

# Mi-GraphASC

## Graphene Anti-Static Ink

Development of a facile and excellent cost savings graphene-based anti-static coating as a substitute for ESD-safe products for electronics packaging and non-conductive barrier applications.



Coating solution on flexible APET substrate



Mi-GraphASC

### Overview

Mi-GraphASC is a topical type anti-static coating containing advanced two-dimensional alkoxy silane-functionalised graphene nanoplatelets (GNP) nanomaterial and specifically formulated to have functional coatings on flexible surfaces in order to reduce or eliminate build-up of electrostatic charge. Mi-GraphASC is a low-cost topical type anti-static coating which provides good ESD properties with low haze and high transmittance as well as good adhesion on flexible polymer substrates.

### Features

Mi-GraphASC comprises the following features:

- Water-Based with No Sulphuric Ion Contaminant Formulation**  
 A functionalised graphene nanoplatelets (GNP) nanomaterial is specially formulated to be miscible in water to replace solvent based formulation and free from sulphuric ion residue.
- Low Haze with High Transparency**  
 Possessed a low haze and high optical transparency coated when checked using ASTM D1003-61 standard thus the ESD packaging will not block the view of the protected product.
- Good Coating Adhesion and Stability**  
 Provides reliable anti-static protection with good coated surface adhesion based on ASTM F2252M and ASTM D3359 standards.

### Technology Benefits

The main impacts of Mi-GraphASC are:

- Low Cost**  
 Formulated using one-pot preparation technique, simple mixing method and using low-cost raw materials. Graphene is modified without using harmful chemicals and is capable of producing a rapid anti-static coating process.

### Environmental Sustainability

Based on "green" synthesis process followed by water-based anti-static coating formulation. Therefore, the technological method possesses a huge benefit on the environmental sustainability for coating production.

### Enabling Technology

Flexible coating, high optical transparency and low-haze anti-static coating with a thin layer of coating is designed to dissipate electric charge and prevent damage of sensitive electronic components. The anti-static coating can be achieved through simple and low-cost process leading to the development of electronic packaging and non-electronic applications.

### Applications

E&E Industry, SMEs, Government



Coating showing low haze and high optical transparency

