

Sustainability stewardship

How we improve our products throughout their life cycle

More information on product safety at Henkel:

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Information on REACH, nanotechnology and biotechnology:

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Henkel participated as a partner in the Product Carbon Footprint (PCF) project in Germany.

 www.pcf-projekt.de

Research and development

Innovations are the basis for our economic success and key to sustainable development. This requires a high degree of innovativeness. In 2010, Henkel employed about 2,700 people in research and development and invested 391 million euros in these activities. Since 2008, the Henkel focal areas have been systematically anchored in our company-wide innovation process (see graphic at bottom). Information from different departments also converges in the innovation process: international trend and market analyses, as well as insights drawn from our direct dialogue with customers, consumers and external experts.

With the help of life cycle analyses and the knowledge acquired during many years of work on sustainability, we can assess as early as the product development phase where most of the environmental impact will occur in the different product categories, so that we can take suitable action to achieve improvements. To further develop measurement methods and indicators, we work with external partners on topics such as the carbon and water footprint of products, see **SR** Page 19. We also participate in international initiatives such as Walmart's Sustainability Consortium and the Consumer Goods Forum's Measurement Group.

Product safety

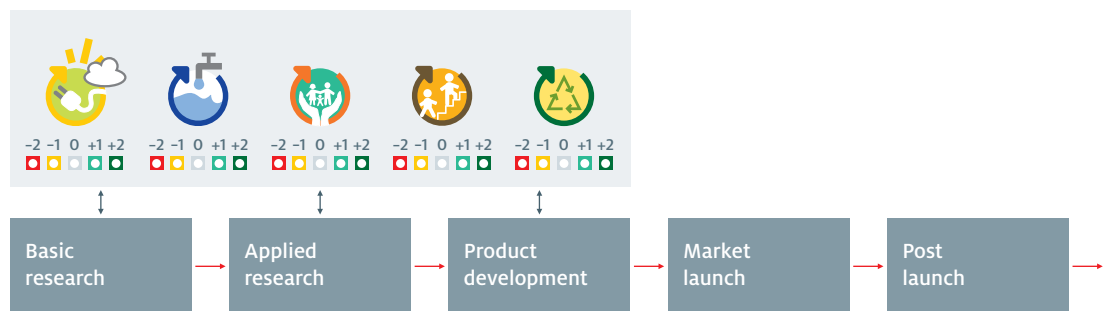
Our customers and consumers can be certain that our products are safe when used as intended. All raw materials and finished products are subjected to numerous assessments and tests to ensure their safety during production, use and disposal. The compatibility of raw materials with health and the environment is already assessed extensively during the product development phase. This applies to the properties of the individual components of the formula and combinations of these components. The use of substances with certain dangerous properties is precluded for specific applications from the very start. As a matter of principle, Henkel does not use animal testing, unless this is stipulated by legal regulations. In order to replace these tests as well, Henkel has been carrying out successful research for the purpose of developing alternative test methods since the early 1980s.

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Raw materials

Sustainability extends to the responsible management of raw materials, the conservation of natural resources and biodiversity. We have used ingredients based on renewable raw materials for many years to optimize the overall characteristics of our products, wherever this is compatible with ecological, economic and social considerations.

Sustainability evaluation in the Henkel innovation process



The Henkel focal areas have been systematically anchored in our innovation process since 2008. This means that at a given point our researchers must demonstrate the specific advantages of their project – besides product performance and added value for customers – in regard to resource efficiency and social criteria. This enables us to achieve our commitment that all new products contribute to sustainable development in at least one focal area.

Renewable raw materials are already key ingredients in many of our products. We take ecological and social consequences into consideration when we purchase these raw materials. www.henkel.com/sr2010 | 24

Packaging and disposal

Throughout the company, as a contribution to the efficient use of materials and to reduce the volume of packaging waste for our customers and consumers, we follow three principles – prevention, reduction, recycling. We continually improve our product packaging and, where technically feasible, we work toward increasing the proportion of recycling materials across our entire portfolio. The PET bottles for our laundry detergents and household cleaners, for example, contain 25 percent recycle. We also regularly look for potential uses for new packaging materials such as bioplastics.

We offer consumers dosage aids, concentrates, and refill packs. For example, a variety of refill pouches with formulations in up to three-fold concentrations are available for our Biff, Bref and Sidolin household cleaner brands. In comparison with the original packaging, about 90 percent less plastic is needed for their production. They also reduce water consumption, freight packaging, and transport weight. Special transport systems for returnables are available to our industrial adhesives customers.

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Laundry detergents and household cleaners, as well as cosmetics and toiletries, pass into sewage systems after use. They are formulated by Henkel so that their use will not impact on the aquatic

Sustainability of packaging

In 2010, Henkel took part in the Global Packaging Project of the Consumer Goods Forum. The aim of the project is to develop standardized evaluation processes and indicators, with which packaging solutions can be analyzed with regard to their economic, ecological and social impacts. Through its own pilot projects – for example, on assessing the advantages of shelf-ready packaging concepts of retailers – Henkel was able to contribute approaches to the work of the Forum at an early stage and help to intensify the dialogue between industry and retail partners.

environment. Wastewater from industrial applications is pretreated using state-of-the-art technology to remove harmful substances and professionally disposed of.

