



## SUSTAINABLE PRODUCT DEVELOPMENT

Medicom strives to ensure that its products are safe, manufactured with care and packaged responsibly. We believe that innovation, efficiency, and technology are the most effective ways to minimize our environmental footprint.

# Empower Your Eco-Journey With Medicom

## EcoSafe

Biodegradable Nitrile Gloves  
Powder-Free

## FAQ



### Q1 What does Biodegradation mean?

Biodegradable means the natural breakdown of organic chemicals/materials by micro-organisms e.g.: bacteria, fungi etc. into smaller, useful form.

### Q2 How many mechanisms of biodegradation are there?

Biodegradation can occur through two mechanisms, oxo-biodegradation and anaerobic biodegradation. EcoSafe biodegradable nitrile gloves are anaerobic biodegradable.

Q3

### What is the difference between oxo-biodegradation and anaerobic biodegradation?

EcoSafe biodegradable nitrile gloves are anaerobically biodegradable, which means that they can degrade in landfill conditions without the presence of oxygen.

This offers a significant advantage over the commonly used oxo-biodegradable materials available in the current market, as they require an aerobic environment (with oxygen) to degrade, resulting in the production of microplastics as final byproducts.

#### Difference between Oxo-Biodegradation and Anaerobic Biodegradation

	Oxo-Biodegradation	Anaerobic Biodegradation
Condition to biodegrade	WITH the presence of Oxygen	<b>WITHOUT</b> the presence of Oxygen e.g. Landfill
Mechanism	Fragmentation	Enzymatic Mechanism
End Products	Micro-plastics fragments	Carbon dioxide + Methane (main constituent of natural gas) + Humus, soil (due to not 100% digested or converted to gas by bacteria)

Q4

### What makes our EcoSafe biodegradable gloves different from a normal nitrile gloves?

EcoSafe biodegradable nitrile gloves feature with a specialized organic additive to elicit the biodegradable reaction. The additive has the extraordinary capability to “attract” microbes, encouraging them to consume the glove in landfill environment.

Q5

### Any toxin released during the degradation process?

There is NO toxin released during the degradation. This process leads to the production of environmentally friendly byproducts such as biogas (e.g., Methane) and residues like humus and soil. Hence, the breakdown of our gloves is environmentally sustainable.

**Q6**

## Any potential impact of biodegradable gloves on performance and shelf life in normal temperature and condition?

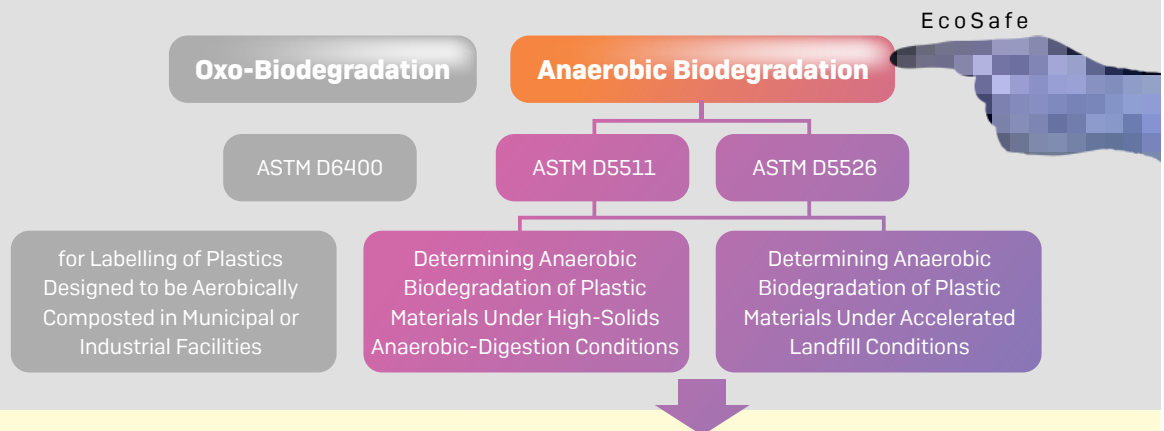
No, our biodegradable nitrile gloves can only degrade in landfill conditions without the presence of oxygen, therefore our biodegradable gloves' performance and properties would not be affected during their shelf-life period.

