

## IDENTITY BREAKDOWN?

# EAGLE LAUNCHES INDUSTRY FIRST BIODEGRADABLE ID CARDS



Plus-Card BIO are white cards on a **biodegradable** material – they could be any of the following (or other types of credit card size or smaller cards/badges):

- ✓ Name badges
- ✓ Photo ID cards
- ✓ Security cards
- ✓ Loyalty cards

The plastic area of the card is 100% bio-degradable. The cards are a rigid PVC product made from normal PVC resin with an added formulation. The Patent Pending Ingredients are added to the base formula to make the PVC and film biodegradable. There are no adverse effects to the physical properties of the PVC products offered.

Performance of the biodegradable card is the same as standard PVC. Under normal every day usage of the card, the material maintains its integrity and can get wet, be left on the shelf or in a wallet, stored, printed, die-cut etc, without breaking down.

The biodegradation process only begins when the card is introduced into a fertile environment (compost, land fill, trash dump, the ground, lakes, rivers and the ocean). This allows microorganisms, which break down matter, to come into constant contact. Once that happens, the “special ingredients” attract the microorganisms that begin to break the hydrogen-carbon chain that exists in PVC. Once the chain is broken it allows oxygen to enter which attaches 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 has no adverse effect on the ecosystem.



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1. Plus-Card *Bio*™ is a rigid PVC product made from normal PVC resin and formulation
2. Patent Pending Ingredients are added to the base formula to make the PVC and film biodegradable.
3. There are no adverse effects to physical properties in any type (clears, transluents, opaque colors, whites, etc.) of the PVC products offered.
4. Performance of the biodegradable card is the same as standard PVC.
5. Under normal every day usage of the card, the material maintains its integrity.
6. It can get wet, be left on the shelf, left in a wallet, stored, off-set, litho and silk screen printed, vacuum formed, die-cut, embossed and corona treated without breaking down.
7. The biodegradation process begins only when 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. 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 card(s) from biodegrading. All that is needed are the microorganisms.

8. Is this considered a petroleum-based product? Yes, this has always been the case for PVC. 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, millions. It simply will not break down. Now with the introduction of the special intergradient that is no longer true.
9. After the card 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 to pass. Meaning there are no ecologically damaging toxic elements remaining during or after the card biodegrades.

For more information please go to [www.eagletechnologies.co.uk](http://www.eagletechnologies.co.uk) or contact Eagle Technologies on 01344 303 700.

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