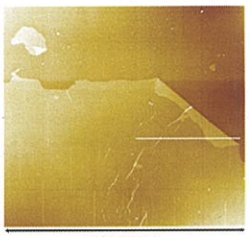
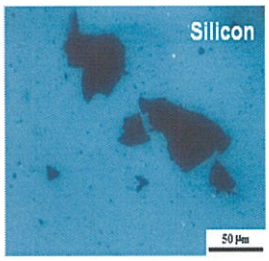
GRAPHOS

Graphos is the brand name of a class of highly pure, highly soluble graphene-based materials developed by the Nanochemistry group at ISOF-CNR Bologna (Italy). Graphos is specialized on the production of very large graphene oxide monolayer sheet by chemical exfoliation, its chemical functionalization through covalent or supramolecular interactions, and its characterization at nanometric scale.





The Graphos products are commercialized worldwide and represent one of the few European-made graphene derivates on the market. The constant support of experienced researcher ensures for Graphos materials unique proprieties and high quality.

The long-lasting expertise in chemistry, nanotechnology and materials science allows Graphos producers to supply tailor made materials to meet specific customer requirement. Graphos is also providing technical service to a research group interested to approach the nanochemistry graphene subject.

Graphos products are commercialized by:

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GRAPHOS

Technical data sheet: G-GOSiO

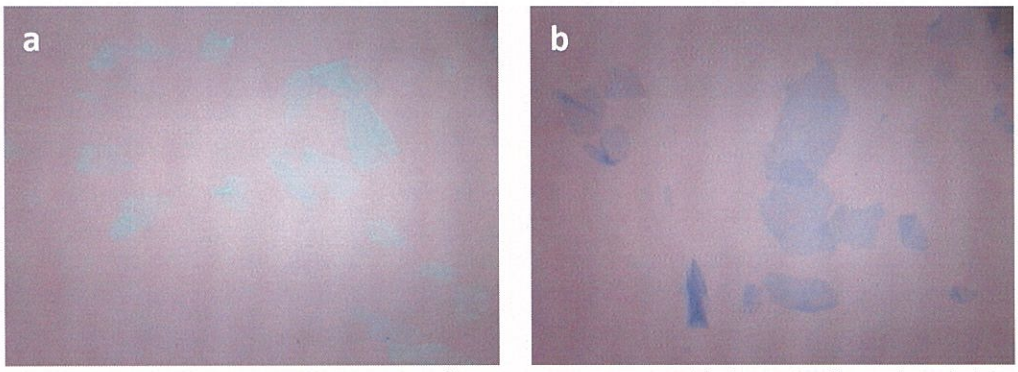
Large graphene oxide (GO) sheets supported on Si oxide.

Description:

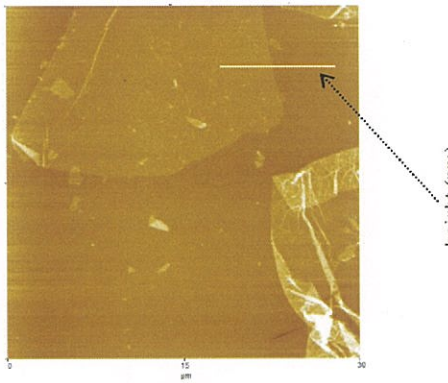
Graphene oxide (GO) sheets produced by chemical graphite exfoliation, supported on silicon oxide substrate, 300nm[(1)]. Thanks to the large dimension of single layer GO this product can meet the highest researchers requirements.

The easy way to identify GO platelets[(2)] makes G-GOSiO the perfect substrate for a quick and efficient utilization.

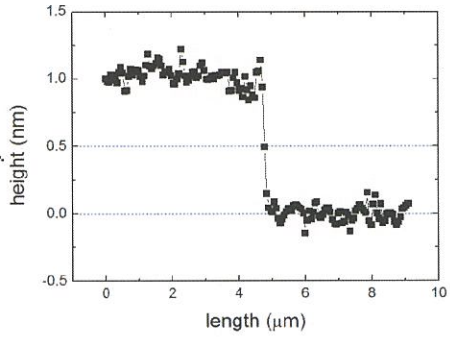
Sample reduction can be done either chemically or by thermal treatment.



