

April 17, 2013

Ger Engelkes  
 RESINEX  
 Moerenstraat 85A  
 2370 Arendonk  
 Belgium

Dear Mr. Engelkes,

Composting is a method of waste disposal that allows organic materials to be recycled into a product that can be used as a valuable soil amendment. NatureWorks LLC has carried out compost testing in accordance to EU guidelines at an independent testing laboratory (OWS) and found Ingeo™ biopolymer to pass all required tests. Ingeo™ biopolymer covered under our DIN CERTCO certificate is:

Ingeo™ biopolymer Grades Covered	Limitation-
Ingeo™ biopolymer 2002D, 2100D, 3001D, 3051D, 3052D, 4032D, 4042D, 4050D, 5040D, 5050D, 5060A, 5060B, 5061A, 5061B, 7000D, 7032D, 8051D, 8052D, 8301D, 8300D, 9200D	2.0 mm layer thickness
Ingeo™ biopolymer 2003D, 4043D, 4044D, 7001D	3.1 mm layer thickness
Ingeo™ biopolymer 3251D, 4060D, 8251D, 9500D and 9501D	3.2 mm layer thickness

Please see attached certificate as a reference for above limitations. Also please note under the certification program, adopted by DIN CERTCO, plastic and polymer products need to file an application for certification to DIN CERTCO, for which a license to mark products with the IBAW Logo is sought and granted. A customer of NatureWorks LLC cannot use the IBAW logo on their products without gaining this certification on their end products from DIN CERTCO.

Ingeo™ biopolymer is made primarily of polylactic acid, a repeating chain of lactic acid, which undergoes a 2-step degradation process. First, the moisture and heat in the compost pile attack the Ingeo™ biopolymer polymer chains and split them apart, creating smaller polymers, and finally, lactic acid. Microorganisms in compost and soil consume the smaller polymer fragments and lactic acid as nutrients. Since lactic acid is widely found in nature, a large number of organisms metabolize lactic acid. The end result of the process is carbon dioxide, water and also humus, a soil nutrient. Ingeo™ biopolymer reacts with water, the rate of this chemical hydrolysis increases with temperature. This degradation process is temperature and humidity dependent.

Ingeo™ innovations are made uniquely from NatureWorks® biopolymer



This data is not intended to relieve you from the requirement to test your compostable packaging. We recommend you examine the regulation and your responsibilities as a manufacturer to ensure your product comply with any limitations. Any addition of additives or colorants to NatureWorks LLC resin, after the resin leaves our factory gate, will have to pass all required testing to meet compostability standards.

Best Regards,



William A. Suehr  
COO  
NatureWorks LLC  
c.c. File

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# DIN CERTCO

Gesellschaft für Konformitätsbewertung mbH



## NOTIFICATION OF REGISTRATION

The company

**NatureWorks LLC**  
15305 Minnetonka Blvd.  
MINNETONKA MN 55345  
USA

hereby receives the conformation that the Compostable material

of the type

**Nature Works PLA**

conforms to

**ASTM D 6400:2004**  
**DIN EN 13432:2000-12**

**Certification scheme products made of compostable materials (Edition: 2012-04)**

and is granted a special entitlement for advertising purposes according to § 8 (5)  
of the Regulations governing Use of the Mark for the mark



kompostierbar

according to the Regulations governing Use of the Mark and the Trademark Usage Guidelines  
in conjunction with the Registration No. below.

**Registration No.: 7W0014**

**This Notification of Registration is valid until 2018-03-31.**

See annex for further information.  
DIN CERTCO Gesellschaft für  
Konformitätsbewertung mbH  
Alboinstraße 56, 12103 Berlin



2012-09-14  
Dipl.-Ing. (FH) Dipl.-Wi.-Ing. Sören Scholz  
- Head of Certification Body -

S. Scholz

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## Annex

to the Notification of Registration with Registration No. 7W0014, dated 2012-09-14

### Technical data

resin, uncoloured

#### Variant 1:

max. layer thickness: 2000 µm

2002D, 2003D, 2100D  
3001D, 3051D, 3052D, 3251D  
4032D, 4042D, 4043D, 4050D, 4060D  
5040D, 5050D, 5060A, 5060B, 5061A, 5061B  
7000D, 7001D, 7032D  
8051D, 8052D, 8251D, 8300D, 8301D  
9200D, 9500D, 9501D

#### Variant 2:

max. layer thickness: 3100 µm

2003  
4043, 4044  
5044 X  
7001

#### Variant 3:

max. layer thickness: 3200 µm

3251  
4060  
8251  
9500, 9501

### Testing laboratory / Inspection body

Organic Waste Systems n.v.  
5, Dok Noord  
9000 GENT  
BELGIEN

Universität GH Essen  
Fachbereich 10  
Bauwesen/Abfallwirtschaft  
Universitätsstr. 15  
45117 Essen



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