



## Press release

Düsseldorf, June 19, 2009

Significantly faster curing for 4th-generation film/foil laminating adhesives

### **Liofol sets top standards for flexible food package safety**

**The safety of flexible packages is a top priority in the food and packaging industry. The systems used must not only protect foods from external influences, but also exclude contamination from hazardous substances in the packaging materials themselves. This is where Henkel is setting new standards with its 4th generation of Liofol laminating adhesives, achieving an unprecedented standard of safety through their exceptionally fast curing.**

Thanks to their numerous advantages, flexible packages are gaining increasingly large market shares worldwide. They are light yet tough, can be sealed air- and watertight, and give outstanding protection to their contents throughout the entire distribution chain. One of the main users of flexible packages is the food industry. Coffee, chocolate, snacks, soups, deep-frozen foods and many other products can be packaged attractively, hygienically and inexpensively with these packages.

Although flexible packages appear simple and practical to retailers and consumers, the technology behind them is complex. The initial material is ultra-thin plastic films that are joined with adhesives to form laminates. One of the films is first printed, and then the two films are bonded together over their full surface on special machines. To achieve better barrier properties for sensitive foods, the laminate is reinforced in some cases with aluminum foil sandwiched between the two plastic films. Crucial for the strength and safety of flexible packaging is the quality of the laminating adhesive. In this sector, the Liofol range from Henkel is considered the world's leading adhesives technology. With its broad product portfolio and comprehensive, single-source service, it meets all the packaging industry's needs.

### **Adhesive curing is all-important for safety**

To ensure consumer safety, the migration of health-hazardous substances from the packaging into the food has to be excluded in all cases. The materials of laminated flexible packages – films, foils, printing inks and adhesives – are therefore subject to strict regulations under food law. The limits for hazardous substances must not be exceeded. This is demanded by law not only in the classic industrialized nations, but also increasingly in developing countries where flexible packages are encountered more and more as the standard of living rises. International food manufacturers are also imposing tougher safety requirements on their packaging suppliers. To enforce compliance, there are plans to establish systematic controls.

A film/foil laminate is only considered food-safe when all the laminating adhesive's ingredients that are capable of migration have fully cured. The 2-component polyurethane adhesives employed are reactive systems which, depending on the laminate composition and type of food packaged, may release residual quantities of isocyanate as long as the adhesive is still curing. In the case of conventional laminating adhesives, this can take several weeks. In view of the growing pressure of time and cost, there is therefore a potential risk of precautions being disregarded and the packaging material being supplied to the customer too early. Henkel has therefore consistently improved the Liofol range over several product generations, reducing cure times again and again.

### **Food-safe after only a day**

With its 4th generation of laminating adhesives, Henkel has succeeded in setting a new safety standard for film/foil laminating adhesives. Thanks to a patented method, the content of isocyanate has been reduced to a minimal residual quantity. In addition, the cure time has been dramatically accelerated by improving the formulation. For the production of simple laminates, it now takes not a week, but only as little as a day until the laminate complies with food law provisions. In the case of complex laminates, the cure time has been shortened from two or more weeks to a maximum of four days. In addition, 4th-generation laminating adhesives are distinguished by their outstanding processing properties. Their low solvent content and reduced solvent retention permit significantly higher machine speeds. This offers the packaging industry a system that ensures maximum safety while opening up new productivity potential.

Further material is available at <http://www.henkel.com/press>

For more than 130 years, Henkel has been a leader with brands and technologies that make people's lives easier, better and more beautiful. Henkel operates in three business areas – Home Care, Personal Care, and Adhesive Technologies – and is ranked among the Fortune Global 500 companies. More than 60 percent of Henkel's sales are in consumer goods, while the industrial business accounts for almost 40 percent of the company's total sales. In fiscal 2008, Henkel generated sales of 14 131 million euros and an adjusted operating profit of 1460 million euros. More than 52 000 employees worldwide are dedicated to fulfilling Henkel's corporate claim, "A Brand like a Friend," and ensuring that people in more than 125 countries can trust in brands and technologies from Henkel.

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Following image is available:



*The 4th-generation of Liofol adhesives sets new standards for flexible food package safety.*