Biodegradable FAQs

1. How does Gloveon COATS biodegrade?

The organic additive in GloveOn COATS Biodegradable attracts microorganisms present in landfills onto the glove and facilitates the production of enzymes which together with the microorganisms metabolise the glove. This mineralisation process converts nutrients (i.e. carbon) in the glove into CO_2, (Carbon Dioxide) H_2O (Water), CH_4 (methane) and other inorganics.

2. Where is the organic additive applied to the glove?

As the additive has been incorporated into the formulation of GloveOn COATS Biodegradable, it is present throughout the entire glove. This ensures that microorganisms are attracted to mineralise all parts of the glove, not just the outer layer, which would be the case if the additive was only applied to the surface.

3. How is the biodegradation process measured?

Using the international standards ASTM D5511 and ASTM D5526, the conversion of carbon within the glove into biogas is used to measure the rate of biodegradation. ASTM D5511 shows the level at which the biodegradation process would happen in ideal anaerobic conditions. ASTM D5526 shows the biodegradation level in more real-world circumstances (i.e. landfill). As microorganisms will use carbon for growth and reproduction, the biodegradation rates shown in tests for both standards will not reach 100%, even though the material is fully biodegraded.

4. Does Gloveon COATS Biodegradable have a shorter shelf life?

No, GloveOn COATS Biodegradable has the same shelf life as other conventional nitrile gloves. These gloves will only start to biodegrade in an active microbial landfill environment.

5. What's the best way to dispose of Gloveon COATS Biodegradable when I've finished using them?

When using GloveOn COATS Biodegradable for a clinical purpose, these gloves should be disposed of with all other clinical waste. If you have used them for any other purpose, they should be put in with the general waste stream.

6. Can they be composted?

As GloveOn COATS Biodegradable is still made from synthetic polymer (nitrile), they are not able to be composted at home or in an industrial composter. Like recycling, if they are placed in a compost bin they will act as a contaminant to the end product (compost).

7. Are they safe?

Yes! GloveOn COATS Biodegradable has been biocompatibility tested to show they are safe for use against various contacts, such as skin and oral, in clinical and non-clinical environments. It is also safer for the environment as no toxic residue is left after the biodegradation process.

8. Is GloveOn COATS Biodegradable safe to use with food?

Yes, GloveOn COATS Biodegradable has been deemed food safe in compliance with European regulations and HACCP Australia.

9. What are the determinants for a faster or slower biodegradation?

Actual rate of biodegradation will vary dependent upon environmental conditions and the biological activity of microorganisms surrounding the synthetic polymer.

10. What is mineralisation?

This process decomposes organic compounds to release nutrients (i.e. carbon) in the glove into CO_2, H_2O, and other inorganics.

11. Will these gloves breakdown while in stock?

No, GloveOn COATS Biodegradable has been designed to only attract microorganisms from an active microbial environment (such as a landfill) for biodegradation. Warehouses, oces and store shelves are not considered such environments.

12. Do synthetic polymers biodegrade?

Although carbon is a great nutrient source for microorganisms, the long chains in synthetic polymers make it dicult for them to be metabolised by microorganisms. Biodegradation of these polymers can be accelerated through the use of organic additives which attract certain microorganisms in landfill environments.

13. What is the difference between biodegradable plastic, compostable plastic and degradable plastic?

Biodegradable Plastic: When plastic (or any other material) degrades from the action of naturally occurring microorganisms, such as bacteria, fungi and algae. Biodegradation can occur in either aerobic (with oxygen) or anaerobic (without oxygen) environments.
Compostable Plastic: Capable of undergoing biological decomposition in an industrial compost environment to the point that the plastic is not visually distinguishable and breaks down to carbon
dioxide, water, inorganic compounds, and biomass in a time frame similar to other organic materials.
Degradable Plastic: A plastic designed to undergo a significant change in its chemical structure under specific environmental conditions resulting in a loss of physical properties. This degradation can be initiated by oxygen, ultra-violet light or heat. In many cases these products begin to degrade the moment they are manufactured which leads to a shortened useful life.

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