



Why PLA is Better than Plastic, Even in Landfills:

Plant-Based and Non-Toxic:

PLA is made from renewable, plant-based materials like corn starch or sugarcane. Unlike petroleum-based plastics, which are made from fossil fuels, PLA doesn't introduce harmful chemicals into the environment. Even if it takes a long time to break down in a landfill, when it does eventually degrade, it does not release toxins into the soil or water, which is a key difference from traditional plastics.

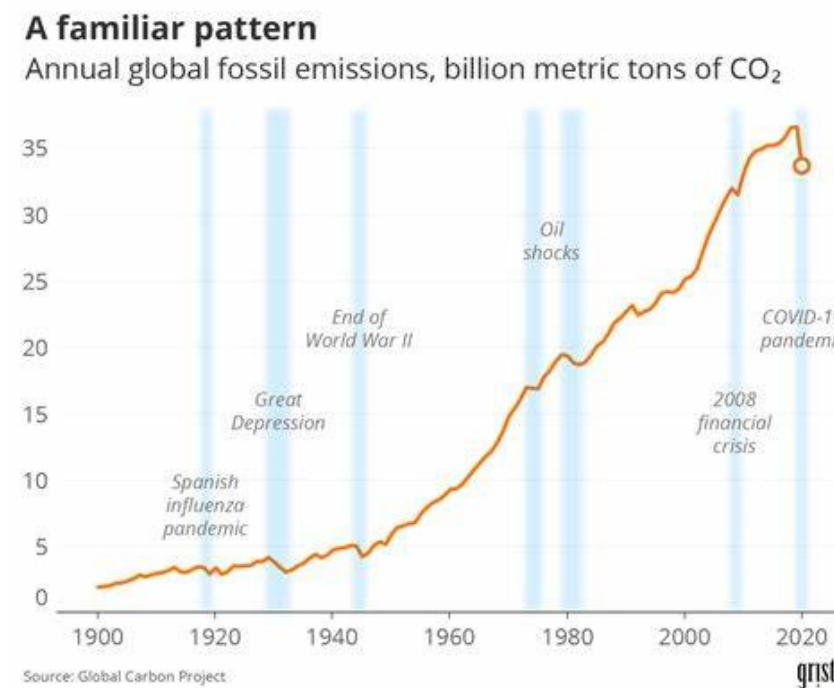


PLA: No Harmful Chemical Leaching:

One of the biggest issues with traditional plastics is that as they degrade, they leach harmful chemicals, like BPA or phthalates, into the environment.

These chemicals can contaminate the soil and water, entering the food chain and impacting both wildlife and humans. PLA, on the other hand, is non-toxic and does not leach harmful chemicals, even in a landfill setting.

It breaks down into natural elements like carbon dioxide and water.



PLA: Lower Carbon Footprint:

The production of PLA uses significantly less energy and emits fewer greenhouse gases compared to petroleum-based plastics. Even if PLA takes time to degrade in a landfill, its overall environmental impact—especially in terms of carbon emissions—is much lower than traditional plastics.



PLA: Potential for Better Disposal Options in the Future:

While access to industrial composting facilities is still limited in some regions, the demand for better waste management solutions is growing.

This means that as more consumers adopt products like PLA, the infrastructure for proper disposal will improve, making it easier for PLA to be composted in its intended way. PLA's potential for composting will become even more valuable over time as these systems develop.



Long-Term Benefits of PLA Over Plastic:

While it's true that PLA doesn't degrade as quickly in landfills as it does in an industrial composting facility, its biodegradation process is far less harmful. Traditional plastic could take hundreds of years to break down, and as it does, it breaks into microplastics that pollute ecosystems. PLA, on the other hand, will eventually degrade into harmless organic matter, even in less-than-ideal conditions, without leaving a trail of toxic chemicals.



How is PLA Made?

Yes, while PLA (Polylactic Acid) is primarily made from plant-based sources like corn starch or sugarcane, certain chemicals are used during its manufacturing process. However, these chemicals are generally considered safe and non-toxic compared to those used in petroleum-based plastics. Here's a breakdown of what's involved:



1. Fermentation Process:

The production of PLA starts with the fermentation of sugars from corn or sugarcane. Microorganisms are used to convert these sugars into lactic acid, which is the building block of PLA. This process is natural and does not involve harmful chemicals.

2. Polymerization Process:

Lactic acid is then polymerized into polylactic acid through a chemical process. During this step, catalysts are often used to speed up the reaction. These catalysts may include metals like tin, though in very small, regulated quantities. It's important to note that the use of these catalysts does not make the final PLA product toxic. In fact, the amounts used are minimal and do not pose a health risk when the product is used for food or beverage containers.



