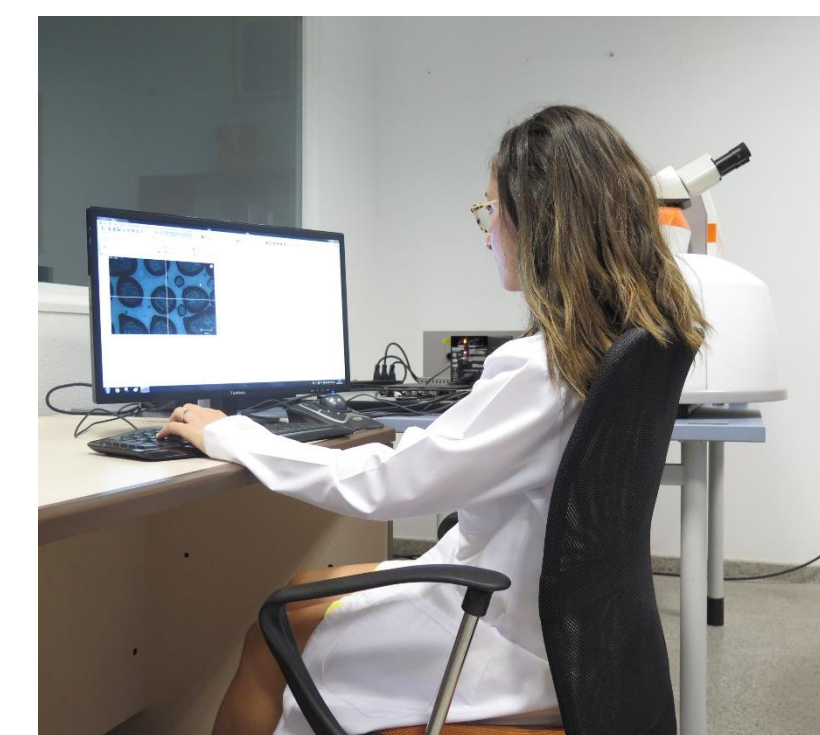


**avanzare**

***Special Additives and MB for plastic.***

***Graphene MB.***



[www.avanzarematerials.com](http://www.avanzarematerials.com)

# About us? **avanzare**

## ■ **We produce additives for plastic:**

- ✓ 10.000 m<sup>2</sup> production plant.
- ✓ 3.500 m<sup>2</sup> R&D (fully equipped).
- ✓ 12 Chemistry PhD. (33 R&D)
- ✓ Mainly focus in differential additives
- ✓ Chemical and additives specialist
- ✓ Taylor made solution
- ✓ 100 % European products.





## Additives and MB's for plastics

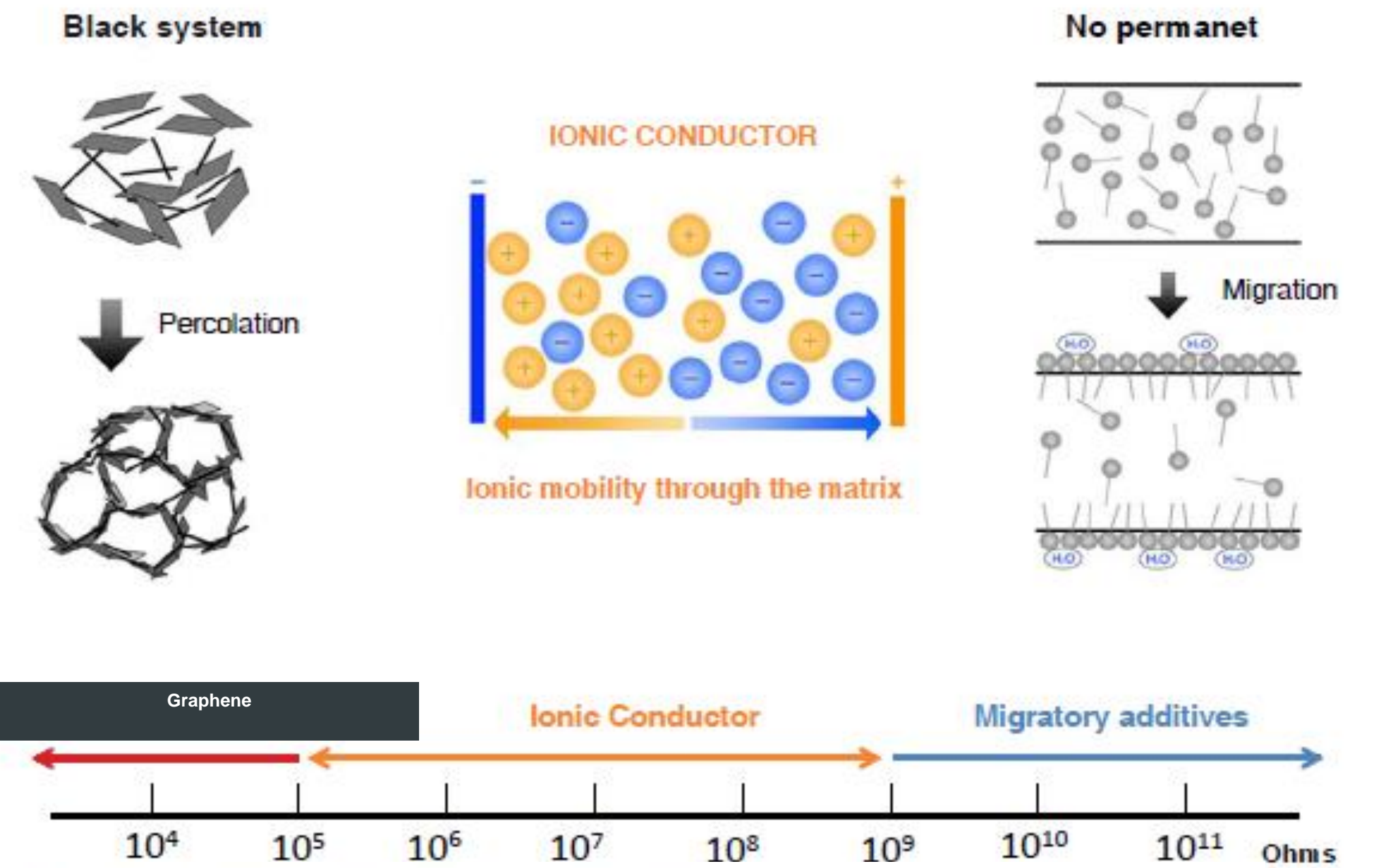
- ✓ **ANTISTATIC** (Permanent and colorless)
- ✓ **Conductive system based on GRAPHENE**
- ✓ **THERMAL CONDUCTOR**
- ✓ **METALLIC TRACER** (colourless)
- ✓ **DENSITY AMPLIFIER**
- ✓ **CHEMICAL TRACER** (anti-counterfeiting)
- ✓ **BIOCIDE** (antibacterial/fungi algae)

