

# AQUEOUS DISPERSIONS OF FEW-LAYER GRAPHENE

**Innovations and Benefits** - The developed process uses common and low-cost raw materials and technologies to produce a high-value product such as dispersions of few-layer graphene in aqueous solvents.

Like all liquid phase processes, this graphene production is geared towards large-scale production and it further allows access to conventional deposition systems both on large and small area.

Applications range from electronics (chemical sensors, semiconductors, photovoltaics), to composites, up to environmental treatments (water, air, and soils).

**Uses** - Chemical and biochemical sensors, conductive inks, gas barrier, hydrogen storage, composites.

**Past and Present Activities** - Research and development of graphene based gas sensors. These sensors are used in research projects that deal with the detection of environmental pollutants. Inserted into multisensor systems, these sensors are used for medical and food analysis and, in the aeronautical field, for detecting surface contamination of hydraulic oils, de-icing fluids, release agents, etc. on carbon fiber reinforced polymer structures (ComBoNDT, Horizon 2020, GA n° 636494).

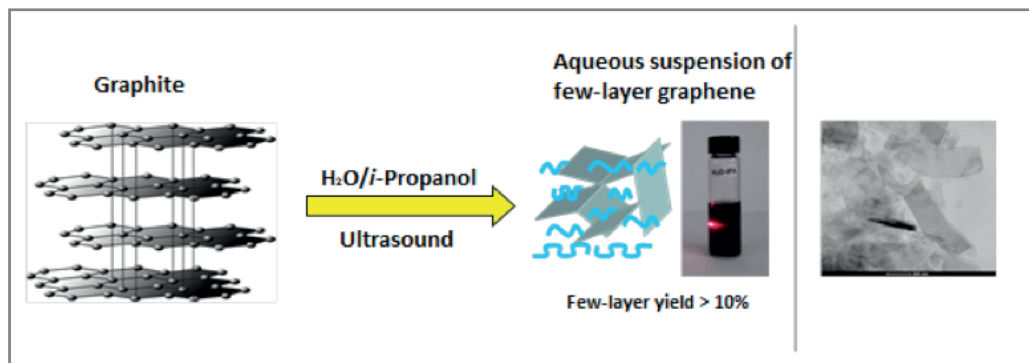


Diagram of the few-layer graphene preparation and image obtained by electron microscopy in transmission (TEM) of graphene flakes.

