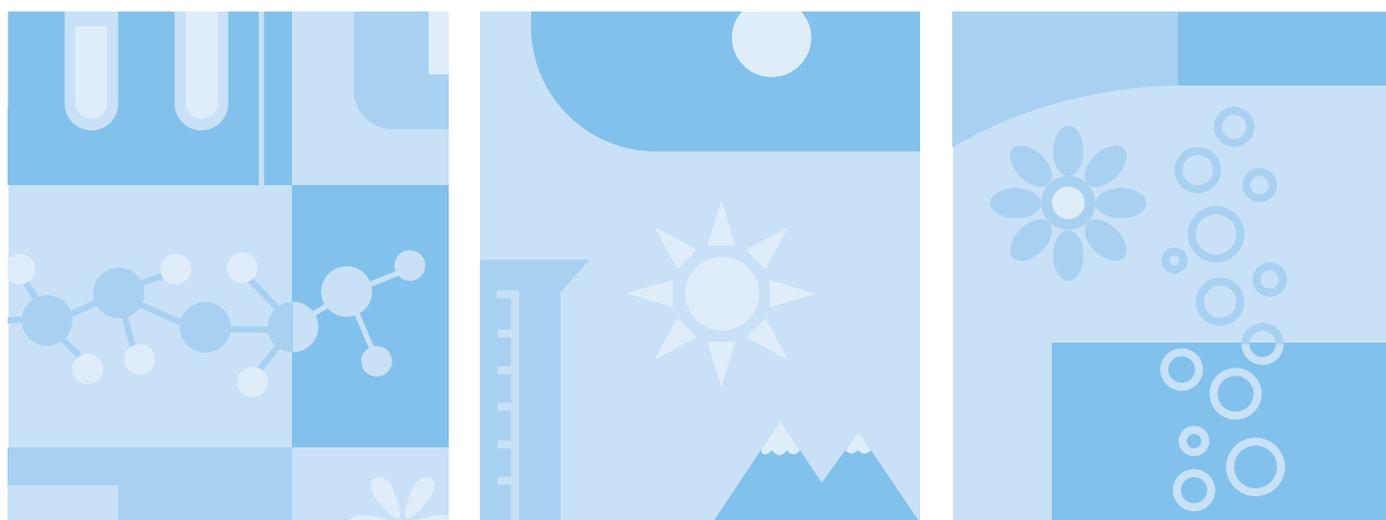


Biocide treated articles

–an Internet survey



Biocide treated articles

–an Internet survey

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Förord

Kemikalieinspektionen har på uppdrag av regeringen tagit fram en handlingsplan för en giftfri vardag. Att minska kemiska risker i vardagen är ett steg på vägen att nå riksdagens miljö kvalitetsmål Giftfri miljö. Inom ramen för arbetet med handlingsplanen har Kemikalieinspektionen låtit utföra en förstudie av biocidbehandlade konsumentprodukter. Syftet med förstudien är att beskriva hur sådana varor marknadsförs på nätet, uppdatera bilden av hur utbredd sådan behandling är och därigenom ge underlag till fortsatt arbete.

Förstudien har utförts av Camilla Ehn, CE Miljö Invest, under ledning av Lolo Heijkenskjöld, projektledare vid enheten för Biocidprodukter och GMO vid Kemikalieinspektionen. Resultatet av undersökningen dokumenteras i denna PM.

Preface

An action plan for a toxic-free everyday environment has been launched by the Swedish Chemicals Agency, on assignment by the Swedish Government. Reduced risks from chemicals in the everyday life will contribute to the national environmental quality objective of a Non-Toxic Environment. A survey of consumer articles treated with biocides has been carried out as a pilot study within the framework of this action plan. The study aims to describe the marketing of this kind of articles on the internet, get an updated view on the range and extension of this biocide treatment and thereby provide the basis for further work.

The survey was conducted by Camilla Ehn, CE Miljö Invest, and overseen by Lolo Heijkenskjöld, project manager at the Biocidal Products and GMO Unit at the Chemicals Agency. This report documents the results of the survey.

