

TECH OFFER

Graphene Oxide Materials for Industrial Applications



KEY INFORMATION

TECHNOLOGY CATEGORY:

Materials - Nano Materials

Materials - Semiconductors

Manufacturing - Chemical Processes

TECHNOLOGY READINESS LEVEL (TRL): **TRL6**

COUNTRY: **THAILAND**

ID NUMBER: **TO175290**

OVERVIEW

This technology focuses on the production of high-quality graphene oxide (GO) and reduced graphene oxide (rGO), designed for various industrial applications. Graphene oxide demonstrates superior electrical, thermal, and mechanical properties, making it an ideal candidate for industries such as electronics, energy storage, coatings, and composites. By reducing GO to rGO, its conductive properties can be enhanced. With the rising demand for advanced nanomaterials that enhance performance while supporting sustainable manufacturing practices, this technology ensures consistent quality and cost-effectiveness of GO and rGO for commercial use.

The technology owner is seeking for joint R&D collaborations with industrial manufacturers and companies focused on sustainable materials innovation. Target partners include those in electronics, energy, and materials science sectors, interested in integrating graphene oxide into their new product development pipeline.

TECHNOLOGY FEATURES & SPECIFICATIONS

The technology focuses on the process and production of graphene oxide in both powder and dispersion forms.

Some features of the GO include:

- Can be reduced to rGO to enhance conductive properties
- Excellent dispersibility in water, ideal for integration into coatings, composite materials, and energy storage solutions
- Customisable to meet specific industrial needs i.e., varying particle sizes and surface chemistries

POTENTIAL APPLICATIONS

This graphene oxide technology is applicable across several sectors, including electronics, energy storage, paints and coatings, water filtration, and composites. It enhances mechanical strength and conductivity, providing industries with innovative solutions for next-generation batteries, conductive inks, and advanced coatings. Industries prioritizing sustainability and high-performance materials can leverage this technology to improve efficiency, durability, and eco-friendliness in their products.

UNIQUE VALUE PROPOSITION

This technology offers unparalleled scalability, customization, and quality control, providing industries with a reliable source of high-performance, environmentally friendly materials. By integrating graphene oxide into various applications, companies can significantly improve the durability, conductivity, and sustainability of their products, thus gaining a competitive edge.