

# BIOflex™

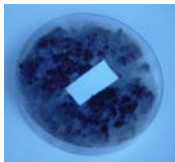
The First Landfill Degradable PVC

## BIODEGRADABLE FORMULA DETAILS

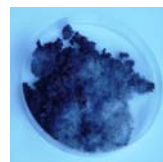
PVC has a remarkable balance of properties; it is strong, resistant to oil, chemicals, sunlight and weathering. PVC is also flame resistant, easily decorated and low in cost. At one time, PVC was often formulated with little regard for avoidance of toxic ingredients. This is no longer true. BIOflex™, for example, contains no toxic materials. It is based on the latest technology, highly pure PVC resin, fine particle limestone to provide opacity, plasticizer of vegetable origin to provide flexibility, and the titanium pigment used in the highest quality paint to add to sunlight resistance. Overall, more than 80% of the content of BIOflex™ is derived from sources other than petroleum.

Previously PVC had been immortal in the landfill; no degradation was found after decades of landfill burial. When degradable materials, such as starch, were added, they were consumed in the landfill but the PVC itself was untouched. Ultraflex Systems has developed a nontoxic formula that, at very low levels, enables landfill decomposition of BIOflex™. BIOflex™ has been engineered to be the FIRST truly environmentally friendly, biodegradable PVC. Worldwide patents covering the BIOflex™ composition are pending.

In the landfill, the carbon and hydrogen content of BIOflex™ are partly consumed by the biomass organisms and partly released as methane from fermentation. In a well managed landfill, methane is harvested for use as fuel. The chlorine content of BIOflex™ is partly consumed and partly converted to soluble chloride. This has value as fertilizer since it makes soil nitrogen more rapidly available to plants. In experiments using landfill into which BIOflex™ had decomposed, as compost in potting soil, vegetables sprouted more rapidly than in controls.



Control sample, 30 days in landfill; Standard PVC vinyl



Control sample, 30 days in landfill; BIOflex™ PVC

## CERTIFIED TESTING

In an *ISO 13641* study by an independent testing laboratory, addition of BIOflex™ to a landfill not only did not inhibit, but actually increased the level of biological activity. This test is designed to ensure that materials added to a landfill do not release toxic substances. BIOflex™ begins to degrade in the landfill within a few weeks and depending on thickness and quantity added, the PVC will vanish in 3 to 5 years. It should be noted that landfills can be managed by control of temperature and moisture content so as to increase the level of biological activity.

BIOflex™ has passed fire testing for the *NY MEA; NFPA 701* and the *CA Fire Marshal Title 19* test.

BIOflex™ has been tested for strength and weathering in the above tests as well as exposure to 2000 hours of laboratory UV, which showed no signs of discoloration.

## RECYCLABLE PACKAGING

BIOflex™ sample rolls are packaged using a stretch film that is made primarily of linear low density Polyethylene (LLDPE). All materials used in the production of this packaging are completely recyclable as low density polyethylene. Additionally, the protective shipping tubes are made from recycled materials.

## SPECIFICATIONS

BIOflex™ is a durable white, flexible 13oz PVC readily available in seamless widths 54", 63", 72", 10'6" and 16'4". With 1000 x 1000 denier, it is tear and fade resistant and will withstand all types of weather conditions; BIOflex™ can last years in indoor and outdoor applications depending on weather conditions. BIOflex™ is RF-weldable and compatible with UV, solvent and screenprinters. It is well suited for applications that require a front-lit digitally printed sign or banner.

Data and information provided by:

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