



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.

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



NO micro-plastic

NO nano-plastic

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

- Ol Suitable for conventional thermoplastic processing (e.g. granulating, extruding).
- Fully compostable, does not put further strain on the environment.
- An environment thriving in bacteria accelerates decomposition, thus it gets back into the natural cycle.

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



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

	PLA				Sabic PS 100	DAT 1					
PROPERTIES	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

Coffee pods

Soft & hard films

Bottles & caps

Automotive parts

Special surface treatment.

Excellent mechanical properties.

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

need)

Nespresso

Possibility to involve new industrial fields

Our goal is to create a range of products that replaces current PET bottles and can be produced with a traditional bottle blowing method Replacement of external and internal plastic elements with environmentally friendly pieces that do not require special subsequent disposal.

Ready for mass production

Ready for mass production

R&D phase.
Mass production
under
development

R&D phase.
Mass production
under
development

R&D phase.
Mass production
under
development



Photos















CA-2092655-1c

Product tests on sample called "Biopolymer based degradable packaging coffee capsule" based on contract No. 2092655

lient.

DegrAway Technologies Kft 6750 Algyő, "Jura" Ipari Park 19. building C

Based upon Test report No. R-2092655 and the attached documentation, we hereby attest that the sample

"DAT1 polymer based coffee capsule"

manufactured by the DegrAway Technologies Kft. according to our tests

COMPLIES WITH

Standard AS 5810:2010. Requirements for packaging recoverable through composting and biodegradation: the sample is compostable in a home compost environment.

Valid until: /09/2026 or the change of product, production technology and concerning regulations. Szentendre 09 2023



Szepvölgyi Zsolt
Head of KERMI Department
ÉMI-TÜV SÜD Ltd.

Remark: The result relates only to the items tested. No extract, abridgment or abstraction from a test report / attestation may be published or used to advertise a product without the written consent of the Head of EM-TUY SOLD LM, KEMP Department. The results contained in the stereport apply only the particular samples tested and to the specific test carried out and not to samples of the current production tion.

ÉMI-TÜV SÜD Kft., KERMI Department. H-2000 Szentendre, Dózsa György u 26

TUV®

CERTIFICATE

CA-1629817

Product tests on sample called "Biopolymer based degradable packaging plain/DAT1" on contract No.

lient:

DegrAway Technologies Kft 6750 Algyő, "Jura" Ipari Park 19. building C

Based upon Test report No. R-1629817 and the attached documentation, we hereby attest that the sample

"DAT1 polymer-based degradable packaging raw material"

manufactured by the DegrAway Technologies Kft. according to our tests

COMPLIES WITH

Water soluble polymer classification. The solution does not contain microplastics.

Valid until: 14/12/2023 or the change of product, production technology and concerning regulations. Budapest, 14 12 2020



Ándrás Varjú Head of KERMI Department ÉMI-TÜV SÜD Ltd.

Remark: The result relates only to the Items tested. No extract, abridgment or abstraction from a test report a detention may be published or used to solventise a product without the written consent of the Head of EM-TUV SIOL Lid., KERMI Department. The results in the test report apply only to each sample tested and to the specific tests performed.

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TUV

Certificates

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



Contact Us

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Visit us

www.degraway.com