# ANTISTATIC MB permanent and colorless

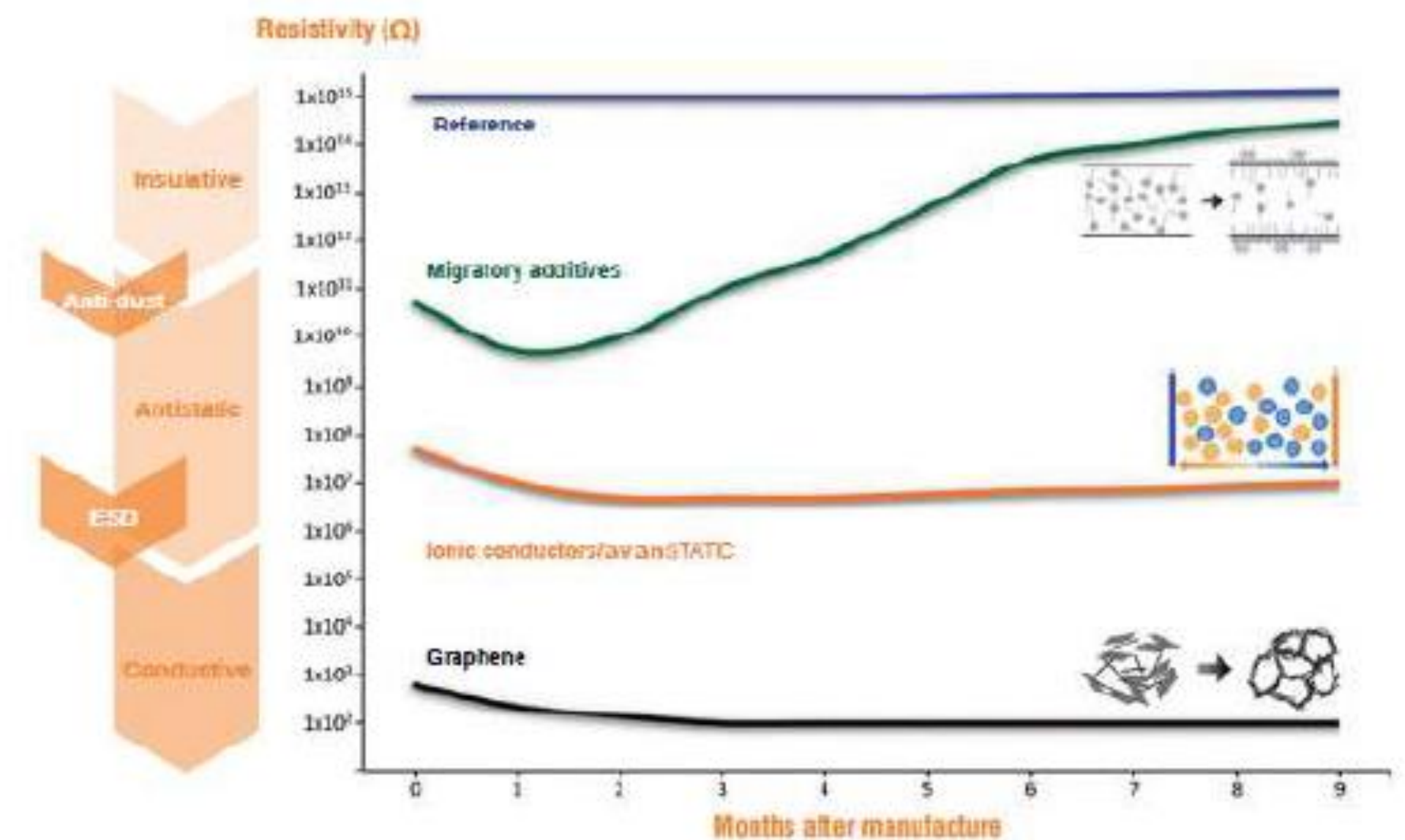
## Characteristics:

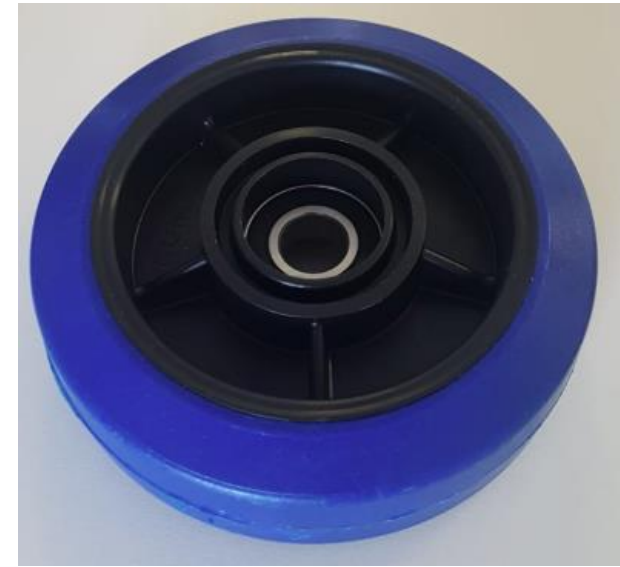
- ✓ **Static dissipative and ESD levels permanent performance**
- ✓ **Colorless and colorable**
- ✓ **Low dosage required**
- ✓ **Cost-effective**
- ✓ **Minimal effect to host material**
- ✓ **Non-migratory**
- ✓ **Solid, liquid, pellet MB forms available depending on the product**
- ✓ **Food grade in some applications**

## Mechanism to generate antistatic



## Evolution of conductivity with the time

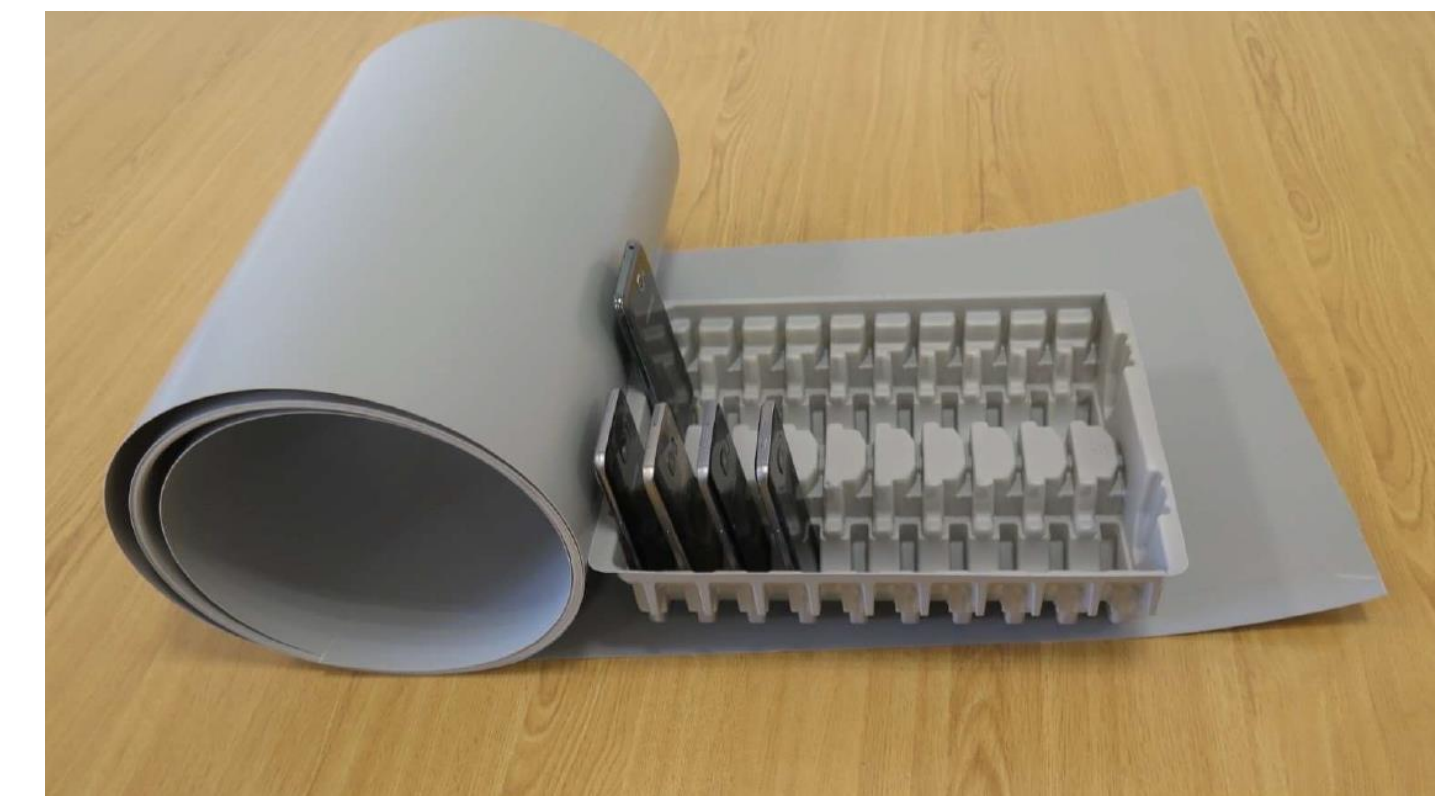




## ANTISTATIC MB permanent and colorless

### Grades and uses

	additive for	characteristic	USE rate	superficial resistance level (OMhs)
avanDISS 232	HIPS, PS PP;PE; ABS; POM ;		10-20 %	$10^{10}-10^7$
avanDISS 378	PA; PET ETC	general use	10-18 %	$10^{10}-10^7$
avanDISS 450	PP; PE	food contact	15-20 %	$10^{10}-10^9$
avanDISS765	PP;PE	low temperature < 225 °C	10-20 %	$10^{10}-10^7$