Optical microscope images 561x467µm: a) GO on SiO 300nm, b) thermically reduced GO on SiO 300nm



AFM immagine of GO on SiO.



Tickness profile of single layer GO.

Different substrates available to satisfy specifc technical requirments.

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GRAPHOS

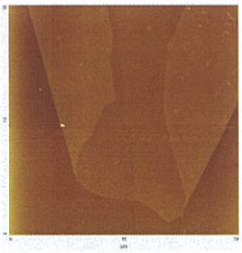
Technical data sheet: G-GOSiO

Main features:

C /O atomic ratio = 1,2

	Value	Method	Note
Platelets thickness:	1±0.3nm	AFM	
Platelets with average lateral dimension >70µm	>30	OM analysis on 12mm^2 surface	Equalize to square dimension
Platelets with average lateral dimension >100µm	~5	OM analysis on 12mm^2 surface	Equalize to square dimension
Folding layer	~15%		When folding area is the majority of the sheet.

Double layer sheets are rarely detected.



AFM immagine of folding layers GO on SiO.

This data sheet briefly describes and gives typical data for some of the basic properties of G-GOSiO. It is emphasized that all data in this publication have been obtained from laboratory tests on representative samples. Thus, although the values are typical, they are for very general guidance and must not be used as a basis for specifications.

Values on specific production lot are available upon request.

Sample should be stored dry and away from direct sources of heat. More detailed information and advice on individual products may be obtained from the Sales Contacts.

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1. **Si-Mat Silicon Materials.** Viktor-Frankl-Str. 20 D-86916 Kaufering - Germany.

2. please contact our technical support for further information.

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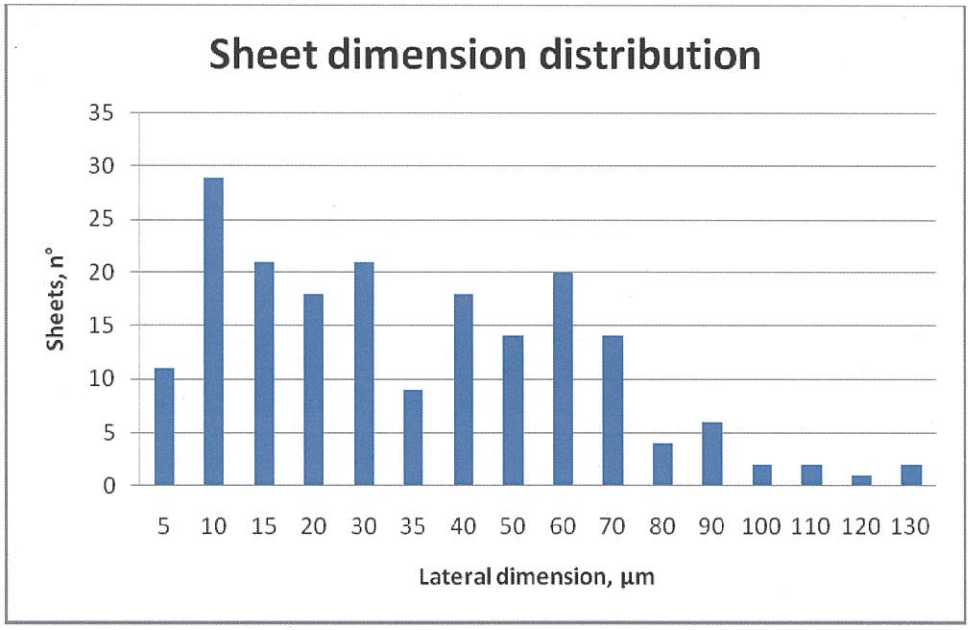
GRAPHOS

TDS G-GOSiO

Optical analysis:

	Average	Range
Sample coverage	3%	2-4%
Monolayer %	>90	Low amount of wrinkly
Multilayer sheet	Rarely detected.	

