

# Application of graphene-based composites in environmental protection and its industrialization progress

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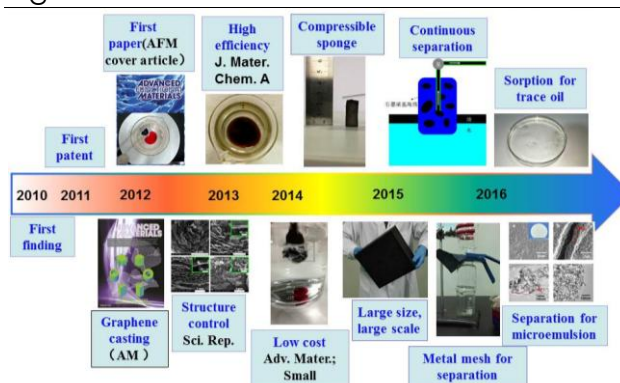
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The rapid development of industrialization brings a variety of pollution to the environment. Advanced materials play a more and more important role in the control or removal of pollutants. For water purification, we first reported that graphene sponge can be used for the efficient and recyclable adsorption materials for oils and commonly used organic solvents. Then, constantly optimizing the adsorption properties, adsorption capacity can be increased to its own weight more than 800 times; the pore size and pore wall thickness of graphene sponges are continuously adjustable by optimization of structure and preparation method; Further, in order to reduce the cost, cotton and waste paper are selected to use as raw materials to produce carbon sponge with high sorption performance. In addition to the structure of graphene sponge, graphene based metal net is developed, which can be integrated in the filtering system to realize three-phase separation of water, oil and suspended solid particles. For air purification, graphene-based flexible filtering film is developed, which is used for the production of PM2.5 filter masks and have entered the market since November in 2016

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## Figures



**Figure 1:** Research history for oily wastewater treatment.



**Figure 2:** (a) Graphene-based filtering film; (b) Production line for filtering film; (c) PM2.5 filter masks.

## References

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