**Q7**

## Any standard to prove its biodegradability?

To test our anaerobic biodegradable nitrile gloves, ASTM D5511 is the standard test method for determining anaerobic biodegradation of plastic materials under high-solids anaerobic-digestion conditions.

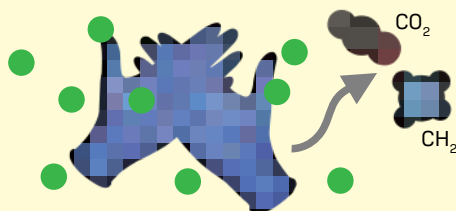
ASTM D5526 shows a more accurate assessment than ASTM D5511 by using accelerated landfill conditions as a testing environment. Also, this standard is not commonly tested by competitors in the market.



### Standard Compliance of Anaerobic Biodegradation

#### Under ASTM D5511

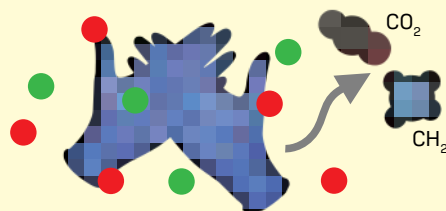
Under High-Solids Anaerobic-Digestion Conditions = an ideal landfill conditions in a controlled laboratory



- Without the presence of Oxygen
- Condition with controlled level of solid wastes to maximize the bacterial activity

#### Under ASTM D5526

Under Accelerated Landfill Conditions = simulating real-world landfill condition



- Without the presence of Oxygen
- Condition with varying amounts of solid wastes in different temperature and humidity

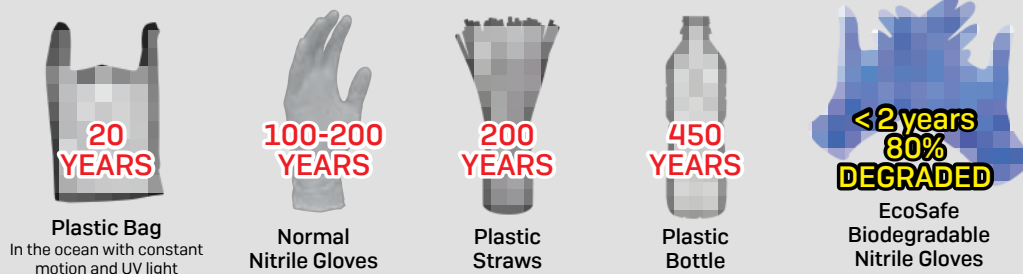
ASTM D5526 is the more accurate test than the ASTM D5511 test and uses more realistic landfill conditions

**Q8**

## How does our biodegradable nitrile gloves perform under ASTM D5511 and ASTM D5526?

EcoSafe biodegradable gloves have achieved up to 80.8% biodegradability within 490 days under high-solids anaerobic-digestion conditions specified by ASTM D5511. Additionally, the gloves exhibited 30% biodegradability in just 0.6 years under ASTM D5526, which simulates accelerated landfill conditions resembling actual landfill situations.

ALL ARE BIODEGRADABLE



Considering the fact that plastic bottles take up to 450 years to decompose, our biodegradable gloves offer a significant advantage in terms of reducing environmental impact due to their ability to naturally break down within a short period.

**Q9**

## When can the biodegradation of our EcoSafe biodegradable nitrile gloves reach 100% result?

This is an ongoing experiment, and the result proved that EcoSafe is one of the best biodegradable gloves in the market.

**Q10**







## Does our packaging have environmentally friendly features?

Yes! Our inner box is made from 100% recyclable material, and we select plant-based ink for printing.

**Q11**

## Apart from the biodegradable test ASTM D5511 and ASTM D5526, any standard or test we can pass or meet?

Our biodegradable gloves have been proven that is safe for use:

- |   |   |
|---|---|
|  <b>HACCP</b>  |  <b>Skin irritation/sensitization (ISO 10993)</b>    |
|  <b>Medical grade standard (EN 455)</b>              |  <b>Chemo drugs permeation (ASTM D6978)</b>          |
|  <b>Food grade standard (US FDA 21 CFR 177.2600)</b> |  <b>Specific Migration on Heavy metal (EN 13130)</b> |

Please feel free to contact us if you have further questions.