## □ Technical capabilities (ESD lab)

- ✓ 3.500 m<sup>2</sup> fully equipped laboratory (950 m<sup>2</sup> division ESD/antistatic)
- ✓ 12 Chemistry PhD. (3 PhD division ESD/antistatic )
- ✓ European accredited laboratory for testing customer trials
- ✓ Customized solution (adjusted recipes)



## □ Equipment and facilities

- ✓ Polymer pilot plant, Extrusion machines (singles and twin screw), Injection samples
- ✓ R&D polymer lab (extrusion machine, injection, MFI analysis, FTIR, X-ray, QUV, Xenon, UV-absorption, EDAX, RAMAN, SEM, etc.
- ✓ R&D filament extrusion for 3-D
- ✓ Conductivity/resistance characterization instruments. (1 Ohms- 1 <sup>13</sup> Ohms)



## Conductive system based on GRAPHENE

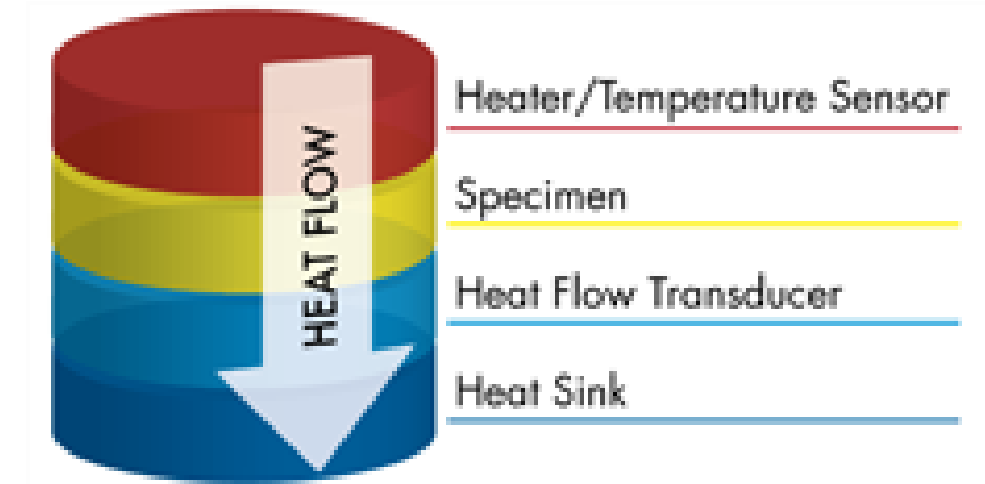
### Characteristics:

- ✓ Extremely low resistivity > 100 Ohms/cm
- ✓ MB available compatible with several Matrix
- ✓ Cost-effective
- ✓ Non-migratory

