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## Media Release

### **NanoSphere® at the cutting edge**

Successful reformulation of future considered C6 fluorochemicals, new recipe, simplified handling, highest performance and outstanding durability

*Muttenz/Sevelen, Switzerland, May 15, 2008: Following the announcement of the strategic distribution partnership between Schoeller Technologies AG (NanoSphere® patent owner) and Clariant International Ltd. last September, the finishing components have now also aligned within the new cooperation. The new NanoSphere® finish achieves top results in terms of the self-cleaning effect, oil and water repellency, abrasion resistance and washing permanence. Due to the use of the most modern C6 fluorocarbon technology, NanoSphere® is also free of PFOA and PFOS. This combination of highest performance and highest ecological safety reinforces a worldwide unique position for the product developed in Switzerland.*



### **A generation for the future**

For the new NanoSphere®, the research team from Clariant and Schoeller have combined the latest technologies and developed a product that meets the highest requirements in everyday use and is geared to meet the environmental requirements of the future. Through the use of future considered C6 fluorochemicals, the NanoSphere® finish is free of PFOA and PFOS

Media Release  
May 15, 2008  
Page 2 of 4

(for details, see box). Due to the new recipe and nanoparticle mix, it still achieves an extremely high level of water and oil repellency and meets the most demanding washing and dry cleaning requirements. The finish is highly abrasion resistant and the protective function remains lastingly active, even when exposed to considerable load and after frequent washings.

### **The highest ecological safety**

The new NanoSphere<sup>®</sup> finish also meets the challenging specifications of the bluesign<sup>®</sup> standard. ([www.bluesign.com](http://www.bluesign.com)). According to Peter Waeber, CEO of bluesign technologies ag, it is particularly important in the context of nanotechnology to offer a "controlled and controllable product." For example, a specially developed coating matrix ensures that the millions of nanoparticles on the fabric's surface cannot come adrift. As such, there is no danger that they will dissolve during washing, dry cleaning or ironing. In addition, today's nanoparticles are thermo-stable up to 1700°C.



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Peter Waeber, CEO bluesign technologies ag.*

### **Simple use**

Safe and simple also applies to the use: The newly-formulated components for this future considered finishing technology can be incorporated simply and directly into the finishing bath in specified quantities. An aqueous stabilized formulation ensures that the nanoparticles cannot be inhaled during further processing in manufacturing plants.

### **Permanent performance and high levels of safety in use**

The examination of the new NanoSphere® finish by the internationally renowned Hohenstein Research Institute confirms consistently positive properties. In original state and after



mechanical exposure to 5000 abrasion cycles and 30 wash cycles (with subsequent heat treatment) the finish is certified as having a very high and lasting level of hydrophobic and oleophobic properties. "The new NanoSphere® finish is undoubtedly a nanotechnology," confirms Dr. Jan Beringer, the institute's Head of Testing and Director of the Textile Services and Innovations Department. "We also tested the biological safety in terms of possible biological activity (cytotoxicity and genotoxicity or HET-CAM). NanoSphere® passed all tests with excellent ratings and is safe."

*"We also tested the biological safety in terms of possible biological activity (cytotoxicity and genotoxicity or HET-CAM). NanoSphere® passed all tests with excellent ratings and is safe." Dr. Jan Beringer, Director of the department Textile Services & Innovations, Forschungsinstitut Hohenstein.*

### **Positive prospects**

"Today we have in our hands not only the most functional but also the safest and most sustainable self-cleaning and dirt-repelling finish," says Thomas Winkler, Head of Clariant's Textile business, and Hans U. Kohn, COO of Schoeller Technologies. For the entire textile chain – from textile producers or finishers to clothing manufacturers or retail trade and on to the final consumer – a product is now available that not only offers top functionality but also meets today all the environmental specifications of the future.

Since last September, Clariant International Ltd. and Schoeller Technologies AG have been working closely in a strategic partnership for NanoSphere®. Schoeller Technologies AG holds the corresponding patents and manages the marketing and the branding of the NanoSphere® brand. The Clariant textile business is responsible for production, worldwide sales and distribution as well as the transfer of knowledge and quality assurance to the licensed textile mills. Previously licensed operators have already been and will consistently continue to be converted to the new NanoSphere® components; new license partners come on board with the further-developed technology.

Media Release

May 15, 2008

Page 4 of 4

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**Clariant – Exactly your chemistry.**

Clariant is a worldwide leading company in speciality chemicals. The strong partnership, the commitment to outstanding service and the comprehensive application know-how make Clariant the partner of preference among its customers.

Clariant is represented on five continents with more than 100 group companies and employs around 21,000 staff. In 2007, the company achieved sales of around 8.5 billion Swiss francs. Headquarters is Muttenz near Basel.

Clariant is structured into four divisions: Textile, Leather & Paper Chemicals; Pigments & Additives; Functional Chemicals; and Masterbatches.

Clariant focuses on lasting growth based on the company's own powers of innovation. The innovative products from Clariant play a decisive role in the manufacturing and treatment processes of its customers or lend added value to their final products. The success of the company is based on the know-how of its staff and their ability to recognize new customer needs and to develop innovative and efficient solutions together with the customer.

[www.clariant.com](http://www.clariant.com)

**Schoeller Technologies AG:  
Pioneering developments for tomorrow's demands**

Schoeller Technologies AG is a licensing company for innovative textile technologies based in Switzerland and operating globally. The company promotes the development of new, pioneering textile technologies through the use of international and inter-disciplinary R&D teams and is holder of the intellectual property rights (patents and trademarks). In addition to granting production and trademark licenses, the company organizes the world-wide availability of the technology together with selected distribution partners. In addition, Schoeller Technologies AG distributes technology products and supports the license holders in technical matters as well as marketing and sales. Schoeller Technologies AG is a subsidiary of Schoeller Textil AG and was established in 2004.

[www.schoeller-tech.com](http://www.schoeller-tech.com)