Use

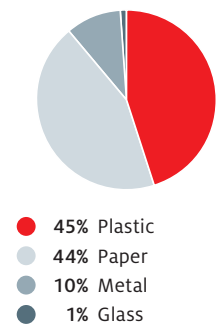
The ecological footprint of many of our products depends not only on production factors but also, and to a very large extent, on their efficient use. Henkel's brands and technologies are used daily in millions of households and industrial processes. We therefore focus on the development of products that enable our customers and consumers to make efficient use of resources such as energy and water. At the same time, we encourage them to use our products responsibly by providing them with information in a variety of ways. www.henkel.com/sr2010 | 26



Pritt Ecomfort roller: The world's first correction roller with a housing consisting almost 90 percent of a plastic made from plants. For this innovation, Pritt was awarded the Biomaterial Prize 2010.

www.natureworkslc.com

Henkel packaging footprint 2010*



* Approx. 500,000 metric tons (estimated on the basis of expenditure on packaging material).

Initiative on protecting woods and biodiversity

Henkel is one of the signatories to the Consumer Goods Forum resolution on deforestation and biodiversity. The participating companies are committed to taking individual and collective initiatives to achieve zero net deforestation by 2020. In the case of Henkel, this mainly affects its purchasing of raw materials and other materials such as palm oil, palm kernel oil and paper.



www.theconsumergoodsforum.com

Laundry & Home Care



Britta Strauss and Sven Müller, product developers for dishwasher detergents at Henkel, study the product performance of Somat Perfect Gel in a long-term test in the dishwashing test laboratory in Düsseldorf.

Somat Perfect Gel

Our innovations are used daily in millions of households, and therefore offer great potential to actively help to shape more sustainable lifestyles. For example, we work continuously to develop dishwasher detergents that deliver excellent cleaning performance at ever lower temperatures. One such product is Somat Perfect Gel, which our researchers developed in cooperation with raw material suppliers and which is particularly efficient in water- and energy-saving dishwashing programs. The innovative gel formulation ensures that the detergent takes effect immediately and removes even stubborn stains in programs with temperatures as low as 40 degrees Celsius. Relative to comparable programs at 50 or 55 degrees Celsius, consumers can achieve energy savings of 20 percent on average, depending on the type of dishwasher.

This product, developed by the Laundry & Home Care business sector, shows in exemplary fashion how our employees always have the Henkel values in mind. Somat Perfect Gel helps to save resources and thus conserve the environment, and offers added value to our consumers. www.somat.de



Britta Strauss fills the dispensing compartment in accordance with the dosage recommendation on the Somat Perfect Gel bottle.



With Somat Perfect Gel, excellent cleaning results can be obtained even at 40 degrees Celsius.

The future at a glance

Our consumers rightly expect products to satisfy the criteria of quality, environmental compatibility, and social responsibility in equal measure. And this is also our aim. Our brands combine excellent performance with responsibility toward people and the environment. We view this combination as the central driver for innovations and the basis for our future competitiveness. The social challenges of the future require people everywhere to radically rethink the manner in which we produce and consume. For us, the main task in the coming years will be to decouple our products' contributions to growth and quality of life from resource consumption and emissions, see also [SR Page 5](#).

Our product developers already take this need to increase efficiency into account. Each new product must make a contribution in at least one of our focal areas, see [SR Page 16](#). To make the advances we have achieved transparent and quantifiable, we have worked together with the Center for Sustainable Consumption and Production (CSCP) in Wuppertal to develop appropriate assessment models for our laundry and home care products. These models come together in the Henkel-Sustainability#Master. At the heart of the models is an evaluation of economic, ecological and social criteria throughout the value chain on the basis of life cycle analyses. The results show the reduc-



tion in the ecological footprint, together with the added value that a new product brings in terms of performance and service.

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Fostering sustainable lifestyles

Our innovations are used daily in millions of households throughout the world. They have enormous potential for actively shaping tomorrow's lifestyles. In combining quality and responsibility, our aim is to set a new market standard for innovative, sustainable consumption. We utilize our many years of experience to develop products that enable consumers to use energy and water efficiently in the home. Our laundry detergents Persil Actic Power and Purex Cold Water, for example, deliver their full cleaning power even at low wash temperatures.

Innovation instead of renunciation

In October 2010, more than 900 representatives of leading laundry detergent producers and raw materials suppliers from almost 60 countries came to Montreux, Switzerland, to discuss future-oriented themes of concern to this industry. The Chairman of the Henkel Management Board, Kasper Rorsted, spoke about the significance of innovations and greater efficiency as the key to sustainable development.