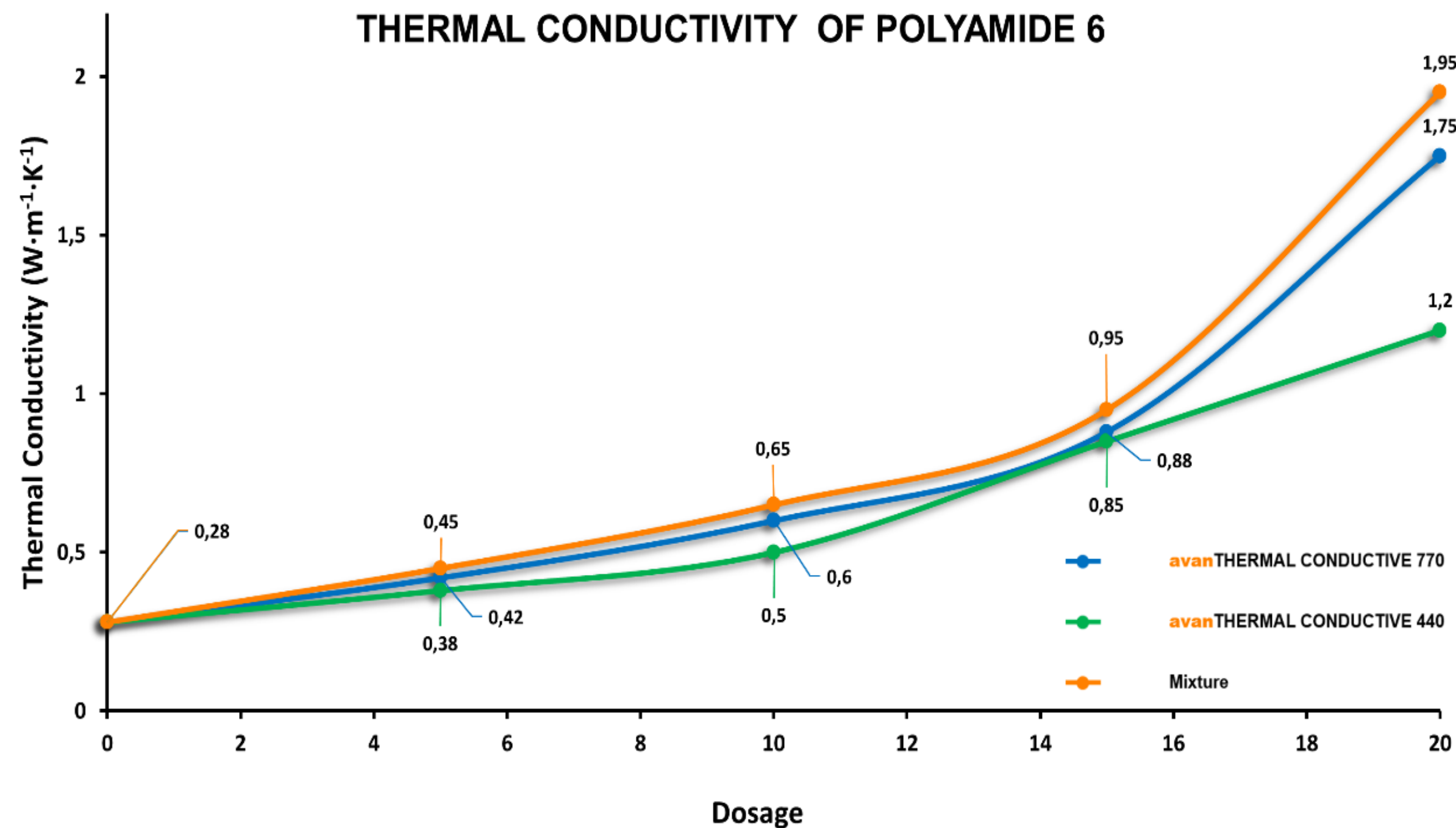


# THERMAL CONDUCTOR

**avanTHERMAL CONDUCTIVE** solutions are a series of very effective additives specifically designed to provide thermal conductivity to all types of materials and coatings.



Guarded Heat Flow Test Method





# METALLIC TRACER

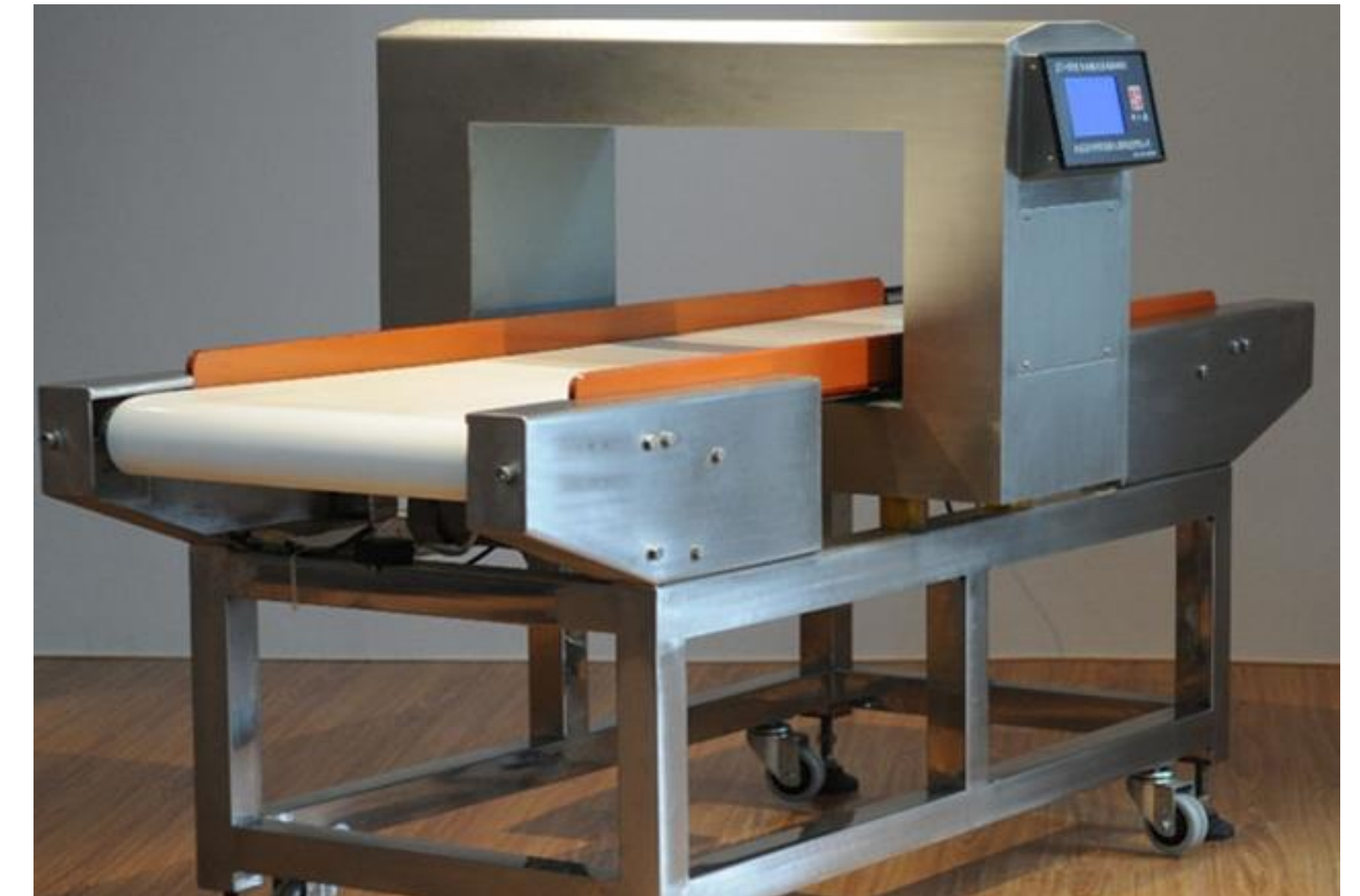
**WHY?** Allows to detect plastic parts in food processing lines

## APPROACH TO THE COSTUMER:

- ✓ Light Color → Colourable
- ✓ Powder or MB ready to use
- ✓ Electronic and magnetically techniques

