation can be safely contained by phosphor-coated microspheres. Tritium has a half-life of about 12 years.

MPK specializes in glow-in-the-dark paint and other glow products, although the new material does not need to be exposed to light in order to work. The company predicts that the technology could be used for light safety tape, lighted life rafts/flotation equipment, toys, sports/camping equipment, and bikes.

"This has potential to save billions in energy costs world-wide," said Steve Stark, MPK engineer. "Litroenergy surpasses all known available lighting options for cost/durability/reliability and safety."

Litroenergy has recently been added to the New Energy Congress' (NEC) list of Top 100 Technologies (rank pending). However, its use will likely be limited to applications that don't require a great deal of light.

"The intensity is not very strong," noted NEC member Richard P. George. "This is good enough for night illumination of rifle scopes, watches, and emergency signs, but it is not going to come anywhere close to matching the light output of or replace electric light bulbs (incandescent, fluorescent, LED, etc.) or kerosene lanterns."

There are also rumors that MPK may use similar technology as a power source in the future.

"It's not something the company is ready to talk publicly about yet, but they do have battery technology that would be of the same ilk: betavoltaic technology allowing continuous power for years in all battery applications, including automobiles," said NEC member Sterling D.

Allan. "They think they will be able to win the DoD [Department of Defense] contest for the \$1 million prize for backpack battery tech."

More information: [Litroenergy at Wiki Directory](#)
[Litroenergy Patent](#)

Citation: Light Source Lasts 12 Years - No Electricity Needed (2007, December 13) retrieved 20 March 2024 from <https://phys.org/news/2007-12-source-years-electricity.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.