

g-C₃N₄

Graphitic carbon nitride (g-C₃N₄) is a planar two-dimensional sheet structure similar to graphene, with two basic units, based on triazine ring (C₃N₃) and 3-s-triazine ring (C₆N₇) respectively the structural units extend infinitely to form a network structure, and the two-dimensional nanosheets are combined by van der Waals forces. g-C₃N₄ has become an important material in the fields of chemistry, physics, and medicine due to its simple preparation method, low cost, environmental friendliness, good stability, and good physical and chemical properties. The most common precursors used to prepare g-C₃N₄ are melamine, dicyandiamide, cyanamide, urea, thiourea, and ammonium thiocyanate. To enhance the performance and tuning properties of g-C₃N₄, heterojunctions can be doped and fabricated with other materials. Among these materials can be metal oxides, metal sulfides, noble metals and carbon nanomaterials. Among them, metal oxides are the most common method to improve the efficiency of g-C₃N₄. The g-C₃N₄ structure has been widely used in many applications, and in addition to energy-related applications, its application in the field of drug delivery has also received increasing attention from scientists. Studies have shown that g-C₃N₄ is an effective nanocarriers and can be used for the delivery of many drugs. The adsorption energy of g-C₃N₄ is about high, and the high adsorption energy indicates that g-C₃N₄ can form stable complexes with the loaded drugs. The resulting complex system has a higher dipole moment value, which improves the solubility of the complex. Furthermore, after the complex formation of g-C₃N₄ and the drug, its higher hydrophilicity facilitates drug transfer in the in vivo physiological environment.

CD Bioparticles manufactures and supplies g-C₃N₄. Contact us to find out how g-C₃N₄ can help you in your work.