Chemical sector standardises sustainability with Digital Material Passports

As the European Union prepares for a regulatory tsunami regarding sustainability, the industrial sector is bracing for the mandatory arrival of the **Digital Product Passport (DPP)**. These digital containers of information are designed to provide technical, environmental, and circularity data at a user's fingertips to propel a truly circular economy. The first DPPs are scheduled to be in force by 2027, starting with large batteries, before expanding to textiles, steel, and construction materials.

Bridging the data gap: How Digital Material Passports power the DPP ecosystem

The urgency of this digital transformation is underscored by the fact that approximately 95% of all manufactured products contain synthetic chemicals. Consequently, the chemical industry is a fundamental provider of the data required for the DPPs of downstream sectors. To facilitate this, the industry is adopting **Digital Material Passports (DMPs)**, which act as the essential "data foundation" for intermediate products.

The specific implications for the adhesive and tape sectors were detailed by **Dr Martin Klatt,** Executive Scientist Regulatory Affairs at **BASF SE**, during a keynote presentation at the **European Tape Week 2025** organised by **Afera**. Dr Klatt explained that while the adhesive and tape industry may not produce final products requiring their own DPPs, they must provide verified information to "*feed*" the passports of their customers in the automotive, construction, and packaging sectors. Ultimately, a finished product's DPP is considered the "*sum of its Digital Material Passports*".

Industry initiatives standardising sustainability

To standardise this data exchange, a consortium of 15 organisations, including BASF, Henkel, SAP, and the **Together for Sustainability (TfS) initiative**, formed the **Chem-X project**. Chem-X aims to harmonise how sustainability and circularity data are defined and digitally exchanged along the chemical value chain.

In January 2026, the consortium reached a major milestone by **publishing version 1.0 of six comprehensive guidelines for a chemistry DMP**. These guidelines cover critical pillars including Business Identity, Material ID, Verification, and Environmental Sustainability.

A vital component of these passports is the **Product Carbon Footprint (PCF)**, which provides a standardised metric for greenhouse gas emissions. For the tape industry, calculating this has been simplified by **TACK (Tape and Adhesive Calculation Kit)**. Launched in May 2025 by Afera and the German Adhesives Association (IVK), TACK is a web-based tool that allows manufacturers to generate accurate PCF values without requiring in-house life cycle assessment (LCA) expertise.

By aligning with the TfS PCF Guidelines, the TACK tool ensures that the data generated is **credible, third-party verified**, and ready for integration into a material's DMP.

This collaborative approach, from the high-level harmonisation of Chem-X to the practical implementation of tools like TACK, ensures the industry can overcome information disruption and meet the looming 2027 deadline.