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Persil Actic Power and Purex Cold Water: Best washing performance at low temperatures.

www.persil.de

www.purex.com

Global challenges: Water as the gold of the 21st century

The Earth's water resources are unequally distributed and are threatened by increasing pollution and overuse. For us, therefore, reducing water consumption during the production and use of our products is an important aim. In order to identify suitable approaches for achieving improvements, we participate in efforts to develop methods for water footprinting. In 2010, for example, we worked together with the Swiss Federal Institute of Technology (ETH) in Zurich, to study the consequences of the water demand for laundry detergent production at our sites in the Middle

East and North Africa. At the heart of this was a consideration of the different amounts of water required for the production of powder and liquid laundry detergents, taking into account regional factors such as water availability, scarcity and quality. We feed the experience we gain from such pilot projects into the discussion on the development of an international ISO standard (ISO 14046) on water footprints.





Pur Power Crystals:
The salt crystals in the manual dishwashing detergents bind with the sponge. They thus maintain the anti-grease power up to four times longer – with the same dosage.

The active substances in our detergents also help to make it more difficult for dirt to resettle on fabrics. Our new liquid Somat Perfect Gel is particularly suitable for short dishwasher cycles. In comparison with standard programs, these use an average of 20 percent less energy. Another example of a future technology is the use of photocatalytic bleaching systems that can further bleach colored stains as they dry. While in the past these systems needed ultraviolet light to deliver their performance they now already respond to interior lighting. Through targeted communication, we aim to make consumers aware of these advantages of our products and encourage their efficient use.

Further development of the A.I.S.E. Charter for Sustainable Cleaning

As long ago as 1998, the International Association of the Soap, Detergent and Maintenance Products Industry (A.I.S.E.) launched the Wash Right campaign to motivate consumers to adopt responsible washing practices. The symbols developed for sav-

ing energy, water and detergent can still be found on numerous laundry detergent packagings today. In late 2004, the A.I.S.E. Charter for Sustainable Cleaning was finalized, and in 2005 Henkel was the first company to sign it. All companies that sign the Charter pledge to continuously improve their processes and to report annually on their economic, ecological and social advances, using defined indicators. Together, these indicators reflect the development of nearly the entire laundry and home care industry. In 2010, the processes and content of the A.I.S.E. Charter were extensively revised, and a new product dimension was introduced. It defines advanced sustainability profiles per product categories. Four criteria are of particular importance here: the environmental safety of the ingredients; resource efficiency with regard to dosage and packaging materials; washing performance at low temperatures; and consumer information. Products that satisfy all of the defined requirements can communicate this to consumers by means of a new A.I.S.E. Charter logo on the packaging.

www.cleanright.eu



“A company that wants to lead the field in both innovation and sustainability must be able to do one thing even better in the future than it already does today – enter into partnerships with all participants in the value chain. We work intensively with manufacturers of household appliances, for example, with a view to making our products even more efficient in combination with washing machines and dishwashers.”



From July 2011 the new A.I.S.E. Charter logo can be used for product communication.

Prof. Dr. Thomas Müller-Kirschbaum
Member of the Henkel Sustainability Council for the Laundry & Home Care business sector.

The complete interview with Prof. Dr. Thomas Müller-Kirschbaum:

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Terra – for a cleaner today and tomorrow



Conserving the environment without relinquishing quality of life is a core need for more and more consumers. This is why the Terra brand exists. Its active ingredients are mainly obtained from plants rather than mineral oil. Whether it be bathroom, glass, universal or toilet cleaners, dishwasher

detergents, or liquid laundry detergents (color and universal), for each individual type of Terra product, the greatest possible proportion of plant-based active ingredients were selected – without compromising on the excellent performance of the products.

www.terra-henkel.de

Responsible use of raw and packaging materials

Henkel has been using ingredients based on renewable raw materials for decades. In 2010, about 30 percent of the washing active substances (surfactants) in our laundry detergents and household cleaners were derived from renewable raw materials. This is clearly above the average in the laundry and home care industry as a whole. We are aware of our responsibility regarding the purchase and use of these raw materials. Since many ingredients in our products are obtained from vegetable raw materials such as palm kernel oil, we have participated in the Round Table for Sustainable Palm Oil (RSPO), for example, since 2003. In 2008, we became the first company worldwide to purchase certificates for sustainable palm kernel oil – for the products of our Terra brand. As a result, palm kernel oil from sustainably managed plantations was integrated into the supply chain for the production of surfactants for the first time. Our aim is that all of the palm oil and palm kernel oil supplied in the form

“Growth markets such as the Middle East and Latin America offer excellent opportunities for our laundry detergents and household cleaners. Up-and-coming societies long for products that raise their standard of life. And it is precisely here that sustainability will be especially vital. We want to make the performance and the ecological and social advantages of our product innovations accessible to as many consumers as possible from all income levels.”



Alain Bauwens
Member of the Henkel Sustainability Council for the Laundry & Home Care business sector.

of raw materials for our products should be covered throughout by RSPO certificates for sustainably cultivated palm oil by 2015, see also **SR** Page 9.

