

Identification of the substance: Graphene

Substance name	Graphene
EC	231-955-3
CAS	7782-42-5
IUPAC	Graphene
Molecular formula	C
Forms in the market	Nanoplatelets, powder

Physical and chemical properties

Shape	Nanoplatelets, nanotubes
Size (nm)	3-6 (average)

Toxicological information

Inhalation acute toxicity	Toxic Toxic
Dermal acute toxicity	No data
Oral acute toxicity	Nontoxic
Genotoxicity	No data
Cytotoxicity	No data

Ecotoxicological information

Freshwater Acute toxicity (Daphnia)	No data
Freshwater Acute toxicity (Alga)	No data
Freshwater Acute toxicity (Fish)	EC50 = 15.611 mg/L (Practically nontoxic) LC50 = 16.540 mg/L (Practically nontoxic)
Soil invertebrates (worms)	No data
BAF-Bioaccumulation	No data

Application

Industrial uses	Packaging Additives
Improved properties	Mechanical properties Conductivity Tensile and yield strength Decrease gas permeability
Polymeric matrix	Polyethylene (PE), polypropylene (PP), polystyrene (PS), polycarbonate (PC), poly(methyl methacrylate) (PMMA), polyvinyl alcohol (PVA), poly(propylene carbonate) (PPC), polyvinyl chloride (PVC)
Recommendations, comments	Dispersion graphene in water