



degrAway

GIVE IT BACK TO NATURE



# Problem definition

One of the biggest environmental challenges of our present is plastic waste pollution. Many of our best minds have been trying to solve this problem for many years but with little results. Recycling seems to be a viable option, but working systems have not been developed so far. Furthermore, it is only partially solving the problem, not resolving it. We believe that a true solution to plastic pollution is to have a material that is universal, can be used in a wide variety of applications but most importantly, biodegradable and environment friendly.

We are proud to announce that we have found the solution for this problem!





# Introducing dat<sup>1</sup>.

After a long period of research and developement, we are proud to present our patented raw material we call: DAT1 for short.

NO  
plastic

NO  
micro-plastic

NO  
nano-plastic

01

Suitable for conventional thermoplastic processing (e.g. granulating, extruding).

03

Fully compostable, does not put further strain on the environment.

06

An environment thriving in bacteria accelerates decomposition, thus it gets back into the natural cycle.

02

It has a good film forming property, furthermore, its mechanical behaviors and tensile strength are also favorable, and its relevant material properties can be varied within a wide range.

04

Fully biodegradable, in environmental conditions (soil, waste storages) it can completely decompose in a few weeks or months.

07

Getting into the soil, thanks to its hydrophilic quality, it has a water retention ability during the decomposition period, favorably affecting the water balance of the soil.

05

After use, it dissolves in water or in wet condition without any trace, does not create micro-plastic particles.



# General comparison

Features	DAT1	PLA	CPLA	HDPE	LDPE	PET	PP
Micro-plastic content	NONE	Yes	Yes	Yes	Yes	Yes	Yes
Domestic compostability	YES	No	No	No	No	No	No
Industrial compostability	YES	Yes	Yes	No	No	No	No
Biodegradation	YES	No	No	No	No	No	No
Water solubility	YES	No	No	No	No	No	No
Soil improver effect	YES	No	No	No	No	No	No
Environmental fee	NO	Yes	Yes	Yes	Yes	Yes	Yes

The properties of DAT1 described above are supported by laboratory  
TÜV and SGS  
tests and certificates.



# General comparison

PROPERTIES	PLA					Sabic PS 100					DAT 1		
	Test Methods	Test Condition	Units	Values		Test Methods	Test Condition	Units	Values		Test Condition	Units	Values
MFI	ASTDM 1238	190 C / 2,16 kg	gm/10 min	40 (±3)		ASTDM 1238	230 C / 2,16 kg	gm/10 min	14		230 °C 2,16 kg	gm/10 min	3,132
Tensile Strength at Yield	ASTM D638	50 mm/min	Mpa	Min 29,41		ASTM D638		Mpa	40			Mpa	80,4
Elongation at Break	ASTM D638	50 mm/min	%	2 (±0,5)		ASTM D638		%	2			%	3,02
Flexural Modulus	ASTM D790	1,3 mm/min	MPa	7300		ASTM D790		MPa	3529			MPa	5161
Flexural Strength	ASTM D790	1,3 mm/min	MPa	Min 75		ASTM D790		MPa	72			MPa	112
Izod Impact (N)	ASTM D256	at 3,2 mm		Min 32		ASTM D256	at 23 °C	J/m	12		at 2 mm	kJ/m2	1,534
Hardness	DIN 53505/ASTM D2240	-	Shore D	Min 87		ASTM D785		Rockwell hardness L-Scale	94			Rockwell hardness L-Scale	97
HDT	ASTM D648	0,45 Mpa	°C	Min 54		ASTM D648	0,45 Kpa	°C	90		0,45 Mpa	°C	53,93

# Details

## Biodegradation

Completely degrades by fermentation, biocompostable and does not cause environmental strain. This is confirmed by independent laboratory reports.

## Home composability

TÜV certified, self composting, do not need to be collected separately and can also be composted together with food residues and other natural materials.

## Heat Resistance

The heat resistance can be optimized and increased in a cost-effective way by the addition of natural materials and without adversely affecting the properties.

## Price

DAT1 components' price does not change significantly, so it remains stable, and predictable. All components are available in unlimited quantities and are easy to obtain.

## Other characteristics

Very well soluble in water and do not pose as a threat to the wildlife of our natural waters. The hydrophilic ability is a huge advantage for a disposable product.

# Production range

## Disposable Cutlery

Special surface  
treatment.  
  
Excellent  
mechanical  
properties.

