

# Biodegradable PVC

1. This is a rigid PVC product made from normal PVC resin and formulation for calender line production.
2. Patent Pending Ingredients are added to the base formula to make the PVC film biodegradable.
3. There are no adverse effects to physical properties in any type (clears, translucents, opaque colors, whites, etc.) of the PVC products offered.
4. Recent ISO 7810 certification of **bioPVC™** core and over laminate material.
5. In clear formulations a very slight haze is seen which is indistinguishable in thinner gauge films.
6. Performance of the biodegradable **bioPVC™** film is the same as standard PVC film.
7. Under normal every day usage of the **bioPVC™** film, the material maintains its integrity.
8. It can get wet, be left on the shelf, left in a wallet, off-set, litho and silk screen printed, vacuum formed, die-cut, embossed and corona treated without breaking down.
9. The biodegradation process begins only when the **bioPVC™** film is introduced into a fertile environment (compost, land fill, trash dump, the ground, lakes, rivers and the ocean) that allows microorganisms, which break down matter, to come into constant contact with the **bioPVC™** film. Once that happens the “special ingredients” attract the microorganisms that begin to break the hydrogen-carbon chain that exists in the PVC. Once the chain is broken, this allows oxygen to enter which will attach itself to the hydrogen and carbon creating H<sub>2</sub>O (water) and CO<sub>2</sub> (carbon dioxide). The lone chlorine atom bonds to a hydrogen atom, creating a very weak salt that does not have any adverse effect on the ecosystem. The biodegradation process works in both aerobic and anaerobic conditions therefore the absence of oxygen or water will not keep the **bioPVC™** film from biodegrading. All that is needed are the microorganisms.
10. Is this considered a petroleum-based product? Yes, this has always been the case for PVC film. PVC is derived from ethylene, which is obtained from either oil or natural gas. PVC like other petroleum-based plastics (Polyethylene, polypropylene and the like) has been notorious for going into landfills and staying intact for many years. It simply will not break down. Now with the introduction of the **bioPVC™** film that is no longer true.
11. After the **bioPVC™** film is broken down in 9 months to 5 years, all that is left behind is matter that can be easily worked into the soil or water that has no toxic effect. Ecotoxicological tests were performed according to ASTM and CE standards and found the **bioPVC™** film to pass. Meaning there are no ecologically damaging toxic elements remaining during or after the **bioPVC™** film biodegrades.
12. There is a patent pending for this formulation that covers all grades of PVC.

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