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Sammanfattning

Biocider är bekämpningsmedel som ska förebygga att djur, växter eller mikroorganismer orsakar skada eller olägenhet för människors hälsa eller skada på egendom. Det förekommer allt oftare att vardagsvaror innehåller eller har behandlats med biocidprodukter. Denna studie syftar till att beskriva hur biocidbehandlade konsumentvaror marknadsförs via Internet. En sådan beskrivning kan visa hur utbredd biocidbehandlingen blivit i olika varuslag och därigenom ge underlag för prioritering av varugrupper för fortsatt arbete.

Studien fokuserar på behandlade konsumentprodukter som marknadsförs via uppdaterade försäljningssidor på nätet. Varor av olika material som textilier (syntet, ull, silke, bomull m.m.), plast (polyeten, polystyren, PVC m.m.), keramik, kvarts och papper har ingått. Varor som är kemiska produkter eller består av impregnerat trä har inte tagits med, eftersom kunskap om biocider i dessa varugrupper kan sammanställas på annat sätt.

De biocidbehandlade varorna har identifierats framför allt med hjälp av uttryck som beskriver att de oönskade effekterna av mikroorganismer förhindras, t.ex. ”anti-bakteriell” eller ”anti-lukt”. Endast i ett fåtal fall fanns information om vilka aktiva biocidsubstanter som använts.

Internetsökningen efter biocidbehandlade varor har gjorts i flera steg. Resultaten har sammanställts i tabeller som utvisar *möjlig tillämpning* av biocidbehandling och *potentiell förekomst* i olika konsumentvaror samt ett urval *identifierade biocidbehandlade varor*.

De mest användbara sökingångarna har varit webbsidor från biocidleverantörer. Där finns bl.a. information om vilka biocidprodukter som kan passa olika materialslag och varutyper. Där anges också vilka effekter som behandlingen avses ge. Biocidleverantörernas samarbete med olika varutillverkande företag kan också redovisas. Dessa företag kan då använda leverantörens biocidprodukter och visa biocidens varumärke vid marknadsföringen av de egna produkterna. Resultaten visar att många stora och välkända varumärken återfinns bland biocidleverantörernas samarbetspartners och att behandlade konsumentvaror marknadsförs över hela världen.

Sammanfattningsvis finns biocidbehandling med i marknadsföringen av en mycket stor mängd produkter som är avsedda för de flesta av vardagslivets sysslor. Följande är några exempel från undersökningens resultat:

Textilier – sportkläder, underkläder, skosulor, mössor, handskar, strumpor, madrasser, madrasskydd, kuddar, sängkläder, handdukar, mattor, möbler, gardiner, textila tapeter;

Byggprodukter – beläggingsmaterial för golv- och vägg (polyuretan, keramiska plattor, PVC, kvarts m.m.), isoleringsmaterial för VVS-anläggningar, diverse handtag;

Köksartiklar – skärbrädor, matförvaringslådor, knivar, salladsskålar, tallrikar, diskbänkar, diskborstar, plastpåsar, kylskåp, frysar, diskmaskiner;

Badrumsartiklar – duschslangar, kakel, badkar, tandborstar, duschdraperier, badrumsmattor, toalettppapper, toalettlock, kattsand;

Städartiklar – skurmoppar, rengöringsdukar, tvättsvampar, tvättbollar, dammsugare;

Kontorsmaterial – pennor, tangentbord, datamöss, miniräknare, stämpel, hörlurar, tillbehör till iPods och mobiltelefoner;

Artiklar för barn/barnvård – nallar, nappflaskor, amningsinlägg, skötbord, blöjor, barnsaxar

Summary

Biocides are pesticides used to prevent harmful animals, plants or microorganisms from causing detrimental effects on humans, products, animals or the environment. Biocidal products are increasingly being used for the treatment of everyday products. This survey aims to describe the marketing of treated consumer articles on the Internet. Such a description can show how widespread biocide treatment is in different kinds of articles and thereby provide a basis for prioritising product categories for further work.

