



# Understanding 'Green' Products



Photos courtesy Nazcar

Customers expect a strong degree of sustainability.

By Laura Maybaum and Dave Julio

**T**oday's print providers are caught in the middle, with buyers expecting them to source sustainable or 'green' products from their suppliers, but with little or no guidance as to what is considered sustainable. The sourcing process has not proven easy, as signmakers must wade through vast quantities of information from many parties. The green claim for a given product, for example, may not apply to a specific type of printing. There may also be hidden processing costs that are not immediately evident.

Sustainability involves following low-impact business practices and using environmentally preferable products whenever possible. Most print providers pursue this goal due to market pressures and/or through their own efficiency initiatives.

A product's claim of sustainability is based on measurements in comparison to one or more related behaviours, including the following:

- Recycling.
- Use of recycled content.
- Elimination or reduction of toxins.
- Biodegradability.
- Composting.
- Use of renewable resources.

Print providers considering sourcing new green products should first determine the sustainability of their existing products and processes, as they may already be categorized as sustainable. Ultraviolet-curable (UV-curable) inks, for example, are generally more sustainable in comparison to solvent inks, as they reduce volatile organic compounds (VOCs), increase yield per litre, reduce energy consumption, can be used in most recycling situations and require less harsh chemicals for cleanup.

## Seeing the same shade of green

There are few definitions for print providers, their suppliers and their buyers to abide by with respect to sustainability, beyond those of government-imposed regulations. In the past few years, however, there has been a lot of effort

toward implementing more universal terms and standards. And companies throughout the printing industry are becoming savvier in seeing through many 'greenwashing' claims.

Nevertheless, defining 'green' is challenging because sustainability can be seen in different ways. The product supplier may see recycling, for example, as the reincorporation of waste materials into manufacturing; the print provider may see it as the duty to send cut-off waste to a local recycling facility; and the print buyer may focus on only accepting substrates that can be recycled, such as paper or polypropylene (PP).

As such, it can fall upon the print provider to clarify these definitions for the buyer's sake. And as more companies become involved in sustainable printing, standardization will become clearer.

### Dissecting claims

Sustainable product claims should target specific aspects, rather than be vague or use buzzwords that may not necessarily apply to the product.

One example of an easily dissected claim is a 'biodegradable cleaner' for the screenprinting industry. A screen cleaner is either a press cleaner that requires the chemical to evaporate from the screen (and thus concerns VOC and flashpoint issues) or a wash-up cleaner that is initially mixed with water, then enters a public treatment centre to be broken down and removed from the water. The ability to handle a given wash-up cleaner in a water-treatment centre is related more directly to oxygen and microbe reaction balance than it is to any issue of biodegradability.

So, using the term 'biodegradable' to describe a cleaner is a way to grab attention, rather than a real-world reference to its sustainability.

Also, some green claims are assumed to mean more than they indicate. If a substrate is said to contain recycled content, for example, this does not necessarily mean it can in turn be recycled. Meanwhile, a substrate that is compostable is not necessarily biodegradable.

Further, such claims are typically made for only the product itself, not for its use within a process or for the resulting print. A 'drain-safe' cleaner, for example, can generally be disposed of safely to a local water-treatment plant, but this does not mean the combination of the cleaner and ink will be drain-safe.

Another example is a compostable substrate. Many printable substrates can be used with a variety of inks and processes. It is not generally feasible for a given substrate's manufacturer to test all of these—nor to maintain control over the



Ink and media changes may be acceptable if graphics can still be colour-matched and displayed at an approved level.

specifications of inks that will be used on that substrate. If an ink is changed in any manner, a claim for the substrate plus the ink as compostable may be invalid unless requalified.

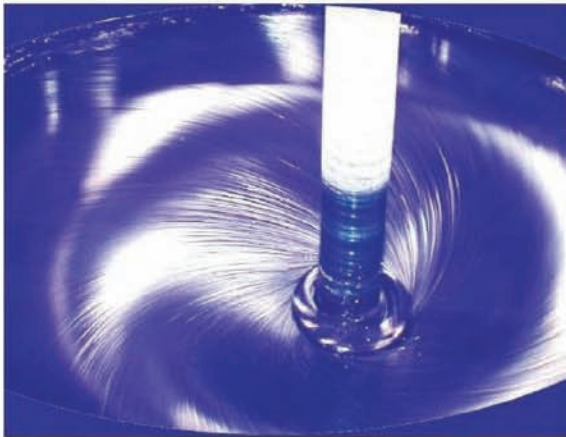
The way the substrate and ink are processed can affect the level of sustainability. A one-sided print on a thick-gauge substrate with a light ink deposit, for example, may attain the degree of decomposition that would classify it as compostable, but a two-sided print on a thin-gauge substrate with heavy ink coverage could exceed the limits. Neither the ink's manufacturer nor the substrate's has any control over the printing process to ensure a claim of sustainability remains valid.

This is one of the main reasons the sourcing of sustainable products is so complicated. The products and the process affect each other. Yet, if a claim made to a print buyer does not hold up under scrutiny, generally the print provider—not the product supplier(s)—will be held accountable.

### Verifying claims

To expand upon the example of a compostable substrate, a sustainability claim may read along the lines of, "Green substrate X meets American Society for Testing and Materials (ASTM) D6400, *Standard Specification for Compostable Plastics*. It is intended to be composted in a professionally managed municipal or commercial facility in accordance with best practices for composting management."