Other aims include a reduction in the amount of packaging material used and an increase in the proportion of recycled packaging materials, see **SR** Page 17. In the current Laundry Sustainability Project Liquid (LSP-L) of the A.I.S.E., for example, we have committed to standardizing the pack sizes of our liquid laundry detergents by 2012. This is expected to save more than 2,000 metric tons of plastic each year on the Western European markets alone.

Contributions to hygiene and health in the home

Hygiene is of crucial importance for human health throughout the world. Here, too, we make an important contribution in all of our markets through our laundry detergents and household cleaners. A key priority is the adaptation of our products to local consumer requirements and local conditions. In many south European markets and in India, for instance, we offer laundry detergents containing special antibacterial agents. The same applies to newly launched household cleaners on the North African and Latin American markets.

Our new product launches are accompanied by targeted communication campaigns, aimed at raising consumer awareness of the importance of hygiene. We ensure that the active substances have both excellent hygiene performance and health compatibility. For example, we take into account the needs of allergy sufferers and people with sensitive skin. In 2010, a total of seven Henkel laundry detergents were acclaimed as especially skin-compatible and allergy-friendly by the European Centre for Allergy Research Foundation (ECARF): Persil Sensitive Gel, Persil Sensitive Megaperls, Persil Sensitive Powder, Spee Gel Sensitive, Le Chat Sensitive Gel, Le Chat Sensitive Tabs, and Le Chat Sensitive Lait de Soie.

The complete interview with Alain Bauwens:

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Brand engagement

Our alignment toward sustainability also encompasses the social engagement of our brands. In Egypt, for example, our Pril brand has cooperated with the charitable Egyptian Food Bank (EFB) since 2008. The bank’s mission is to provide orphans, senior citizens, widows, socially disadvantaged families, and other needy persons with food.

Five percent of the sales revenue of each sold Pril bottle goes to the EFB. Since the start of this engagement, Pril donations have been used to support more than one million people in Egypt. From 2011, similar programs will be supported by local Henkel brands in other countries of North Africa, see also **SR** Page 30.



The switch from plastic packaging to cardboard increases the recycling rate. In the USA, the recycling rate for paper is more than 60 percent, as opposed to only 7 percent for plastic.



In our markets in the Middle East and North Africa, our Dac Disinfectant ensures first-class cleaning and prevents new bacterial growth for 24 hours. Persil Hygiene Rinse eliminates up to 99.99 percent of all bacteria, even during low-temperature wash cycles.

Cosmetics/Toiletries



Tsering Tsomo (left) from Bangalore, India, who works for Schwarzkopf Professional as a trainer, travelled to the SOS children's village in Alwaye-Cochin, in the state of Kerala, to train young people to be hairdressers. Here she is using a model head to show Nazreen how the hair should be prepared for cutting.

Shaping Futures – Sharing knowledge and developing skills

In November 2010, together with the charity SOS Children's Villages, Schwarzkopf Professional launched the Shaping Futures initiative in India and Peru. The aim of this worldwide initiative is to teach the basic techniques of professional hairdressing to young people in SOS children's villages. In the long term, this should enable these young people to earn their own living. Hairdressers from Schwarzkopf Professional and volunteer Schwarzkopf hairdressing customers train young people for four weeks in SOS children's villages. Each participant is given a start-up case with hairdressing equipment, such as scissors, comb, hair clips and cape, and receives a certificate after successful completion of the course. Furthermore, Schwarzkopf then offers the participants a chance to gain some practical experience at hairdressing salons. In the first series of courses, 16 trainers introduced more than 60 young people to the craft of hairdressing.

This initiative by Schwarzkopf Professional shows in an exemplary manner how Henkel employees use their professional know-how, in collaboration with their customers, to offer a better future to young people in need of help. Our employees thus live Henkel's values and contribute to the sustainable development of communities by promoting entrepreneurship through training.

www.schwarzkopf-professional.com/social-initiative/shaping-futures



Sabira (left) and Aparna are delighted with the start-up case containing hairdressing equipment, which they received for their training from Schwarzkopf Professional.



Shaping Futures relies on volunteer trainers who, together with Schwarzkopf Professional, want to change the future.

Our contribution to beauty and well-being

Hygiene and beauty are fundamental human needs and are important for a sense of personal well-being. Our cosmetics and toiletries, which are used daily by millions of people worldwide, make a valuable contribution to this.

The success of our cosmetics and toiletries owes much to our insistence on offering consumer-relevant products with high levels of efficacy and compatibility. The safety and performance of our products are always demonstrated on the basis of scientific findings. We are always looking for new and better solutions. At the heart of our innovation processes is an ever better understanding of the needs of our consumers in different regions. By linking innovative ideas with contributions to our focal areas, we also support the trend toward environmentally aware and health conscious lifestyles.

