

TECHNICAL DATA SHEET

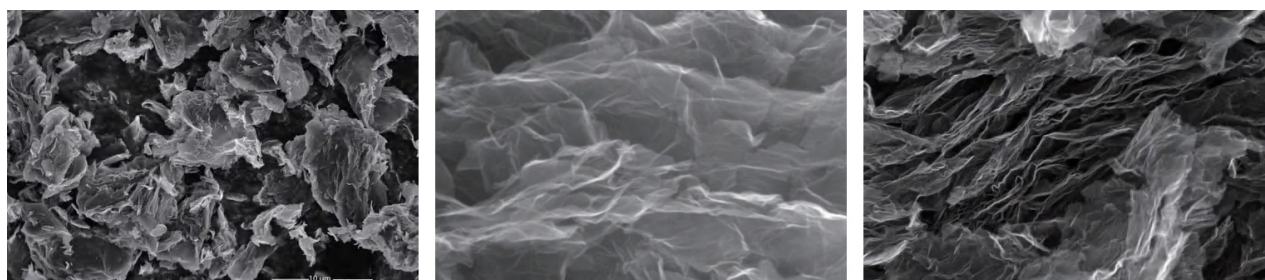
Graphene Oxide and Reduced Graphene Oxide, Industrial Grades

Product codes: 060106 · 060108 · 060107

Revision 2026-10

Description

This family of industrial graphene oxide (GO) and reduced graphene oxide (rGO) powders covers the oxidation range from spray-dried GO (about 45 wt% carbon and 45 wt% oxygen) to fully reduced rGO (95 wt% carbon or higher). The two rGO grades are few-layer (6 layers or fewer by AFM) with a BET surface area of at least 400 m²/g. Typical uses include conductive coatings, polymer composites, anti-corrosion formulations and energy storage electrodes. Oxygen content is the main variable between grades and sets the balance of dispersibility, surface chemistry and electrical conductivity.



Representative SEM of wrinkled graphene sheet morphology (reference images, not lot specific)

Specifications

Property	GO Powder, Spray Dried	Exfoliated rGO	Fully Reduced rGO, Industrial
SKU	060106	060108	060107
Appearance	Dark brown powder	Black powder	Black powder
Layers (AFM)	N/A	≤ 6	≤ 6
Tap density (g/cm ³)	0.50 ± 0.1	≤ 0.02	≤ 0.01
BET surface area (m ² /g)	N/A	≥ 400	≥ 400
Moisture (%)	≤ 15.0	N/A	N/A
Carbon (wt%)	45 ± 10	≤ 90.0 (typical ~86-87)	≥ 95.0
Oxygen (wt%)	45 ± 10	≥ 10.0 (typical ~12-15)	≤ 3.0
Nitrogen (wt%)	N/A	≤ 2.5	≤ 1.5
Hydrogen (wt%)	N/A	≤ 2.5	≤ 2.5
Ash (% , ASTM C561)	≤ 2.5	≤ 2.5	≤ 2.5
D50 particle size (µm)	≤ 30.0	N/A	N/A
XRD (2θ)	Sharp (001) peak at ~11°	Broad hump ~20-30°; (001) absent	Broad peak ~25-30°
XPS reference (at%)	C 67.70, O 31.71, N 0.60	C 86.73, O 12.41 (C/O ~7:1)	C 98.20, O 1.00 (C/O ~98:1)

Carbon, oxygen, nitrogen and hydrogen by elemental analyzer (wt%). Tap density by tap density meter, moisture by oven, D50 by particle size analyzer, layers by AFM, surface area by BET. XPS values are atomic percent and are shown for reference; they are not wt% specifications. N/A: not specified for this grade.

Grade Selection

- **GO Powder, Spray Dried (060106):** dispersions and further processing, including chemical, thermal or electrochemical reduction, and polymer, membrane and sensor development.
- **Exfoliated rGO (060108):** balance of conductivity and dispersibility; retains oxygen surface functionality for coatings, composites and electrode formulations.
- **Fully Reduced rGO, Industrial (060107):** maximum C/O ratio and electrical conductivity for demanding electrical applications such as conductive coatings and inks, EMI shielding and electrodes.

Storage and Handling

Black and brown low-density powders. Store sealed, dry, at room temperature. Use local exhaust ventilation and respiratory protection when handling dry powder; see SDS.

Documentation

Values are representative of typical production and do not constitute a lot-specific guarantee. A lot specific Certificate of Analysis ships with each order.

Safety Data Sheet available at cheaptubes.com/nanomaterial-msds-safety-sheets.

Application results depend on formulation, equipment and process conditions; confirm with your own trials.