The focus of this study is on biocide treated consumer products that are marketed through updated sales pages on the Internet. Products made of materials such as textiles (synthetics, wool, silk, cotton etc.), plastics (polyethylene, polystyrene, PVC etc.), ceramics, quartz and paper are included. However, chemical products and products made from impregnated wood are not included as knowledge can be compiled by other means for these product types.

Treated articles have mainly been identified through keywords describing the prevention of unwanted effect of microorganisms, e.g. "anti-bacterial" or "anti-odour". Only in a few cases could information be found about active substances used for the treatment.

The Internet search for treated articles was performed in several steps. The results are compiled in tables that show the *possible use* of biocide treatment, the *potential occurrence* in a variety of consumer articles as well as a selection of *identified treated articles*.

The most useful search entries have been websites from suppliers of biocides, with information on suitable biocides for different materials and types of articles. The envisaged effects of the treatment can also be specified there. The biocide suppliers can often announce which manufacturing partners they co-operate with. These partner companies may use the suppliers' biocides and show the biocidal brand when marketing their own products. The results show that a large number of partner companies with well-known brands are marketing treated articles in most parts of the world.

In summary, it is shown that biocide treatment is included in the marketing of a vast amount of products intended for use in many daily activities. The following are some examples from the results of the survey:

Textiles – sportswear, underwear, shoe soles, hats, gloves, socks, mattresses, mattress covers, pillows, bedding, towels, rugs, furniture, curtains, fabric wall coverings;

Building products – floor and wall coatings (polyurethane, ceramic tiles, PVC, quartz etc.), insulation material for plumbing, various knobs and handles;

Kitchen ware – cutting boards, food boxes, knives, salad bowls, plates, sinks, dish brushes, plastic bags, refrigerators, freezers, dishwashers;

Bathroom accessories – shower hoses, tiles, bathtubs, toothbrushes, shower curtains, bath mats, toilet paper, toilet lids, cat litter;

Cleaning supplies – scouring mops, cleaning cloths, sponges, washing balls, vacuum cleaners;

Office supplies – pencils, keyboards, computer mice, calculators, stamps, headsets, iPod and mobile phone accessories;

Child care articles – teddy bears, baby bottles, nursing pads, changing stations, diapers, children's scissors.

1 Introduction

The Swedish Chemicals Agency has decided to perform a survey of biocide treated articles as a part of the action plan 2011 - 2014 for a toxic-free everyday environment. The survey will be the first step in a general project on biocides in articles within the framework of that action plan.

A pilot study is performed to update knowledge on the market presence of consumer products that have been treated with biocides. Information derived from this study will contribute to the general biocide project in the action plan.

1.1 Purpose

This pilot study describes how biocide treated consumer products are marketed on the Internet. Such a description can indicate the extent of biocide treatment in various types of articles and thereby provide a basis for prioritising product groups for further work.

1.2 Scope and limitations

Biocides are pesticides used to prevent harmful animals, plants or microorganisms from causing detrimental effects on humans, products, animals or the environment¹.

The study includes available information from relevant suppliers about the application of biocide treatment in consumer products.

Consumer products refer to articles that can be purchased at the retail market by the general public. Many different materials and product types are covered in the survey.

Chemical products and products of treated wood are not included since knowledge can be compiled by other means for these product types.

Treated consumer articles are primarily identified by keywords that describe the prevention of adverse effects of microorganisms or other pests (e.g. “anti-bacterial”).

The following information is documented for each identified market presence, as far as possible:

- web address and date of visit
- manufacturing company
- product brand
- product and material descriptions
- trade names and active substances of biocide products
- purpose of the biocide treatment (quoted claims)

2 Method

Information retrieved in a search on the Internet may consist of outdated or irrelevant data. Therefore this study is mainly based on information from suppliers’ updated webpages. Relevant biocide suppliers were identified through the trade names of biocide products.

