



# LABEL IT SUSTAINABLE

## The role of recycling compatible adhesives (RCAs) in eco-efficient packaging.

By Mike Witte, Contributing writer

**T**he call for sustainable packaging is growing louder. Retailers hear it and are pushing consumer goods manufacturers – who are, in turn, summoning the converters – to produce packaging and labeling that promises minimal impact on the environment.

Converters are scurrying to comply with their customers', and society's, demands. They are taking steps, occasionally leaps, toward meeting a long-term goal to create, in the words of the Sustainable Packaging Coalition, "A true closed-loop flow of packaging materials in a system that is economically robust and provides benefit throughout its life cycle – a sustainable packaging system."

The development of recycling compatible adhesives (RCAs) represents one of the more significant advancements in the ability to recycle products. And the story behind their creation is perhaps as interesting as the possibilities RCAs bring to the move toward sustainable packaging.

and packaging constructed of other materials, they had their start in the growing need for adhesives that enabled paper to be reprocessed.

The same pressure sensitive adhesives (PSAs) that enable stamps, tapes and labels to stick to envelopes and other paper products become a problem in the recycling process. Adhesive residues – or "stickies"

– cling to the waste, gumming up equipment, causing downtime and reducing productivity. The stickies also produce specks or tears in the recycled products, compromising product quality and causing costly cleaning time on paper making lines. These issues ultimately induce repulpers to limit how much sticky paper feedstock they'll process, relegating more wastepaper than necessary to the landfill.

The problem grew particularly sticky with the introduction of peel-and-stick postage stamps, which replaced the lick-and-stick stamps of old. In response, in 1995 the U.S. Postal Service (USPS) sought to stamp out stickies, requiring that all PSAs used in self-adhesive postage stamps be "environmentally benign," that is, recycling-compatible.

In 2005, four years after the USPS concluded its program to render all postage stamps safe for recycling, another U.S. department, a university, and an adhesives manufacturer convened to advance the development of RCAs for use on tape and label stock.



Drums of two water-based PSAs certified to be recycling compatible.

### Stamping Out the "Stickies"

Although RCAs can facilitate the recycling of flexible containers

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### More RCA Research Pays Off

Other adhesives manufacturers likewise committed to advancing efforts toward sustainable packaging also have produced a number of recycling-compatible PSAs for use on paper and, increasingly, on flexible packaging. As a result, the adhesives industry now offers – and continues to add to – a range of recycling-compatible products, making it increasingly easier for converters to find a viable product for their applications.

### Getting Converters on Board

The USPS, TLMI, adhesives manufacturers and others have led the way in the development of recycling-compatible technology. And now, with ever-increasing pressure on the development of sustainable packaging, label converters are beginning to follow them in greater numbers.

Converters will find an array of recycling-compatible permanent PSAs

on the market. Many of these RCAs were developed as general-purpose products and later certified as recycling compatible. Thus, it should be easy for converters to incorporate them into their production line.

At the same time, the adhesives industry can continue to play a role in increased RCA usage through educating converters in the need for sustainability and the availability of cost-effective, high-performing recycling-compatible solutions.

Adhesives manufacturers certainly will continue to improve upon existing RCA technology while exploring other adhesive solutions for sustainable packaging. Many industry experts expect biodegradable adhesives and label face stock to be the next technological leap in

reusable packaging, flexible or otherwise.

The packaging and related industries also will strengthen its focus on finding affordable ways to separate packaging, label, and adhesive components in the recycling process. Improved separation increases the value of the recycled material and requires less virgin material per pound of finished product. It also drives label and construction choices toward materials that are more easily separated.

The development of RCAs themselves required great collaboration between a number of entities. Similarly, regulatory bodies, adhesives manufacturers, label converters and packaging manufacturers need to work in unison to continue developing more sustainable packaging. **FP**

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