Typical lateral size sheet distribution.



Maximum lateral sheet dimension detected 300 µm

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GRAPHOS

TDS G-GOSiO

Chemical analysis (CHN % weight):

Element	Average	Range
C	44	41-47
O	52	50-54
H	2,2	2-2,4
N	<0,1	
S	1,3	0,9-1,7
Others	<50ppm	

AFM analysis:

	Average	Range
Sheet thickness	1 nm	1±0,3 nm
Monolayer %	>90	Low amount of wrinkly sheets.
Sample purity	1 dot for 1600 μm^2	Max 1 dot every 5000 μm^2

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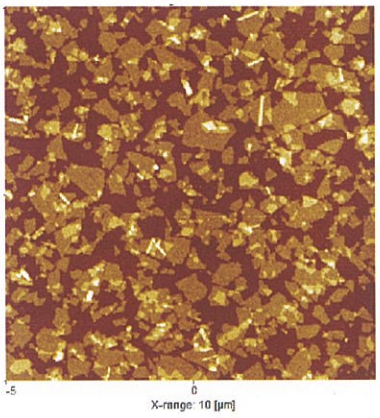
GRAPHOS

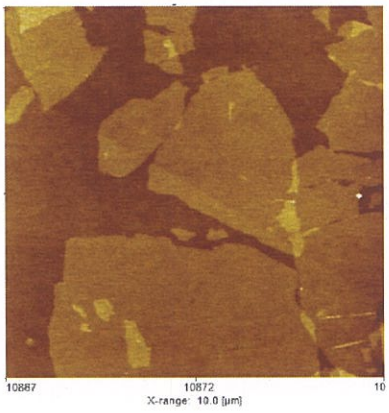
Technical data sheet: GOSi

Graphene oxide (GO) sheets supported on silicon.

Description:

Small to medium graphene oxide (GO) sheets produced by chemical graphite exfoliation, supported on silicon. Typical sheets lateral dimension 1-10µm; different covered densities are available to meet your needs.





AFM immagine of GO after solution deposition on Si at medium covered density; small and medium platelets dimension.

Silicon oxide, gold, glass or quartz are also available as substrates; for specific request contact our technical support.

Sample reduction can be done either chemically or thermically.

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GRAPHOS

Technical data sheet: GOSi

Main features:

	Value	Method
Platelets thickness:	1±0,3 nm	AFM
Covered density:	from 5 to 99%	AFM

Chemical analyses performed on the original solution, values expressed on mass percentage:

Carbon, C	42%
Oxygen, O	47%
Hydrogen, H	2,4%

This data sheet briefly describes and gives typical data for some of the basic properties of GOSi. It is emphasized that all data in this publication have been obtained from laboratory tests on representative samples. Thus, although the values are typical, they are for very general guidance and must not be used as a basis for specifications.

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GRAPHOS

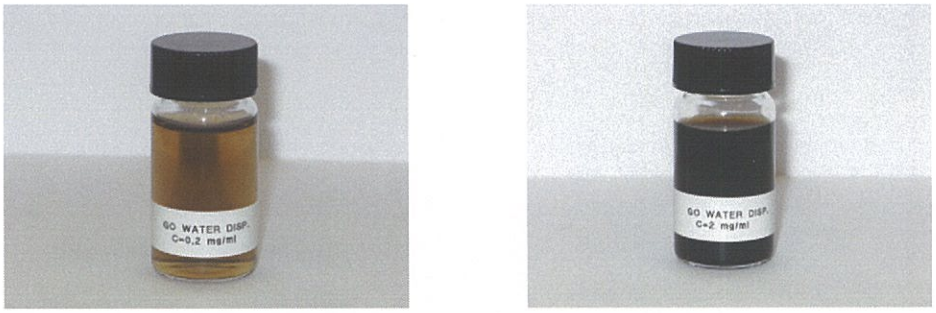
Technical data sheet: Sol-GO

Graphene oxide aqueous solution.

