Journal of Nanomaterials & Molecular Nanotechnology

EDITORIAL A SCITECHNOL JOURNAL

Analytical Study of Nanoplastic Encapsulation for Photo Voltaic Outdoor Lighting and the Protection of Offshore Wind Power Structures Nanotechnology

Gracie Wilson*

Editorial

Plastic is a high-molecular-mass organic polymer made up of a variety of synthetic or semi-synthetic organic polymers. Plasticizers, flame retardants, antioxidants, acid scavengers, lubricants, pigments, antistatic agents, and slip compounds are some of the additives that can be used to make plastic from crude oil. Plastic has the inherent potential to be moulded or sculpted by applying extreme temperatures and pressure. Humans have discovered how to employ plastic for our socioeconomic progress throughout the last century. Today, plastic is used in a wide range of applications, including our daily activities. Plastics are known for being low-cost, tough, long-lasting, easy to manufacture, strong, electrically and thermally inert, and resistant to shock, mechanical vibration, and corrosion. Plastic has made a significant contribution to the world economy since it is very easy to make and export. Plastic is one of the most adaptable and commonly used materials in the world, revolutionising numerous industries by demonstrating that it is a good choice for packaging, food, textiles, building, and interior decorating. It is heartbreaking to see that half of the world is combating plastic pollution, which has a greater impact on natural habitat, aquatic animals, and human health. Plastic pollution has recently increased, posing a major threat to our environment that requires quick care or it would be too late for our mother earth. Microplastic has been found to cause cancer by promoting the creation of mutant cells, according to a paper issued by the World Health Organization. The United Nations, in collaboration with a number of poor countries, has recognised the problem and has taken many steps to address it. By 2022, India intends to eliminate single-use plastics. According to research, India's yearly plastic trash creation would climb to 165 million tonnes by 2030, necessitating rapid awareness in order to control this massive numerical quantity. The goal of this paper is to discuss and investigate current protective coating system technologies used to protect solar-powered outdoor lighting and offshore wind power structures (OWPS), as well as to conduct an experimental study involving the use of microplastics, which are small pieces of plastic less than 5 mm (0.2 inch) in length that are found in the environment and cause plastification. Microplastics have become increasingly common as insulators in electronics devices and plastic encased microcircuits (PEM). This technology can be tweaked to extend the use of microplastic for encapsulating solar street lights and wind turbines. Primary steel strength loss in OWPS is caused by thermal stress, fire and lightning strikes, wave and wind loading, and marine and offshore conditions. Corrosion reduces structural component thickness and mechanical strength, which can lead to fatigue cracking and buckling. These failure mechanisms have an impact on tower service life and can lead to catastrophic structural failure. As a result, both the prevention and recovery of these downsides necessitate significant financial efforts. The corrosion rate of an OWPS and outdoor solar lighting system is determined by many attack factors, which are typically influenced by oxygen, humidity, and temperature. In terms of size, cost, performance, transparency, dependability, and availability, the proposed plastic encapsulation has various benefits over conventional coatings. And the usage of microplastic in this new dimension has the potential to pave the way for a more sustainable green future.

Author Affiliation Top

Editorial Office, Journal of Nanomaterials & Molecular Nanotechnology, London, United Kingdom

***Corresponding author:** Gracie Wilson, Editorial Office, Journal of Nanomaterials & Molecular Nanotechnology, London, United Kingdom E-mail: nanotechnol@journalres.com

Received: May 01, 2021 **Accepted:** May 03, 2021 **Published:** June 18, 2021