

Product Description

Dycotec DM-GRA-9002 graphene ink is designed for either inkjet printing or spray application for versatile use in electronic applications. The ink is designed to be cured at 300-350°C. The ink is based on single layer graphene (< 1 nm thick) of lateral diameter $\leq 0.5 \mu\text{m}$.

Product Benefits

- No requirement for reducing atmosphere
- High graphene content after cure
- Single layer graphene
- Increased transparency compared to few layer graphene
- Compatible with inkjet, spin-coat and spray deposition

Ink Preparation

Stir (not shake) the ink thoroughly before use to ensure the product is well mixed whilst care should be taken to avoid introducing air bubbles. Do not replace used ink in the container. This ink is designed for drop-on-demand print-heads.

Properties of Uncured Ink

Test	Typical Properties
Solids	1 mg/mL
Density	0.934 g/mL
Viscosity	10-12 cP at 25°C
Surface Tension	32.4 mN/m
Substrate compatibility	High temperature substrates such as glass

Ink Deposition and Curing Conditions

Test	Properties
Deposition Technique	Inkjet, spray, spin-coating
Sintering Technique Compatibility	Convection oven or hot-plate

Properties of the Cured Ink

Test	Properties
Sheet Resistivity	4-13 k Ω/\square (45 to 70%T at 660 nm)

Storage and shelf-life

Containers should be stored as specified with lids tightly sealed. We cannot assume responsibility for an ink that has not been stored in appropriate conditions or where the ink has been contaminated following use. Inkjet heads can be cleaned using solvents such as iso-propanol.

Safety and Handling

For safe use of this product, please review relevant material safety and datasheet (MSDS).

For more information, please contact:

Dycotec Materials Ltd

Unit 12, Star West

Westmead Industrial Estate

Swindon, Wiltshire UK

Email: Info@dycotecmaterials.com

Tel: +44 (0)1793 422598

www.dycotecmaterials.com

All information reported in the datasheet is for experimental work undertaken in our laboratories and illustrates typical values only. Processing conditions may vary depending on customers' experience and their application requirements and manufacturing process equipment set-up.

Note: The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Dycotec Materials specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale of use of Dycotec Material's products. Dycotec Materials specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Dycotec Material patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more UK or foreign patents or patent applications.