Ready for mass  
production

## Coffee pods

Nespresso  
compatible  
capsules.  
Usability tested.  
(shape and size  
can be varied  
according to  
need)

Ready for mass  
production

## Soft & hard films

Possibility to  
involve new  
industrial fields

R&D phase.  
Mass production  
under  
development

## Bottles & caps

Our goal is to  
create a range of  
products that  
replaces current  
PET bottles and  
can be produced  
with a traditional  
bottle blowing  
method

R&D phase.  
Mass production  
under  
development

## Automotive parts

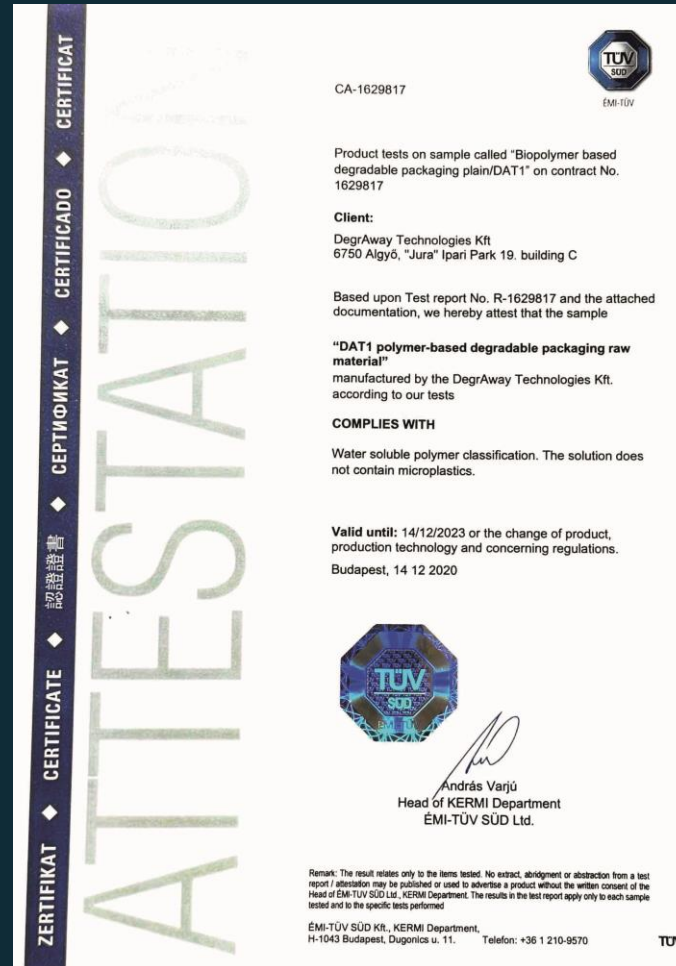
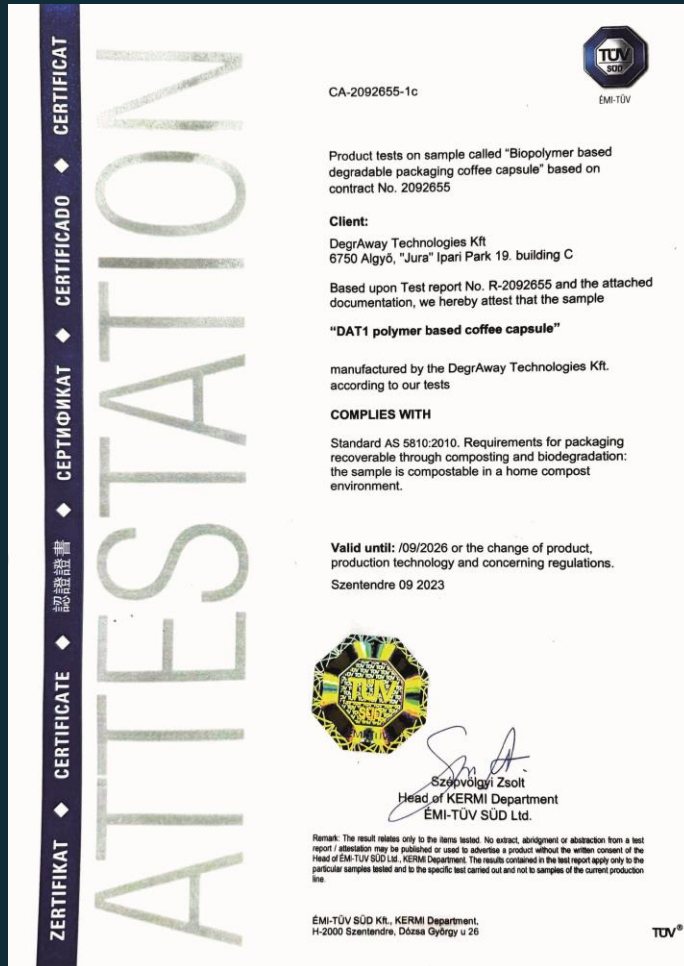
Replacement of  
external and  
internal plastic  
elements with  
environmentally  
friendly pieces that  
do not require  
special subsequent  
disposal.

R&D phase.  
Mass production  
under  
development

# Photos







# Certificates

The properties of DAT1 described above are supported by laboratory TÜV and SGS tests and certificates.

# Contact Us



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