

Nature Gloves

Cress test (Agrartest GmbH) for the Nature Glove

As regards the biodegradability of plastics, the origin of the raw material, i.e., whether fossil or renewable raw materials were used in the manufacture of the product, is irrelevant. The only factor that determines whether a material is biodegradable is its chemical structure. Plastic is only biodegradable if microorganisms and fungi, or their enzymes, are able to break down and completely metabolise the molecules that make up the plastic. Biodegradable plastics are completely decomposed by microorganisms to carbon dioxide (CO₂), water (H₂O), mineral salts and biomass. Additionally, methane (CH₄) can be produced in a fermentation process during decomposition.



Fig. 1: Total samples without and with test specimen after 5 days



Fig. 2: Total samples without and with the Biodegradable test specimen after 30 days

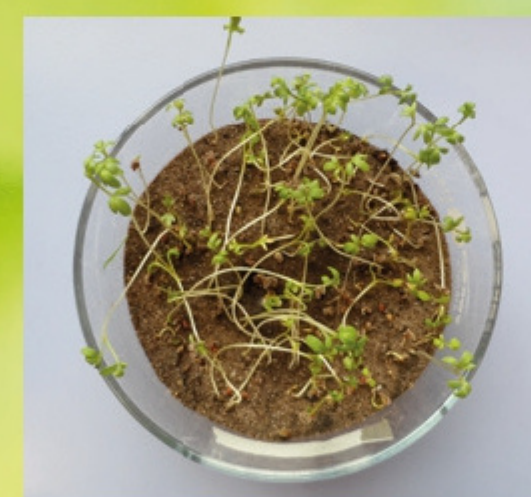
The biological activity is monitored in standardised test soil under aerobic conditions over the entire test period on the basis of various parameters (temperature, soil moisture). The tests can be carried out either in predefined laboratory conditions or in practical field conditions. After a specified test period, we evaluate the tests with regard to the degradation rate of products as well as the environmental compatibility and impact of decaying products (conducting ecotoxicological tests or chemical analyses). Standardised procedures are used for each of these end parameters.



Original sample after 11 days



Test specimen 1 after 11 days



Test specimen 2 after 11 days

JUST A SMALL FLICK OF THE WRIST FOR YOU – BUT A BIG STEP FOR THE ENVIRONMENT.

The hand protection innovation:

Nature Gloves – biodegradable disposable protective gloves!

The innovation for food handling, for medical, nursing, and other applications. Be good to the environment.

- Biodegradable
- Latex-free to minimise the risk of allergies
- Comfortable design ensuring ergonomic working
- Excellent fit
- Polymer-coated
- Unique formula
- Food-certified
- PPE Category I according to PPE Regulation (EU) 2016/425
- Class I medical device according to Regulation (EU) 2017/745



Biodegradable

With the **Nature Glove** you can achieve both:
Hand protection and environmental protection!

Biodegradable protective gloves should dissolve in soil. Residues from additives and dyes must not have a negative impact on the environment. we therefore look very closely at what happens to the different glove samples when they rot in the soil: how fast or how slowly the glove degrades, and what remains of it at the end. This is what we test in our own biodegradation laboratory.



After use, the biodegradable nitrile glove variant can simply be composted. Of course, if the gloves are biologically or chemically contaminated, they need to be properly disposed of as hazardous waste (verified by chemical or hospital

hazardous waste documentation) and must not be thrown away with the normal household waste or compost waste.

What is biodegradation?

Biodegradation is a process in which microbial organisms convert or transform an organic substance introduced into the environment, through metabolism or enzymatic action. This is done by certain bacteria, fungi, insects, worms, and other organisms that break down the biodegradable material into natural elements.

How does the biodegradation of the Nature Glove work?

Biodegradation starts as soon as the disposable protective gloves are thrown away – ending up, for example, on landfills with low-oxygen conditions. Usually, nitrile is less degradable because anaerobic soil microbes have little natural affinity to the polymer. The Nature Glove, however, uses Midas Enviro Technology (MET), which accelerates, in active landfills, the biodegradation of nitrile by naturally occurring microbial activity and related conditions. MET has been

tested by independent laboratories using internationally recognised test standards (ASTM D5511, ASTM D5526). As glove experts, testing according to the ASTM D5526 procedure is not enough for us. We strive for knowledge, we are curious, we test and do research in our in-house laboratory and, as a result, we have developed our own standard for biodegradation. The tests are carried out in clearly defined outdoor conditions. After a specified test period (of up to 90 days), we evaluate the tests with regard to the degradation rate of products as well as the environmental compatibility of rotting gloves. In this case, we carry out an ecotoxicological assessment. Before they are thrown away, the gloves boast the same properties and features as traditional disposable nitrile gloves.

Why should you decide to buy the Nature Glove?