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Product and consumer safety

Only cosmetic products that are well tolerated and safe to use can win the long-term trust of our consumers. Health compatibility is therefore a top priority for us from the earliest stage of product development. This includes consideration of the

needs of people with allergies or sensitive skin. In 2010, we worked closely with the European Centre for Allergy Research Foundation (ECARF) and other external partners, and had additional products evaluated by ECARF. In the meanwhile, all Diadermine care products have been certified by ECARF. This means that they satisfy the highest demands for skin compatibility, even for persons with sensitive skin or allergies. www.ecarf.org

All cosmetic products and their individual ingredients are subjected to an extensive program of assessment and evaluation in order to ensure their compatibility. Since the late 1980s, we have not carried out any animal tests to assess the safety of finished products. Instead, we use the available data and findings on the ingredients used. Many questions regarding the skin- and eye-compatibility of individual ingredients or cosmetic products can be studied with the help of in vitro tests. These in vitro tests have been developed as alternatives to animal testing through intensive collaboration over the past decades between Henkel and external partners. Good skin compatibility predicted on the basis of this information is then confirmed by extensive testing in dermatological studies involving volunteers.



All Diadermine care products are certified by the European Centre for Allergy Research Foundation (ECARF).

www.diadermine.de

More information on the development of alternative test methods and our engagement in international research initiatives:

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Right Guard – enhanced benefit with reduced footprint

We optimize the ecological footprint of our products, thus supporting the trend toward health conscious and environmentally aware lifestyles. The example of the Right Guard deodorant spray, a 48-hour active antiperspirant, shows how a product’s consumer benefit can be increased while reducing its ecological footprint at the same time. The newly developed formulation with antibacterial silver molecules provides 48 hours of protection against body odor, creating the foundation for greater self-confidence, greater self-esteem and a well-groomed appearance. The improved spray valve reduces the common spray losses by 20 percent. In combination with an efficient formulation, continuously improved



production, and an intermodal logistics chain, the result is an even smaller carbon footprint. www.rightguard.com



Tina Müller
Member of the Sustainability Council for the Cosmetics/Toiletries business sector.

The complete interview with Tina Müller:

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“Beauty, personal well-being and hygiene are basic human needs in all parts of the world. Our products help to fulfill these needs individually and by doing so make an important contribution to society. The aim of our product development and our brand engagement is to support the trend towards environmentally aware and health conscious lifestyles.”

Responsible use of natural and renewable raw materials

We contribute to the conservation of finite resources by using renewable raw materials in our formulations. For example, we replace ingredients based on mineral oil by plant-based alternatives, whenever this is possible and appropriate without any loss in product quality and performance.

More than two-thirds of the ingredients of the product formulations of our soaps, shampoos and shower gels are now based on renewable raw materials. We are also committed to considering ecological and social aspects when we purchase renewable raw materials. We pay close attention to the origin and the cultivation and production conditions of our raw materials and their precursor products. This is also reflected in our involvement in the Round Table for Sustainable Palm Oil (RSPO).

In addition, we strive to use ingredients from controlled organic crops to a greater extent. Furthermore, when we purchase raw materials, we seek opportunities of cooperating with suppliers and local stakeholders who support fair trade with the countries of origin (see box “Gliss Kur Oil Nutritive”).

Overall improvement in eco performance

Over a period of many years, we have formulated our products that pass into wastewater after use for optimal biodegradability. Our aim, to increase the proportion of readily biodegradable ingredients in our soaps, shampoos and shower gels to 80 percent by 2012, has already been achieved. In the case of washing active substances – surfactants – the amount of readily biodegradable substances even exceeds 90 percent. The average amount of readily biodegradable substances in our products is 82 percent.

In 2010, we reformulated our products to make them even more biodegradable. The new formulations are already being used for about 70 percent of our

marketed shampoos, shower gels, liquid soaps, and bar soaps, as in our Schauma hair care brand, for example. In view of the progress already achieved, in the coming years we will align our specifications toward the consistent extension of our strategy.

Other key factors in improving the eco performance of our products are carbon dioxide emissions and packaging material. We plan to determine the carbon footprint of representative products for all relevant product categories by 2012. In 2010, we calculated the carbon footprint for another two product categories: toothpastes and deodorants/antiperspirants. These calculations will, above all, increase the transparency of our processes and reveal starting points for achieving reductions in emissions.

To improve the eco performance of our products even further, we also work closely with our customers. In the USA, for example, Henkel and a number of competitors support our retail partner





The raw materials used in AOK Bio Expert are certified by Ecocert.



15%
less surfactants, equally high performance – this is achieved by the new formulation of our Schauma shampoo.

Gliss Kur Oil Nutritive



For the first time, Gliss Kur Oil Nutritive offers a combination of seven oils in an innovative hair care range. The formulations, containing argan oil, marula oil, olive oil, apricot kernel oil, macadamia nut oil, sesame oil, and almond oil, ensure 85 percent fewer split ends, as they very gently penetrate deep into the hair to repair its structure. By using marula oil for Gliss Kur Oil Nutritive, we are supporting our supplier's marula project. The oil comes from a fair trade cooperative and conforms to the Ecocert ecological standards.  www.glisskur.de

Walmart and scientists at the Global Institute of Sustainability of Arizona State University in the development of a sustainability index. <http://walmartstores.com/sustainability/9292.aspx>

To reduce consumers' packaging waste, we strive continuously to decrease the amount of material used in our product packaging as far as possible without compromising the quality and stability of the packaging. We also continue to seek suitable biodegradable alternatives that satisfy our high demands on packaging materials, see **SR** Page 17.