3. Additives:

In some cases, small amounts of additives are used to enhance the durability, clarity, or flexibility of PLA products. These additives are often biodegradable and safe, but the specifics depend on the manufacturer. The goal is to maintain the non-toxic, environmentally friendly nature of the product.

No Harmful Chemicals like BPA:

Unlike traditional plastics made from petroleum, PLA does not contain harmful chemicals like BPA (Bisphenol A), phthalates, or PVC. These are common in conventional plastics and are known to leach into food and drinks, posing health risks. PLA is free from these chemicals, making it a safer choice for food packaging.



Regulation and Safety:



PLA is generally regarded as safe by regulatory agencies like the FDA (Food and Drug Administration) for food contact applications. This means the small amounts of chemicals used in its production do not pose a significant health risk and do not leach into food or beverages in the same way traditional plastics can.

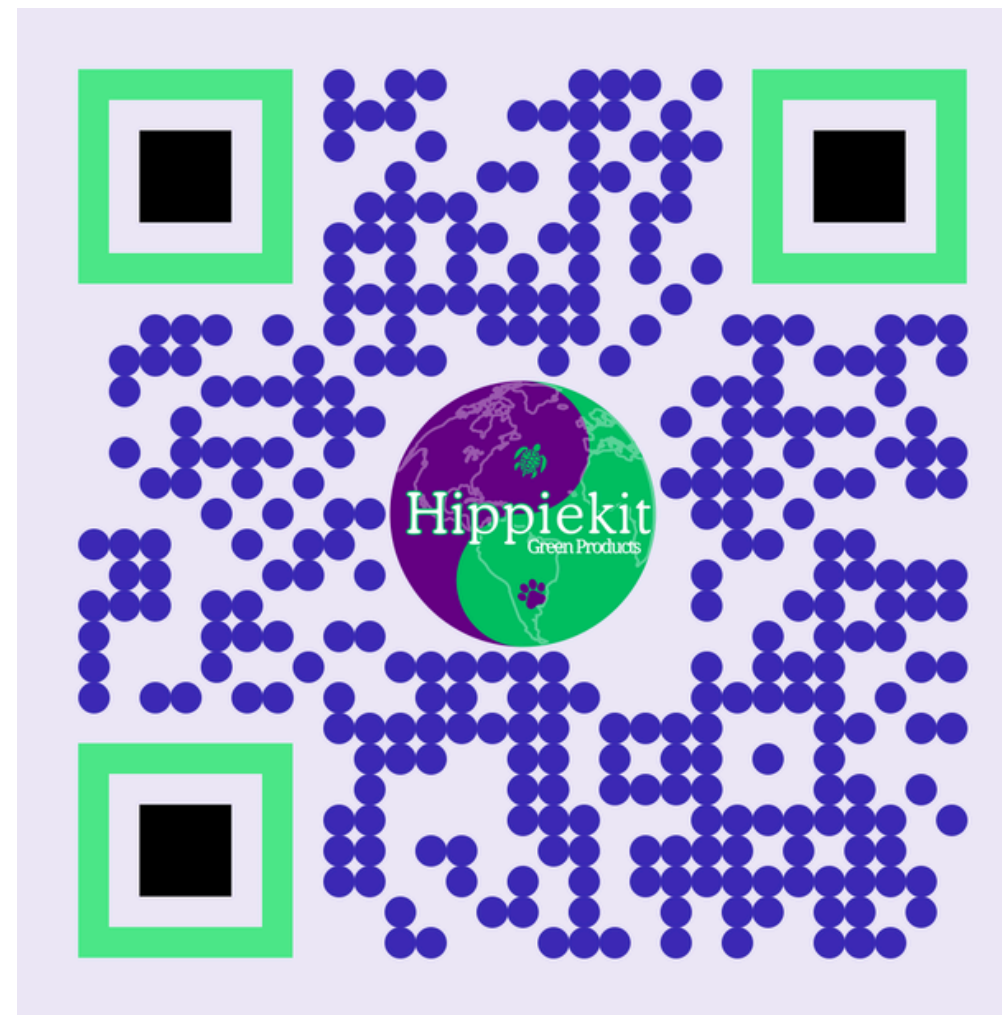
In Summary:

Yes, some chemicals are involved in the production of PLA, primarily during the polymerization process, but they are minimal and not harmful to health.

PLA does not contain harmful chemicals like BPA or phthalates, making it safer for food and drink use.

Regulatory approval ensures that PLA is safe for use in everyday products like food containers and packaging.

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