

2D-BN

CHARACTERIZATION OF THE LYOPHILIZED POWDER:

- ❁ **Thermogravimetric Analysis (TGA) - 2D-BN (N₂ -600 °C) = 3.6%**

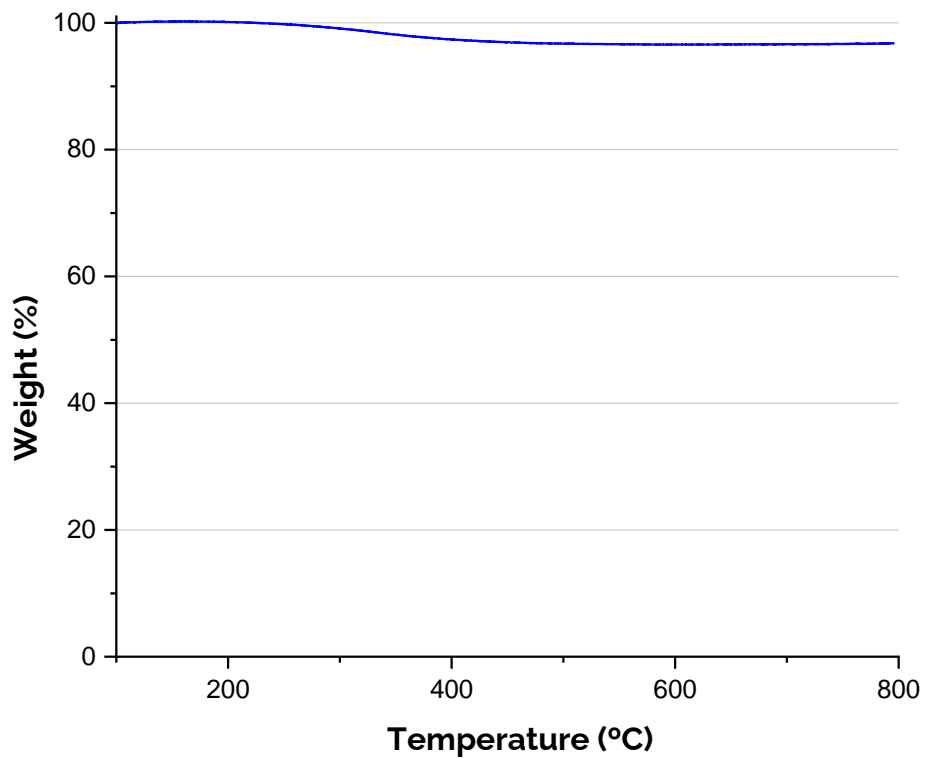


Figure 1. Thermogravimetric analysis of 2D-BN.

- ❁ **Total Reflection X-ray Fluorescence (TXRF): 0.173 mg/l Fe**

Element	Line	Conc./ mg/l	Sigma / mg/l	RSD / %	LLD/ mg/l	Net area	Backgr.	Chi
Si	K12	400.5	2.4	0.6	0.6	55248	771	2.80
Cl	K12	1.268	0.060	4.7	0.091	1057	641	1.12
K	K12	0.079	0.019	24.3	0.038	144	529	0.83
Ca	K12	0.155	0.017	10.8	0.030	343	493	0.82
Ti	K12	0.033	0.009	27.6	0.018	137	641	1.08
V (IS)	K12	5.000	0.039	0.8	0.016	26556	765	1.54
Fe	K12	0.173	0.005	3.0	0.006	1773	424	0.83
Cu	K12	Not det.			0.004	48	428	2.04
Zn	K12	0.132	0.003	2.3	0.003	2698	397	1.49
Br	K12	0.046	0.002	3.4	0.002	1475	381	0.87

❁ Raman spectroscopy:

- E²g (2D) = 1367.53 cm⁻¹

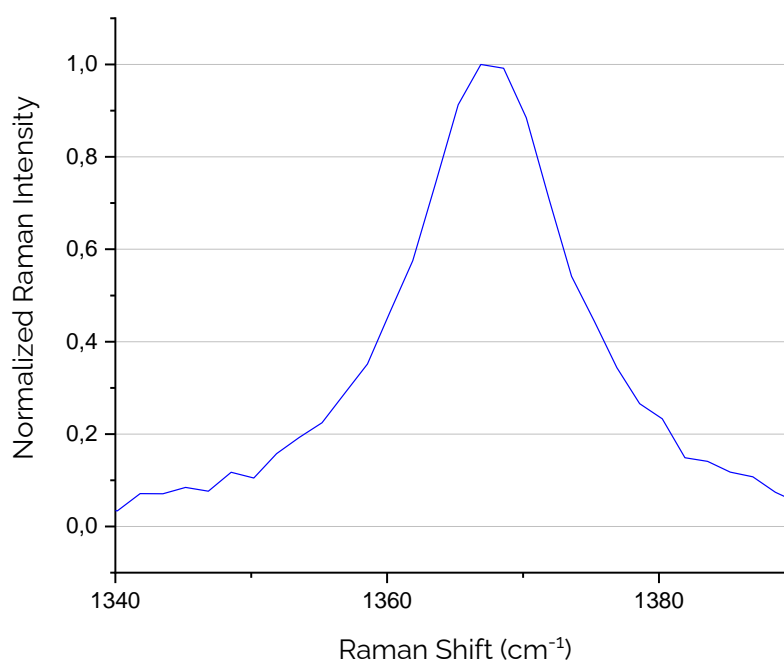


Figure 2. Normalized Raman spectrum of 2D-BN at 532 nm.

❁ **Transmission Electron Microscope (TEM):**

Average size: 172.4 ± 55 nm

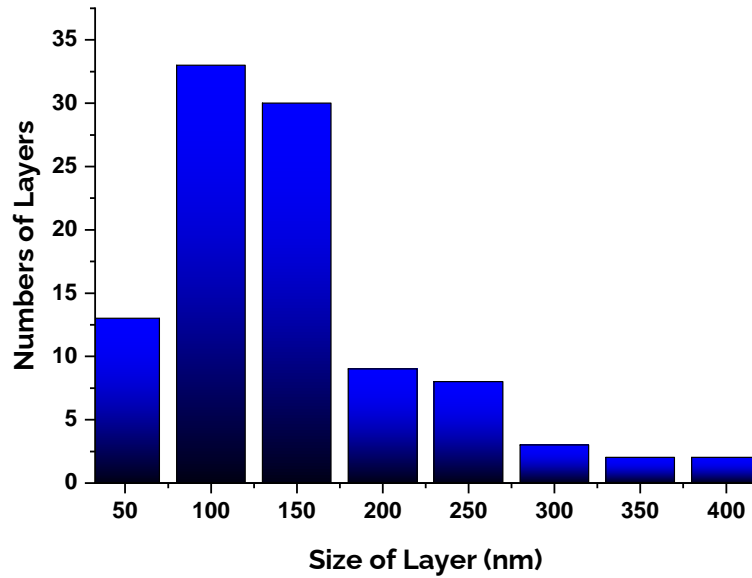
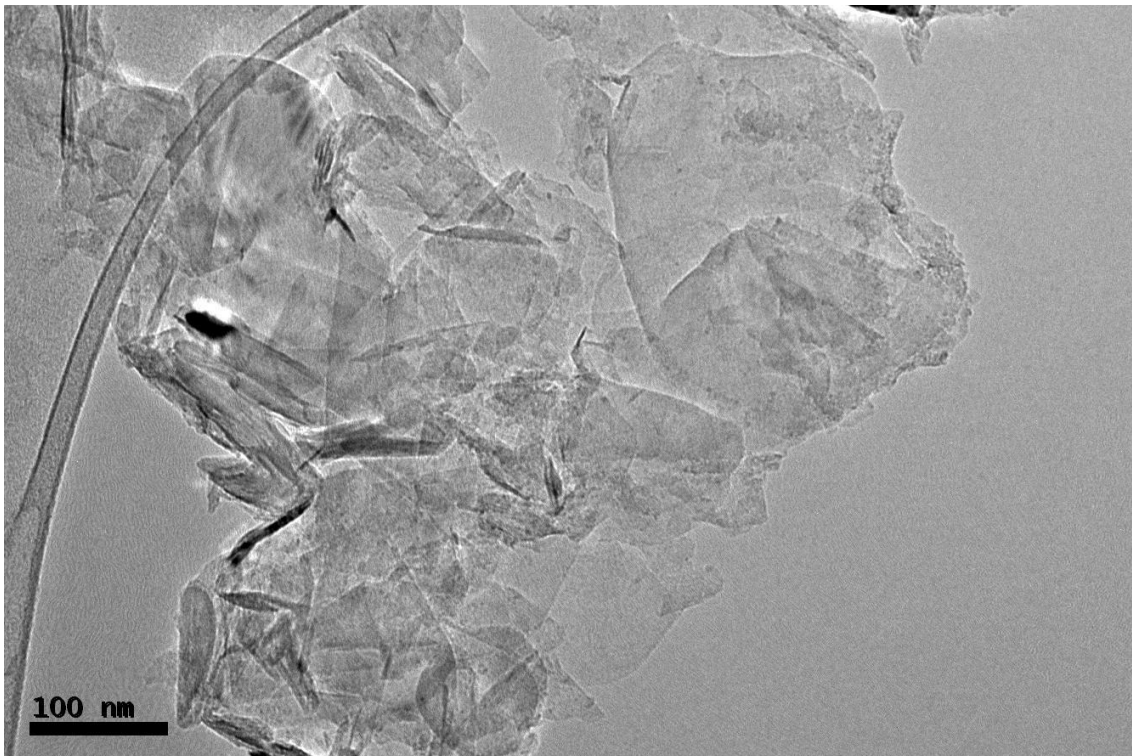