Safe to use thanks to professional advice

Comprehensive advice for consumers goes hand in hand with product safety. An advice hotline has therefore been set up in every country in which our products are sold, so that consumers can be provided competently and quickly with reliable information about product properties or ingredients, by telephone, mail or email. In Europe, for example, this results in about 130,000 customer contacts each year. Most queries are about the effects our products achieve and how to use them.

Comprehensive consumer advice also includes the obligation to advertise responsibly. We ensure that our advertising claims are based on proven properties of the products and scientific data on product performance, and that the information we make available is readily understandable for consumers.

"In general, we are always looking for formulations for our cosmetics products that are more effective and more compatible, but also more efficient. This is because we face the challenge of delivering greater performance while using less raw materials. Contributions to resource efficiency can also come from products with especially long-lasting effects, such as our newly launched Right Guard deodorant sprays."



Dr. Thomas Förster
Member of the Sustainability Council for the Cosmetics/Toiletries business sector.

The complete interview with Dr. Thomas Förster:

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We also support our professional hairdressing customers with training courses and information on the proper use of our products. Through the international Schwarzkopf Academy (ASK), we offer an advanced vocational training program on cutting techniques, fashion advice, and management topics for hairdressers in 38 countries. In 2010, we provided support to 460,000 hairdressers worldwide through our Schwarzkopf Academies.

www.schwarzkopf-professional.com

Brand engagement

Our alignment to sustainability also encompasses the social engagement of our brands, see also **SR** Page 35. One example is the Shaping Futures initiative launched in 2010 through which Schwarzkopf Professional and its customers work on a volunteer basis to provide training for young people in SOS children's villages, see **SR** Page 22.

Significance of growth markets for our product development

In growth regions, in particular, the question of the social added value of products takes on greater significance. Products aligned to the needs of consumers in the lower income brackets not only have enormous economic potential, but also make a positive social contribution in terms of hygiene and health. We adapt our products and marketing to local conditions, so that our product quality is accessible to the broadest possible groups of people. In the South American markets, for example, we offer shampoos, hair gels and deodorant creams in small sales units of 10 to 20 milliliters.



More information on strategies for growth markets:

www.henkel.com/sr2010 | 35

Adhesive Technologies



Puerto Errado 1, the pilot solar thermal power plant of Novatec Biosol, is located in Southern Spain. Meike Schumann, quality engineer at Novatec Biosol, and Thomas Wittmann, field representative at Henkel, discuss the performance of Henkel's Terostat MS adhesive right at the plant.

Developing adhesive technologies together

We carry out worldwide research on products and technologies that combine top performance with economic advantages for our customers and consumers and responsibility toward people and the environment. Solar power, for example, is becoming more and more important in the rapidly growing renewable energies market. Here, we have been sharing our adhesives expertise with Novatec Biosol ever since its establishment in 2006, helping this company to develop concentrated solar thermal systems – mirrors that generate energy from sunlight. The challenge was to bond the slightly curved mirrors to their galvanized steel frames. An elastic Terostat MS adhesive combined with a hardener component proved to be an excellent high-tech solution. Terostat MS adhesives do not require hazard labeling and can withstand extreme sunlight. By the end of 2011, a 30-megawatt power plant will have been built in Southern Spain using Terostat MS adhesives.

This Adhesive Technologies project is an excellent example of how Henkel employees collaborate with their customers to develop new technologies. By living Henkel's values, our employees thus contribute to sustainable development. In this project, they respond to the customer's wishes and needs, help to achieve economic success, and offer sustainable solutions.

 www.henkel.com/solar.htm



The Terostat MS adhesive is extruded automatically onto the steel frames to which the mirrors are then bonded.



Despite strong sunlight, the Terostat MS adhesive keeps the mirrors fixed to their steel frames.

Global leaders through innovation, performance and sustainability

Henkel products are used in almost all sectors of industry, such as the automotive, electronics, aerospace, metal and packaging industries, the development of alternative sources of energy, and for maintenance, repair and overhaul. They contribute to resource conservation and safety – for example, by helping to save weight, reduce energy consumption, increase rigidity, or improve safety at work. With our adhesives, industrially manufactured goods can be made more durable, lighter and more efficient. Our adhesives know-how also helps to protect buildings against cold and dampness and to repair items of daily use, while our glues and tapes are much appreciated in the home, in schools and in offices. The key consideration, however, is always that of combining economic benefits for our customers with responsibility toward people and the environment.

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The Internet page www.henkel-car.com makes it clear how adhesive solutions and surface treatments from Henkel help the entire automotive industry to improve efficiency and quality. The new coating process Aquence Co-Cure, for example, significantly lowers energy costs, environmental impacts and manufacturing effort. For this development, Henkel received the respected Automotive News PACE Award for the second time in 2010.

www.henkel-car.com

“Our ideas for innovative products must be just as flexible as adhesive is as a material. Today we are cooperating more than ever with industrial partners and external research institutions to meet tomorrow’s global challenges through innovation. For example, we assisted Tonji University in Shanghai, China, in developing a hydrogen-powered car which was presented at the Shanghai EXPO 2010.”