This claim can be independently verified by a third party using ASTM D6400's test methodology. The standard addresses plastics—as well as products made from plastics—that are designed to be composted. It focuses in part on whether or not



The way ink is processed can affect its sustainability.

those materials will disintegrate quickly and safely in a composting environment.

A claim backed up by independent third-party testing is preferable to a supplier's internal testing, which may be more difficult to reproduce for comparison to other manufacturers' products.

Verifying third-party claims, however, is not always feasible, depending on whether or not an appropriate test method exists, how much it costs and how long it takes. So, when suppliers present their own testing results or calculations, it is worthwhile to clarify specifically what methods they have used and why.

#### *Disposal*

In the compostable substrate example, the ASTM standard requires the material to be directed to a composting facility, not to a landfill. The difference is the material's exposure to air: composting relies

on the presence of air, while landfills decompose in the absence of it. Print buyers and consumers frequently assume if waste can break down in composting, it will break down wherever else it may go, but this is not the case. To fulfil the sustainability claim, the material's user needs to direct used prints specifically to a managed composting facility.

Disposal is significant and should be handled as a long-term issue, but it is difficult to control and certain obstacles need to be addressed from the supplier to the printer to the buyer. A more significant aspect of environmental impact that is well within the control of the supplier and the print provider is the creation of the print with products that have already resulted from sustainable processes—e.g. paper or styrene containing recycled content, along with inks and cleaners containing renewable ingredients like soy.

#### *Enforcement*

It is still difficult to compete on a level playing field. Two print shops may produce four-colour process output using an ink containing renewable ingredients, for example, but one might print only a single colour with the renewable ink and the rest with standard inks. Both shops could claim they are using sustainable ink to produce a print and no one is going to determine the difference because (a) the inks are similar in performance, (b) buyers are not testing finished prints for their renewable-resource content levels and (c) even if the print shop were 'caught,' there would be little or no penalty for misrepresenting the sustainability claim.

While this example represents a relatively low risk in misrepresenting a claim, the situation can apply to varying degrees. Claims that can be enforced with fines based on local, regional or national regulations, for example, include printing with leaded inks (which are regulated and can be detected in the final print) or using a press cleaner with a misrepresented level of VOC content on its material safety data sheet (MSDS). Misrepresenting information can carry especially high risks and penalties.

As more companies and organizations increase industry standardization, many currently grey areas of enforcement will become clearer. In the meantime, though, it is never too early to consider the ethical aspects of using sustainable products.

#### *Product changes*

Any new product introduced to the printing process must be compatible with the shop's



A substrate's manufacturer cannot test all of the inks or processes that may be used with its products.

manufacturing capabilities, of course, as well as provide the appropriate characteristics for the final print.

The supplier should provide performance data and explain how the product will affect the print. There may be changes to outdoor durability, chemical resistance, appearance and/or cost.

Product changes can affect processing and display issues that should be taken into account. Using recycled paper instead of 100 per cent virgin paper, for example, may require a thicker stock and provide a lower level of white. This may be acceptable to the buyer if it can still be colour-matched and displayed at an approved level, but the thicker stock might call for different display hardware and heat or humidity might affect shipping and display conditions. Care should be taken to ensure prints are properly labelled for eventual disposal, *i.e.* for recycling or composting.

There can also be effects on printing, purchasing and related processes. A substrate that degrades quickly in a composting situation, for example, should not be stored at any location for extended periods or in high heat or sunlight conditions before use. There are significant logistics to be worked out with respect to availability, on-demand production and immediate use in the market.

Other product introductions, conversely, may have little effect on production. A concentrated screen degreaser, for example, reduces environmental impact by using a smaller container and thus reducing the energy required to transport it. In this case, other than personnel being trained to dilute the degreaser before use, there would be no change to the printing process.

## Overcoming obstacles

The main obstacle in achieving sustainability is developing a complete understanding of 'green' products and their specific traits. By outlining the similarities, advantages and disadvantages of comparable product lines, it becomes easier to establish levels of sustainability.

Many current products can be considered sustainable. It is simply a matter of documenting their properties in ways that can be promoted to print buyers.

*Laura Maybaum is graphics market segment manager and Dave Julo is distributed screenprinting products manager for Nazdar, an ink and chemical provider. The original version of this article appeared in the third-quarter 2009 edition of the Specialty Graphic Imaging Association's (SGIA's) publication, SGIA Journal. For more information, contact the authors at [lmaybaum@nazdar.com](mailto:lmaybaum@nazdar.com) and [djulo@nazdar.com](mailto:djulo@nazdar.com) or visit [www.sgia.org](http://www.sgia.org).*



*Marquee  
Manufacturing*

**Over 25 Years Experience in the Awning Industry**

- Welded Aluminum or Galvanized Frames
- Backlit Frames Available
- Maintenance Free Awnings For Windows, Doors and Patios
- Custom Built To Your Specifications
- Phone, Fax or Email Us For Your Same Day FREE QUOTE

300 Merritt Ave  
Chatham ON N7M 3G1  
519-358-1124 • 1-866-387-2216  
Fax: 519-358-7144  
Email: [awningmike@hotmail.com](mailto:awningmike@hotmail.com)  
Website: [www.marqueemanufacturing.com](http://www.marqueemanufacturing.com)