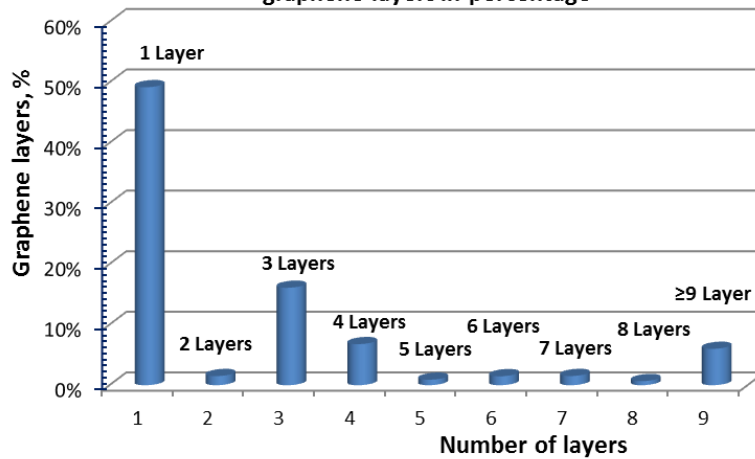


# PRODUCT DATA SHEET

## Graphene multilayer nanopowder

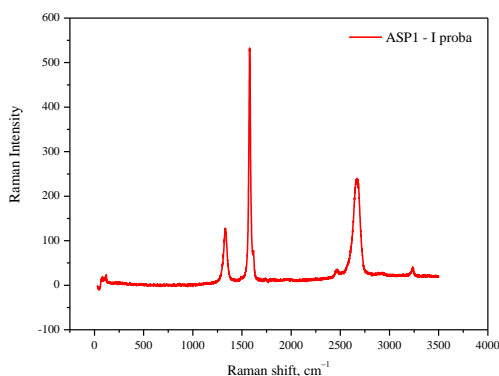
1. State:	Solid
2. Purity:	> 98%
3. Brand Name:	ATD Graphene
4. Place of Origin:	Republic of Macedonia
5. Appearance:	Black
6. Other Names:	carbon graphene
7. Thickness:	0.22÷1.7nm
8. Length:	1-5 micrometers
9. Specific weight:	1.8-2gcm <sup>-3</sup>
10. Crystal structure:	Nano flake,two dimensional material
11. Packaging:	Special bags,glass or plastic bottles
12. Shipping details:	Within 3-9 working days after payment

At the histogram below is presented the number of graphene layers in percentage

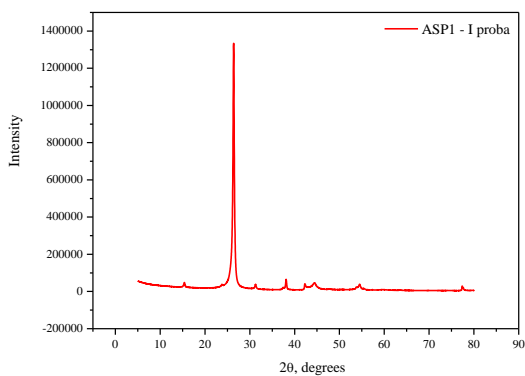


The graphene structure is few-layered, as nearly 95% of the overall structure is at most 8-layered and below. The average value for number of graphene layers is calculated as NGL=2.07 for the dominant graphene structure and NGL=3.06 for the overall graphene structure.

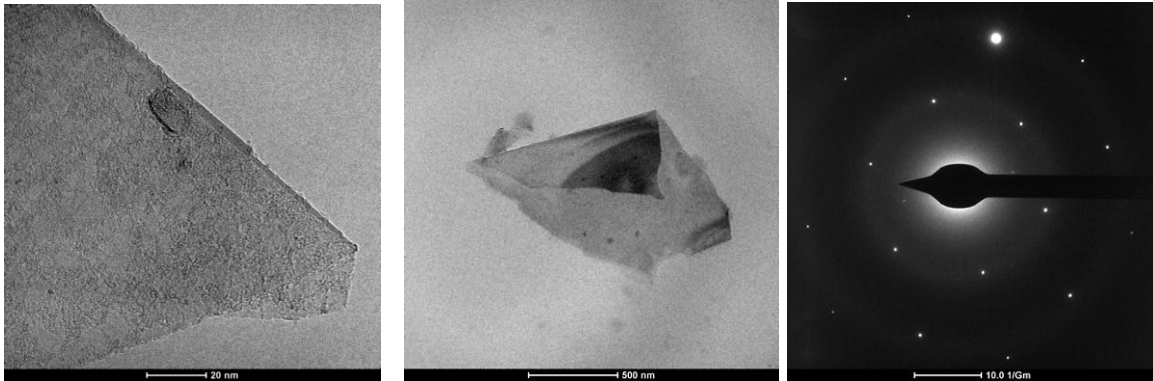
## Raman Spectrum



## XRD Spectrum



## TEM



## Application

1. Graphene/polymer composites
2. High strength graphene films
3. Solar energy batteries
4. Metallic catalyst carrier
5. Sensors
6. Super capacitor electrode materials
7. Biological medium
8. Antistatic material
9. The transparent conductive film

The graphene nanopowder is produced in the laboratory for Nanomaterials and Nanotechnology at the Faculty of Technology and Metallurgy in Skopje, Republic of Macedonia.

Head of the Laboratory and author of the technology is Prof. Dr. Aleksandar Dimitrov, Dean of the Faculty of Technology and Metallurgy in Skopje. Prof. Dimitrov is researching nanomaterials (CNT's and Graphene) since 1999. Dimitrov's research in this field has started at his postdoctoral studies at the University of Cambridge, Department of Metallurgy and Material Science in the United Kingdom.

The results from the research has been presented at numerous international conferences and published in international scientific journals.

**Prof. Dr. Aleksandar Dimitrov, Dean**  
**Faculty of Technology and Metallurgy**  
**University Ss Cyril and Methodius**  
**1000 Skopje R Macedonia**