



Press Release

April 09, 2020

Being ahead of legislation and following FEICA recommendations with Henkel's epoxy silane-free adhesives

Legislation on GLYMO will shape packaging in 2020

Dusseldorf – Consumers expect the food industry to provide safe products which comply with the latest legislations. FEICA already recommends avoiding the use of epoxy silanes in food contact applications, and the European Union is expected to set new limits during the course of this year. These limits will require complex testing methods that lead to challenges for converters and packaging manufacturers. Thanks to Henkel's longstanding experience in food safe packaging, the company has been able to develop a new range of laminating adhesives free of epoxy silanes and a new test method that requires a combination of several sophisticated analytical techniques to detect epoxy silanes and its degradation products.

Epoxy silanes, like GLYMO and GLYEO, are adhesion promoters used in food packaging, for example for laminated pouches that must be resistant to sterilization and hot filling. In some cases, it is also used for microwaveable packaging. These adhesion promoters have very favorable attributes, which is why they can be found in a variety of applications. They increase the adhesion between aluminum and polyolefin films and maintain the bond strength even at elevated temperatures.

Due to the fact that GLYMO is used in a wide variety of food contact applications, the European Food Safety Authority (EFSA) had a closer look at existing toxicological data. In 2017, EFSA concluded that GLYMO must be considered to have a genotoxic potential. "Therefore, the European Union is now working on a legislative framework for 2020 to regulate the use of epoxy silanes according to their genotoxic potential. The deadline is envisaged for September 2020. This will raise demand for suitable alternatives," says Dr. Monika Toenniessen, Head of Food Safety Compliance – Global Food Safety, Product Safety and Regulatory Affairs. FEICA, the Association of the European Adhesive & Sealant Industry, already recommends replacing the adhesion promoter as soon as possible.

Changes required for the whole industry

In the near future, the application of GLYMO as an adhesion promoter will still be permitted as long as it can be demonstrated that it does not endanger human health.

Products containing epoxy silane are not permitted to be used for fatty filling goods, and epoxy silanes must not be detectable in aqueous filling goods. “The critical part, however, will be that converters and packaging manufacturers need to provide proof for the absence of GLYMO and structurally similar chemicals such as GLYEO. This implies two factors: having the right adhesive and the right testing method to prove it. Henkel Corporate Analytics developed a unique approach for determination of GLYMO & GLYEO derivatives, which is leading within the market. The testing, however, will create additional workload and administrative paperwork for the converter’s quality control departments,” explains Dr. André Weiss – Manager Instrumental Analytics, Project Management Food Safety.

Providing suitable alternatives

As a leading adhesive manufacturer, Henkel anticipated this development early on and started to work on epoxy silane-free adhesives. These systems, which are specifically designed for high-temperature food contact and medical retort applications, are modular in their design: The adhesive base Loctite Liofol LA 2798 can be combined with a variety of hardeners, making it versatile and reducing complexity for converters. Henkel currently offers four hardeners, each with different features to cover a broad range of applications.

For dried animal food or hot filling goods, Henkel provides two aromatic hardeners for boiling and pasteurization. These medium-high performance systems can be cured at room temperature and are designed for high temperature resistance and high heat-sealing strength. For high performance, Henkel offers an aliphatic hardener for general retort, which cures at room temperature and is recommended for 45-minute sterilization processes at 134 °C. This makes it the ideal high-performance adhesive for baby foods, for example. For the packaging and sterilizing of liquid, in particular aggressive filling goods such as fatty foods and oily fatty contents such as cat food, Henkel recommends another hardener combination. This system is designed for processing temperatures of 134 °C for 45 minutes, and its modularity enables customers to reduce complexity while providing flexibility.

The adhesion properties and performance of these GLYMO- and GLYEO-free adhesive systems have already been confirmed during industrial use by several of Henkel’s customers.

The products are commercially available and offer a very effective opportunity to be on the safe side of the epoxy silane discussion early on. For more information, please visit: <https://www.henkel-adhesives.com/uk/en/glymo-free>

Due to considerable interest, Henkel also extended its webinar series on the topic of epoxy-silanes, “Breaking up with epoxy silanes: consequences and solutions in food packaging”, with additional dates on April 29, 2020. Registration via the following link: www.be-more-sustainable.com/webinars

This information only refers to Henkel products and services in Europe. There may be discrepancies in other regions regarding, among other things, availability of products and offers.

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 2019, Henkel reported sales of more than 20 billion euros and adjusted operating profit of more than 3.2 billion euros. Henkel employs more than 52,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, 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.

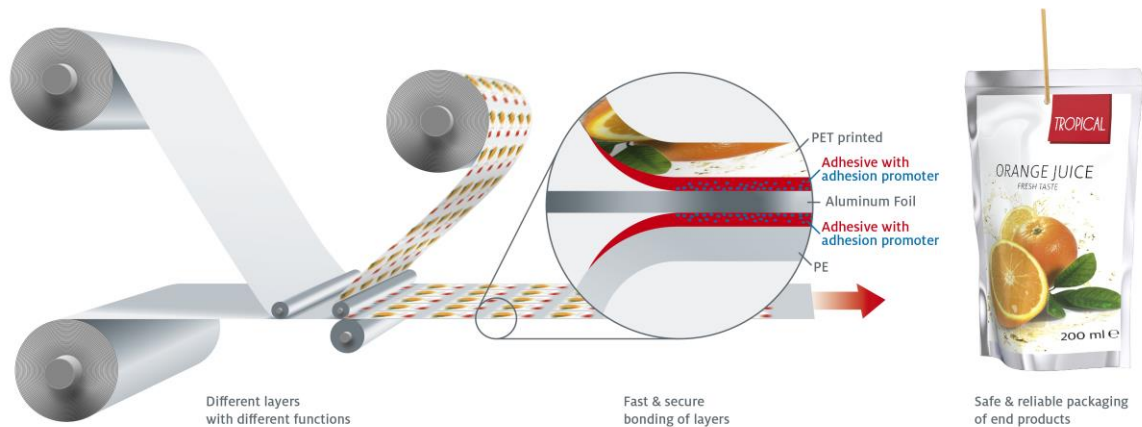
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The following photo material is available:



The architecture of multi-layer packaging is highly dependent on high-performance adhesives and suiting adhesion promoters, which enable a lasting and secure bond of materials



Especially for lamination of flexible packages intended for sensitive food stuff, GLYMO- and GLYEO-free solutions will be the adhesives of choice



Henkel is committed to protecting consumers and brands. The adhesive supplier continuously aims to be ahead of legislation and to set new standards in food safe packaging, e.g. with epoxy silane-free solutions.