Prof. Dr. Ramón Bacardit
Member of the Henkel Sustainability Council for the Adhesive Technologies business sector.

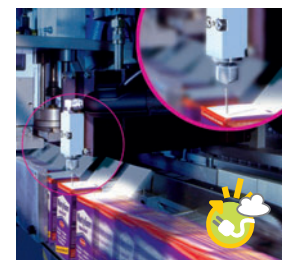
The complete interview with Prof. Dr. Ramón Bacardit:

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Generating added value for our customers

For us, sustainability is not an end in itself, but generates value for our company and for our customers. It gives us a competitive advantage when it creates economic, ecological or social benefits for our customers as well. We offer our customers first-class performance while simultaneously helping them to operate sustainably throughout their value chain. One of the ways we do this is by developing products that make production processes considerably more efficient than conventional solutions. Our Loctite brand maintenance and repair products, for example, can extend machine lifetimes. Technologies such as Bonderite NT, TecTalis, Aquence Co-Cure and Alodine for metal pretreatment cut energy and wastewater costs in processing lines and reduce the use of heavy metals. Our water-based solvent-free adhesives for athletic shoes help to significantly improve workplace health and environmental protection levels in athletic footwear production facilities.

We have developed numerous tools to demonstrate the advantages of our innovations transparently to our customers. One of these is the Value Calculator, which enables customers to include not only the price of the product in their cost calculations, but also the potential savings it can achieve in their process. Our customers can then calculate the economic and ecological benefits they gain by using our products. The Value Calculator is currently available for more than 30 brands, including Bonderite, TecTalis, and Macroplast.



With a reduced processing temperature of 130 degrees Celsius, our adhesive Technomelt Supra Cool 130 decreases the energy consumed when bonding packages by up to 40 percent.

www.technomelt-value.com

Results of the life cycle analysis for our MiraFoil effect coating for print finishing:

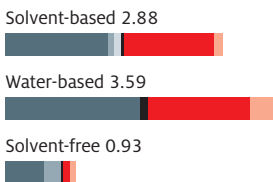


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With Multicore LF620, Henkel is setting new standards for lead-free production of products such as electronic devices. Containing no halogen or lead, this solder paste also helps to improve the recyclability of electronic devices.

Greenhouse gas emissions of Liofol adhesives¹⁾
in CO₂ equivalent per kilogram



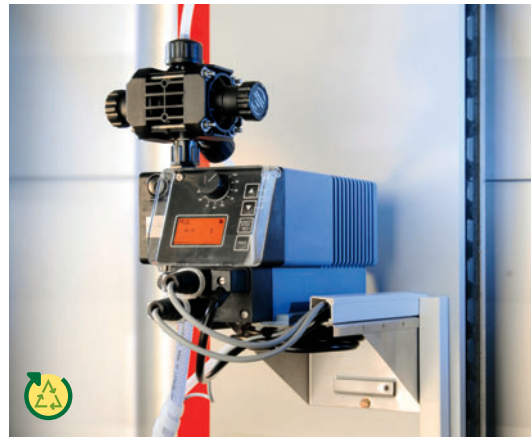
- Base component (polyurethane-based)
- Hardener
- Solvent losses
- Adhesives production
- Energy consumption during the application phase
- Transport and packaging

¹⁾ For 100 m² of laminated film/foil.

Improvements based on analyses and discussions among specialists

Product innovations and systematic reviews of our product portfolio help to continuously improve the performance of our products and technologies. Here we draw on our years of experience with life cycle analyses to identify suitable starting points for improvements. For many years, we have pursued a policy of steadily replacing heavy metals in our products. We also substitute solvents with high-performing alternatives that make it possible to offer water-based and ultraviolet-crosslinking formulations. To optimize product characteristics, our researchers also make use of renewable resources. These form the central basis of our glue sticks, wallpaper adhesives and many packaging adhesives. The proportion contained in our bottle labeling adhesives, for example, is 45 percent. And the formulation of the Pritt Stick is based 90 percent on nature-based raw materials.

But the composition of our own products is not the only area where improvements can be achieved: New product solutions can modify or improve the type of application and the production processes at



our customers' facilities. Our solutions are therefore based on a thorough understanding of our customers' needs and are often generated by working as a team with customers, equipment manufacturers, and raw materials suppliers.

Focus on health and safety

For us, first-class product performance means that we also assume responsibility for the health and safety of our customers when they use our products. This is why we are working all around the world to set new standards for the health compatibility of consumer and contact adhesives – for example, in regard to the use of solvents. These are often the subject of controversy in public debate because of their possible negative impact on health and the environment. Replacing solvent-based adhesives by alternative systems has therefore been a goal of Henkel researchers for many years.