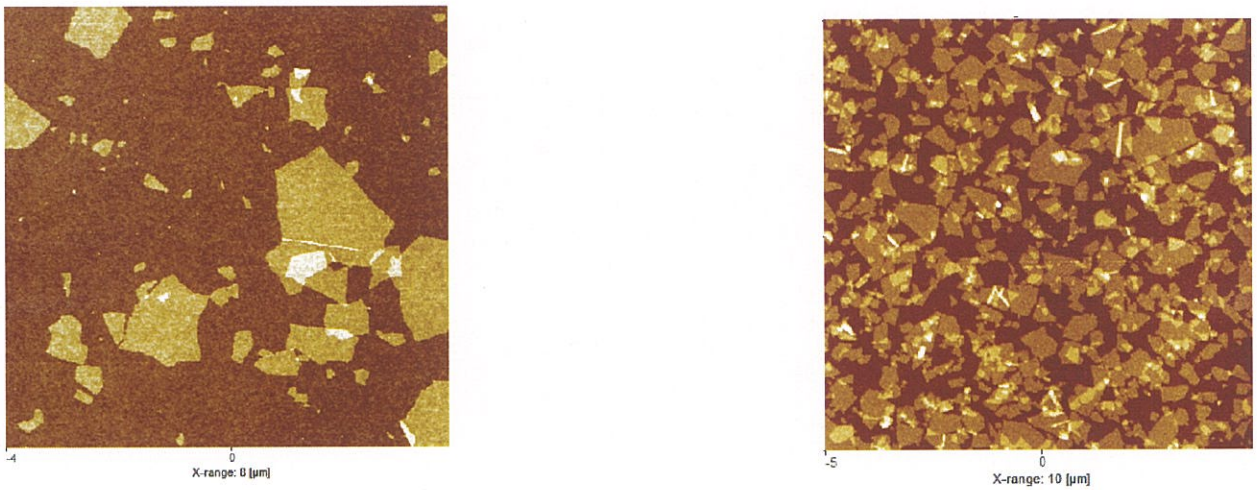
Description:

Graphene oxide (GO) aqueous solution produced by chemical graphite exfoliation.
Various concentration available from 0,01 mg/ml up to 2 mg/ml.

The solution contain mainly monolayer graphene oxide sheets of variable dimension.



Medium and high concentration Sol-GO samples.



Typical AFM image of graphene oxide sheets after solution deposition on silicon: low and medium solution concentration.

Main features:

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GRAPHOS

Technical data sheet: Sol-GO

	Value	Note
pH	2-5	Depending on the solution concentration.
Monolayer percent	>80%	

Chemical analyses, values expressed on mass percentage:

Carbon, C	42%
Oxygen, O	47%
Hydrogen, H	2,4%

This data sheet briefly describes and gives typical data for some of the basic properties of Sol-GO. It is emphasized that all data in this publication have been obtained from laboratory tests on representative samples. Thus, although the values are typical, they are for very general guidance and must not be used as a basis for specifications.

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GRAPHOS

Technical data sheet: GO

Solid graphene oxide.

Description:

Solid graphene oxide (GO) produced by chemical graphite exfoliation. The product can be easily redispersed on water or solvents.

Main features:

Chemical analyses, values expressed on mass percentage:

Carbon, C	42%
Oxygen, O	47%
Hydrogen, H	2,4%
Sulfur, S	<2%

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GRAPHOS

Technical data sheet: GO

This data sheet briefly describes and gives typical data for some of the basic properties of GO. It is emphasized that all data in this publication have been obtained from laboratory tests on representative samples. Thus, although the values are typical, they are for very general guidance and must not be used as a basis for specifications.

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