## APPLICATIONS:

- ✓ Conveyor Belts
- ✓ Plastic Tools
- ✓ Compounding



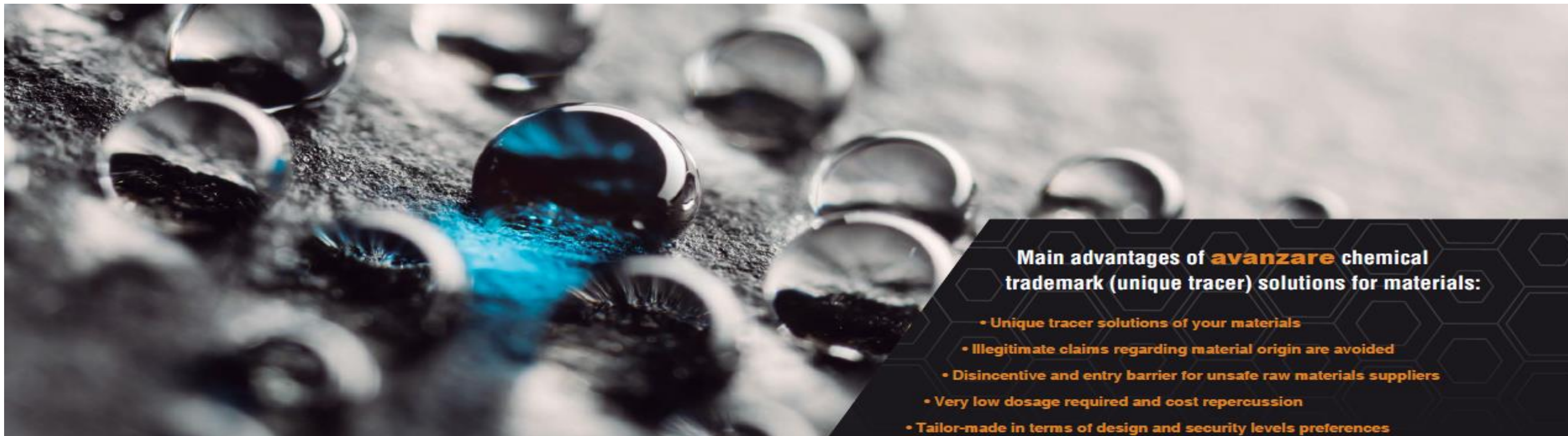


# CHEMICAL TRACER

## anti-counterfeiting solution

Unique solutions of tailor-made additives based on organometallic compounds for plastic differentiation/identification, which allow avoiding illegitimate claims.

- ✓ Unique for each customer
- ✓ Fingerprint
- ✓ Extremely low dosage
- ✓ Tailor made
- ✓ Different levels of security



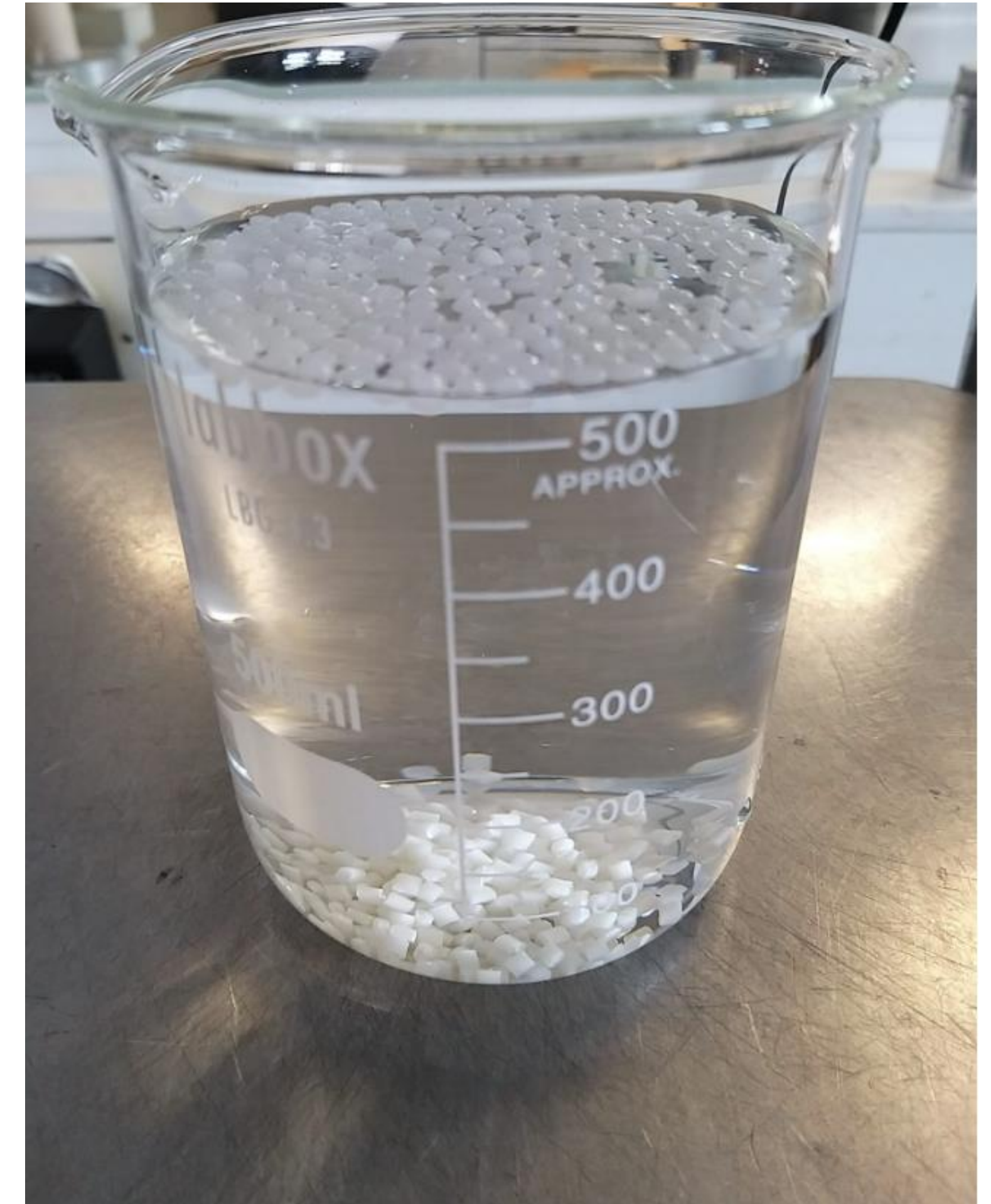
Main advantages of **avanzare** chemical trademark (unique tracer) solutions for materials:

- Unique tracer solutions of your materials
- Illegitimate claims regarding material origin are avoided
- Disincentive and entry barrier for unsafe raw materials suppliers
- Very low dosage required and cost repercussion
- Tailor-made in terms of design and security levels preferences



## DENSITY AMPLIFIER

- ✓ MB compatible with all matrix
- ✓ Density MB 5,5-6 Kg/litre
- ✓ Valid 10/2011 and FDA (Food grade)
- ✓ 100 % adjustable
- ✓ Colourable



**Solution for amplified drastically the plastic's density.**

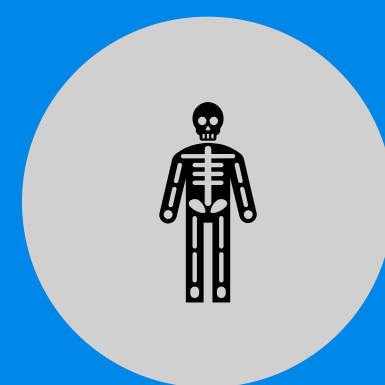
# **BIOCIDE**

## antibacterial solution / fungi algae

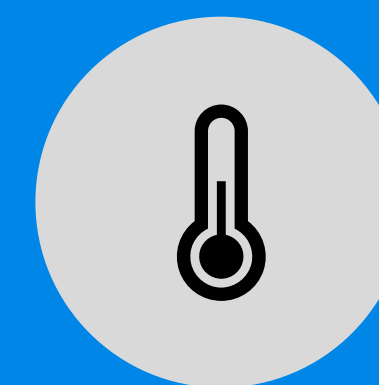
Antibacterial additives and MB for application in plastic Eliminate up to 99,99 % bacterial



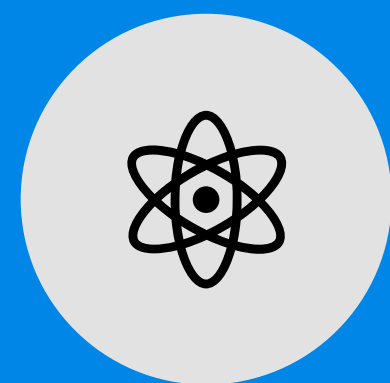
**avanZnO BAC** is a powerful anti-microbial agent, specially formulated to be introduced in plastics, rubbers and resins matrices.



**avanZnO BAC** is based on the used of ZnO functionalized particles together with Zn pyrithione an/or pyrithione-2-tiol 1-oxide sodium salt.



According to the European directive n° 1048/2005 (13/June/2005) and directive (CE) n° 528/2012 regulating the applications of biocides in the industry.



The product is certificated to be used in plastics and resins with bactericide, against fungi and algae capability since more than a decade.