Figure 3. Lateral size distribution of ball-milled graphene from TEM images of 2D-BN.



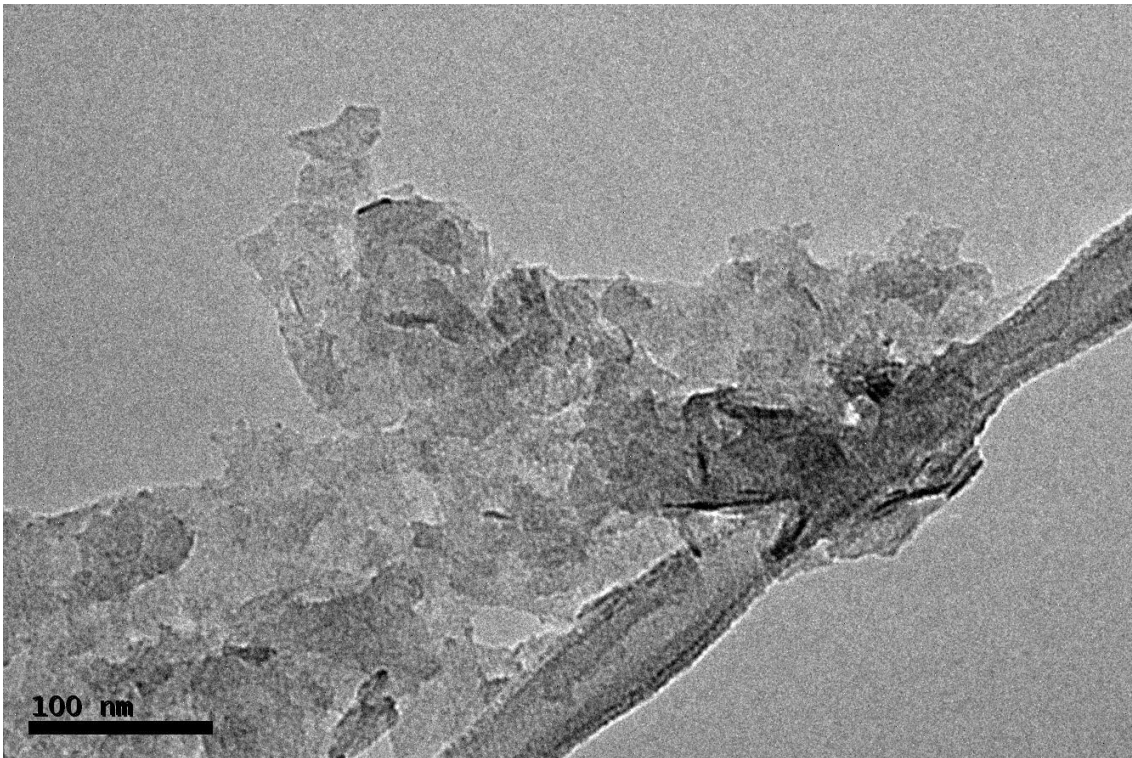


Figure 4. Representative TEM images of 2D-BN.

❁ **Recommendations for use:**

- It must be stored at room temperature.
- It is possible to weight the amount of powders needed and disperse them in the necessary volume of solvent to reach the desired concentration.
- Sonication treatment (10 seconds cycles, maximum 2 minutes) are enough to obtain a good dispersion.