Taking the situation in 2010 as our baseline, we have set ourselves the target of reducing the remaining amount of solvents in the consumer adhesives segment by half by 2020. As a first step in 2010, we replaced the solvent toluene in all of our contact adhesives for consumers around the world. To make sure alternatives will be available in time to shape a future without solvents, we are investing long-term in the development of new basic technologies. At the heart of our research are even more powerful water-based systems, as well as completely new cross-linking mechanisms.

Henkel's Lineguard Supervisor, a control and monitoring system for continuous monitoring of metal pretreatment processes, makes it possible to precisely determine the amount of chemicals required. Besides systematically preventing overdosage, this also helps to achieve consistent coating quality.

Carbon footprint of Liofol laminating adhesives for bonding packaging films/foils

In the course of the Product Carbon Footprint (PCF) project in Germany, we compared three different types of laminating adhesives from our Liofol brand in regard to their carbon footprint: a solvent-based, a water-based and a further solvent-free system. In all three systems, the largest proportion of greenhouse gas emissions is generated during the production of the base component used. Besides this, the type of adhesive essentially determines the laminating process and the related emissions. For solvent-based and water-based systems, the energy required for

application and drying is the biggest factor in the emissions equation. Of the three adhesives studied, the solvent-free one had the smallest carbon footprint, since it requires practically no additional energy input during the actual laminating process. In overall terms, the proportion of emissions associated with the adhesives during the production of food packages is just a small percentage of the carbon footprint of the entire package: less than five percent.

www.pcf-projekt.de



More than 90 percent of the Henkel flooring adhesives sold in Germany bear the EMICODE EC1 quality mark, denoting especially low-emission flooring adhesives. In addition, eight products from the Thomsit specialty brand for flooring technology obtained the "Blue Angel" environmental label in 2010. www.thomsit.com



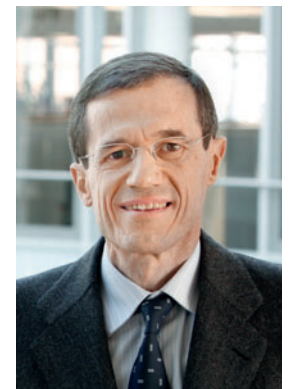
Polyurethane foams are found in the toolboxes of many DIYers. In December 2010, some member states of the European Union issued a ban on the self-service sale of PU foams containing more than one percent methylene diphenyl diisocyanate (MDI) in retail outlets. The new Pattex Power PU foam contains less than one percent MDI – and is therefore still freely available on the shelves. www.pattex.com

User safety through dialogue, advice and training

Our understanding of quality does not stop with the development and sale of high-performance products. We offer service and advice throughout the world for customers. By sharing our technical know-how and competence, our main aim is to help our customers to use our products efficiently and safely. Our chemicals management concept in the USA, for example, helps them with the selection, processing and disposal of chemicals. The Henkel ProControl system – a measuring unit that is installed directly in production lines – allows our customers to precisely monitor adhesive consumption rates. With our Technomelt Supra Cool 130 hotmelt adhesive for industrial packaging, this can in some cases reduce the amount of adhesive that is applied by almost half. In Central and Eastern Europe, Ceresit training centers teach craftsmen how best to use our building products.

"We have defined Henkel's focal area of health and safety as a major goal for product development in our Adhesives for Craftsmen, Consumers and Building segment. As part of our efforts in 2010, we replaced the solvents toluene and methylene chloride in our consumer adhesives with solvent-free alternatives. By 2020, we intend to decrease the use of solvents in our consumer adhesives by 50 percent overall."

In many markets, such as China, the United Arab Emirates, Brazil and the USA, Henkel is also a member of the national Green Building Council. The aim of this multi-stakeholder platform is to raise awareness and promote the development of standards for sustainable building methods and products.



Enric Holzbacher
Member of the Henkel Sustainability Council for the Adhesive Technologies business sector.

The complete interview with Enric Holzbacher:

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Henkel as a sponsor of the German Pavilion at the World Expo 2010 in Shanghai

EXPO 2010 in Shanghai, China, and the German pavilion as well, was staged under the motto "Better City, Better Life" – a slogan that is becoming more and more relevant, especially in Asia. Growing population figures coupled with increasing urbanization make sustainable development of the megacities of the future a vitally important task. By supporting the German EXPO pavilion, we also underscored the significance we attach to this topic in our product development. Our adhesives already help to drive forward the development of new technologies

such as solar power plants and electric cars. Our professional products from the Thomsit, Pattex, Sista, Tangit and Metylan brands are consistently used by professional craftsmen and construction experts – from the cellar to the roof. Worldwide, we offer a variety of systems comprising joint sealants, insulating foams and panels, and waterproofing membranes that enable the professional sealing of windows, doors and façades, thus increasing the energy efficiency of buildings.

In China, Henkel is a co-founder of the External Thermal Insulation Composite System Quality Alliance (ETICS QA), an industrial alliance that aims to promote environmentally compatible construction methods and increase the energy efficiency of buildings.

www.etics.com.cn/english