The adhesives industry must take the next step in advancing transparency and rigor to meet stakeholder demands.

For the adhesives industry, sustainability is becoming an essential value proposition. Increasing consumer demand and regulations have contributed to the growth of sustainable initiatives globally. As companies strive to meet these expectations and differentiate in the market, a variety of terminology and criteria have emerged.

The rise of bio-based, biorenewable, biodegradable, and recyclable labels and claims have led to some confusion among manufacturers, formulators, and end users about their meaning and effect on product quality. Thus, there is a need to instill more rigor and transparency—both in how the industry defines and verifies sustainability and how companies measure it within their product development and supply chain.

**Bio-Based Certification Scheme**

To elevate sustainability’s credibility and stature, the adhesives industry should collaborate and agree on how to define and quantify the various subsets of terms being used. For example, earlier this year, two leading global international recycling organizations developed a formal definition governing the use of the term “recyclable” as it relates to plastics packaging and products. The term is often used without a defined reference point, and the industry recognized the need for a clear and universally endorsed definition and objectives. The joint effort resulted in a consistent metric to guide plastics sustainability efforts in the circular economy and to prevent the misuse of “recyclable.”

The Together for Sustainability (TfS) program from the EcoVadis platform is another way the chemicals industry is promoting sustainability. TfS developed a global program to assess, audit and improve sustainability practices within the industry’s supply chain. The adhesives market can build on these collaboration opportunities between manufacturers, formulators and advocacy organizations to further develop clearly-defined sustainability structures and advance collective industry goals.

It is also possible to verify the material claims of bio-based products, which are wholly or partly derived from biomass. The Netherlands Standardization Institute (NEN) pioneered the bio-based certification scheme used to specify and validate the amount of biomass in a product, based on the European standard.
EN 16785-1. The certification provides a method to determine the bio-based content of solid, liquid and gaseous products using radiocarbon analysis and elemental analyses. Certification audits are undertaken by NEN-approved certification bodies, while product samples are analyzed by recognized testing laboratories.

Companies that achieve certification can differentiate themselves in a competitive market that constantly demands cleaner, safer products. With the certification, suppliers can prove that their products meet key specifications, while buyers can use the standard to get exactly what they need with bio-based materials. It is also an opportunity to help the market differentiate between a range of products that include hydrocarbon and renewable materials.

**Life Cycle Assessments**
In addition to industry-wide initiatives, formulators must effectively measure sustainability throughout their value chain. The demand for sustainability from consumers and governing bodies has led manufacturers to assess the environmental impact of their entire product development process—from cradle to grave. Consumer companies like IKEA have committed to using only renewable and recycled materials by 2030 as part of their pledge to the circular economy. Movements like this will drive the impact upstream.

As a result, suppliers will have a more critical role in helping customers assess and minimize the impact of their product, by providing them with the key data and collaboration along the value chain. One of the tools that enables this process is the Life Cycle Assessment (LCA), a methodology for assessing environmental burdens across the whole product life cycle, either to identify improvement areas or to make comparisons with other product or service systems. An LCA helps formulators verify their sustainability claims and improve their product’s overall environmental impact. It also enhances relationships with suppliers that can now optimize their own product design process to meet sustainability demand across the value chain. Adhesive formulators value a supplier’s ability to design (and potentially produce) customized products and provide technical support; the LCA is an opportunity to offer those benefits.

Some specialty chemicals companies have invested in an LCA program to meet formulators’ expectations for more rigorous metrics. In a recent
case study, a leading manufacturer of modular carpet sought to create a carpet tile backing innovation that delivers high environmental performance. To achieve that, they needed to find the right renewable material that can be formulated to meet specific needs. So the manufacturer selected a global specialty chemical company that offers a broad biobased portfolio and has the ability to collaborate with them on the LCA to measure environmental impact.

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Advancing Sustainability

By 2030, the world’s population is projected to reach 8.5 billion, according to the United Nations. The expectations are that millions of people will be lifted out of poverty; improving living standards will drive increasing demand for materials. The use of resources to support a growing population drives environmental impacts like climate change. While these impacts form a physical risk to human well-being, they also present an economic concern that regulators and governments tackle through new policies and commitments.

For example, the European Commission’s Bioeconomy Strategy and its Action Plan is paving the way for a more innovative, resource-efficient and competitive society that reconciles food security with the sustainable use of renewable resources for industrial purposes while ensuring environmental protection. This led to constantly changing, continuously more stringent regulations that ultimately impact the adhesives industry.

From customers and consumers to governments worldwide, there is an increased stakeholder demand for transparency and the need to manage governance, environmental, and social risks to drive more sustainable economies. To meet these challenges, suppliers and formulators must commit to producing products with less environmental impact, are safer to use, and offer a range of bio-based alternatives. Sustainability is more than just the latest trend; rather, it becomes a core aspect of how businesses are conducted and how products are designed.

Equally important, the industry must collaborate to develop a unified, universally accepted way of defining and verifying sustainability standards. By delivering more rigor and transparency and fostering collaboration along the value chain, the adhesives industry can play a pivotal role in advancing the next phase of the sustainability evolution.

For more information, visit www.kraton.com.

Reference


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