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Food-safe and sustainable innovations for food and beverage packaging

Henkel adhesive solutions for packaging improve food safety and sustainability impact

Henkel Adhesive Technologies has enhanced its portfolio of innovative adhesives and technologies for the food and beverage (F&B) packaging industries. These solutions comply with the food contact legislations internationally and help lower the environmental impact of various forms of packaging. They are commercially available worldwide, including in Southeast Asia, Australia and New Zealand.

**Health and safety are top priorities**

For food safety, the focus is on minimizing risks for human health caused by substances, intentionally (IAS) or non-intentionally (NIAS) added during the various production stages. Producers of food products and their suppliers have to assure that approved substances do not exceed regulatory thresholds and non-approved substances such as NIAS do not constitute a health risk.

For instance, epoxy silanes, which include GLYMO and GLYEO, are adhesion promoters used in laminated food pouches that are resistant to sterilization and hot filling. In some cases, it is also used in the microwaveable packaging of convenience food products. Following the 11th Amendment to the EU Plastics Regulation (EU 10/2011), GLYMO was assessed as potentially genotoxic. A limit of 0.15 µg/kg has been defined to ensure its safe use for food applications. The substance is explicitly allowed to be used. Nevertheless, it also means the packaging producer has to verify that its concentration as well as that of its derivates remains below the specified migration limits under conditions of use.

To provide its customers with a food safe solution that is completely free of ‘substances of concern’, Henkel developed Loctite Liofol LA 2798 for medium-high and high-performance food contact and retort packaging applications – such as film/film and film/foil laminates – and is completely free of GLYMO, epoxy silane and heavy metals. The base product LOCTITE LIOFOL LA 2798 used in combination with different hardeners enables customers to reduce complexity while allowing for flexibility. Henkel currently offers four hardeners, each with different specifications for a variety of applications including baby food, dried animal food hot filling goods

**Reducing environmental impact**

In recent years, paper packaging for F&B is seeing strong demand, driven by increasing global and local regulations against plastic waste and consumers’ greater desire to protect the environment. In line with this trend, the Aquence ST 21058 product is a high-quality solution for paper straws. Although a small amount of the adhesive is used during production, it is highly resistant to various liquids and temperatures, which makes paper straws durable enough to bring an enjoyable experience to consumers. Moreover, paper straws degrade faster than plastic and has less impact to the environment.

Another example is Henkel’s EPIX® technology, which is helping to revolutionize sustainable paper packaging products across various market segments, including F&B. It provides barrier protection in paper-based wraps and containers, making them waterproof and greaseproof. It is also able to dissipate heat while retaining coolness, making it easier for consumers to handle hot beverages in paper cups and is a key component of double-walled cups and hot beverage sleeve. EPIX® technology is therefore a viable alternative to plastic for disposable and on-the-go products, such as sandwich and burger wraps, paper cups, and food trays.

Adhesive technologies from Henkel also contribute towards enabling a circular economy. For instance, a major issue with recycling PET plastic bottles is removing the labels. Aquence PS 6094 RE is a water-based pressure-sensitive adhesive, which is suitable for labels that are used on wet and cold surfaces. Technomelt EM 598 RE, on the other hand, is a hotmelt pressure-sensitive adhesive. With excellent wash-off characteristics, Aquence PS 6094 RE and Technomelt EM 598 RE enable the easy removal of labels from PET bottles during the recycling process, which makes it possible to produce high quality recyclates.

Low-temperature adhesives, such as Technomelt Supra Cool, cut energy usage by as much as 40% in comparison to traditional hotmelts. ​At the same time, they allow for higher machine speeds, which increases productivity in the production lines.​ With application temperatures significantly lower, the risk of serious burns to operators is limited.​ Health concerns due to exposure to fumes and volatile substances are also reduced.​ Approved for indirect food contact, Technomelt Supra Cool is used, for example, for sealing frozen food boxes, cereal boxes and fruit cartons.

With Technomelt Supra 7220 PS Easyflow, Henkel Adhesive Technologies has developed a breakthrough adhesive solution that provides an alternative to single-use plastic wrap and packaging materials when transporting goods on pallets. A trial run with a customer demonstrated the potential to reduce plastic use by up to 90%, compared to conventional methods of palletizing. It joins the outer packages with each other to safely secure them on the pallets. The solution also enhances the safety of production line operators, by eliminating manual handling of hotmelt adhesives and possible exposure to high temperatures. With these compelling attributes, Technomelt Supra 7220 PS Easyflow has attracted the keen interest of major companies in the food and beverage industry.

About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2020, Henkel reported sales of more than 19 billion euros and adjusted operating profit of about 2.6 billion euros. Henkel employs about 53,000 people globally – a passionate and highly diverse team, united by a strong company culture and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel’s preferred shares are listed in the German stock index DAX. For more information, please visit [www.henkel.com](file:///C%3A/Users/fischerl/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/2MGCYH4Y/www.henkel.com).

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