The **Nature Glove** is the perfect glove for those who wish to use sustainable products. Such products, if they are disposed of at modern disposal sites, are also renewable sources of energy. Alterna-

tively, the CO2 and methane released can be used as a source of energy and thus benefit the community. Energy that is produced from biologically recycled products in modern disposal sites is inexpensive and a reliable form of renewable energy.

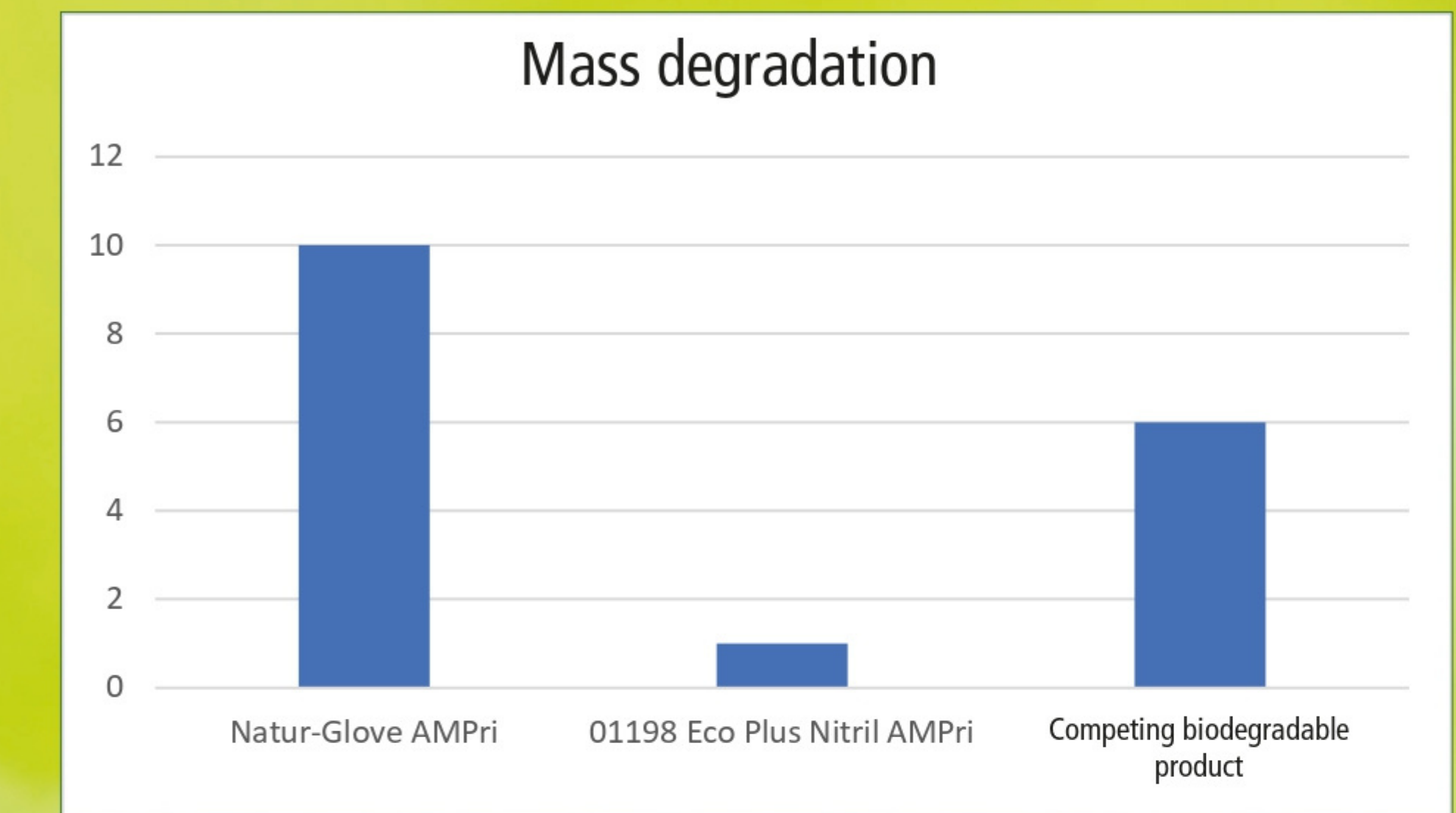
The polymer-coated **Nature Glove** is food-certified and, therefore, the ideal glove for use in food processing, the food industry, commercial kitchens, canteens, and restaurants as well as in vegan cooking.

Quality features:

- AQL 1.5
- EN 420
- EN 455
- Food-safe according to Regulation (EC) 1935/2004
- PPE Category I according to PPE Regulation (EU) 2016/425
- Class I medical device according to Regulation (EU) 2017/745

Nature Glove laboratory test to establish the percentage of mass degradation and degradation after 90 days

Glove name	Mass degradation in %
118-069 Nature Gloves by	10
01198 Eco-Plus by	1
Competing biodegradable product	6



Glove name	Degradation in %
118-069 Nature Gloves by	60
01198 Eco-Plus	6
Competing biodegradable product	45