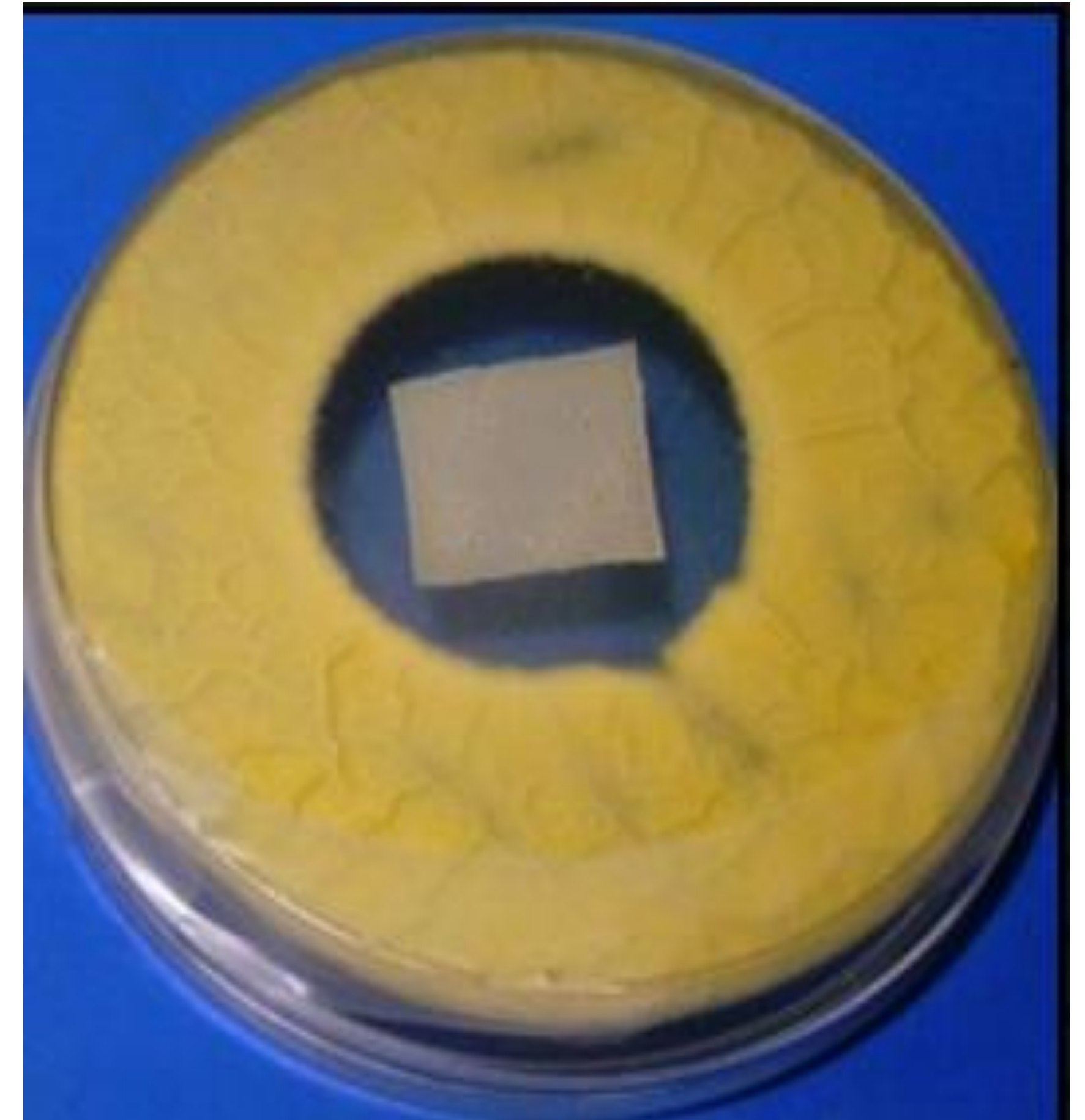


Some scientific studies have observed a large efficiency against RNA virus (coronavirus, herpes, picornavirus,...)



has been tested against:

Bacteria	Fungi	Algae
Escherichia coli	Aspergillus niger	Cladosporium
Staphylococcus aureus	Aureobasidium pullulans	cladosporioides
Streptococcus faecalis	Chaetomium globosum	Sclerophoma pityophila
Klebsiella pneumoniae	Alternaria alternata	Trichoderma viride
Pseudomonas aeruginosa	Penicillium brevicaulis	Chlorella pyrenoidosa
Salmonella typhimurium	Cladosporium cladosporioides	
	Sclerophoma pityophila	
	Trichoderma viride	

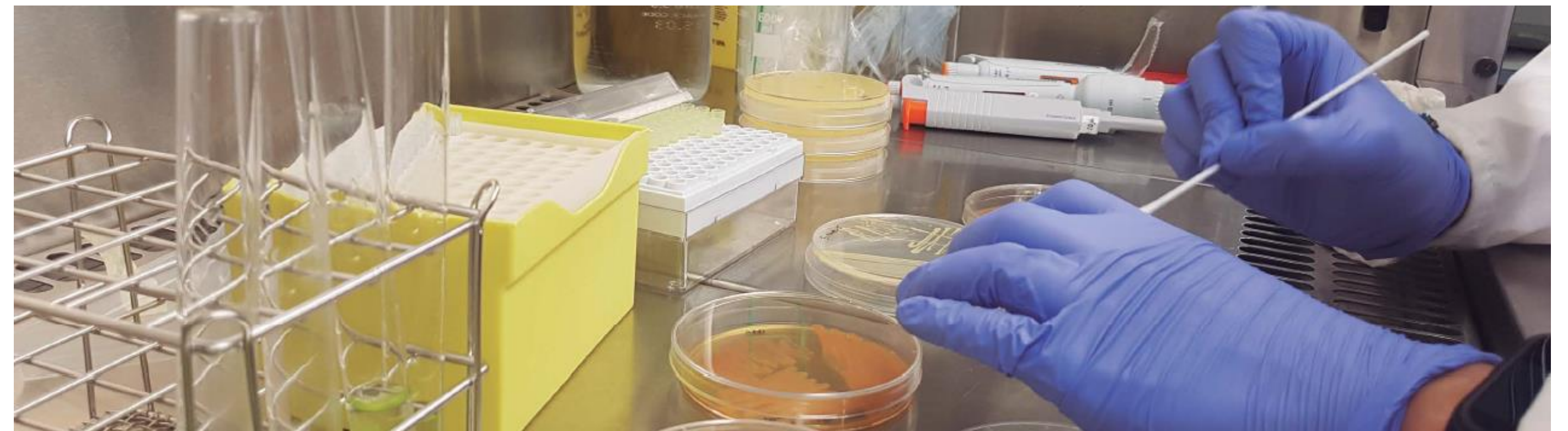


## ❑ Technical capabilities (Microbiology laboratory)

- ✓ 3.500 m<sup>2</sup> fully equipped laboratory (525 m<sup>2</sup> division microbiology)
- ✓ 12 Chemistry PhD. (2 PhD division microbiology)
- ✓ European accredited laboratory for testing customer trials
- ✓ Customized solution (adjusted recipes)

## ❑ Equipment and facilities

- ✓ Laboratory for testing samples under ISO 22196, inhibition test (Kirby Bauer, Qualitative Test, etc.)
- ✓ Bacterial, Fungal, Algae, category BIO-IIA
- ✓ Biosecurity level II





## Avanzare Innovación Tecnológica

Headquarters: C/ENCINILLAS Nº. 18-20 (P.I. LENTISCARES)  
26370 NAVARRETE (LA RIOJA)

ESPAÑA

Office: +34 941 58 70 27

[sales@avanzare.es](mailto:sales@avanzare.es)

[www.avanzarematerials.com](http://www.avanzarematerials.com)