These trade names were found in Google searches with the Chemical Abstract Service registry numbers for known active substances. For instance, the following trade names were found for one active substance: Triclosan, Microban B, Ultra-Fresh NM 100, Ultra-Fresh

¹ Article 2 in Directive 98/8/EC concerning the placing of biocidal products on the market

NM-V 2 and Sanitized XTX. Some trade names from the Oeko-Tex® list² were added as well. It should be noted that the listing of active substances and trade names is not exhaustive.

The biocide trade names were used to identify relevant suppliers and compile information about treated products from their websites, as indicated in the *first step of Figure 1* below.

However, in most cases only limited information was found about the manufacturer and about the active substances used for the treatment. Therefore, an additional way to trace information was through partner companies of the biocide suppliers, the *second step of Figure 1*.

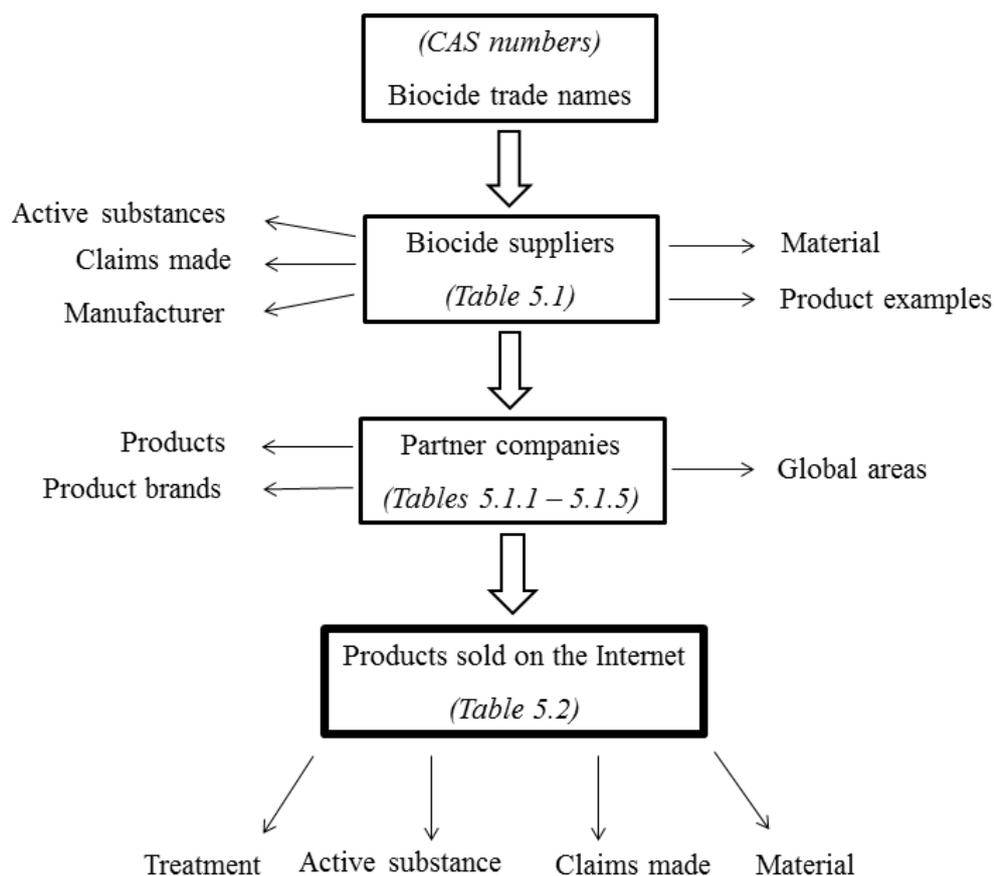


Figure 1 Overview of method used for the stepwise search

Treated articles were identified through Google searches, *third step of Figure 1*. This step was performed as many treated products could only be identified through the claims for prevention of adverse effects. Specific keywords in combination with product types, biocide trade names or product brands were used for the search, as outlined in *Figure 2*.

An enormous amount of information appeared through this search route and this information had to be categorised according to its relevance before presentation.

² http://en.wikipedia.org/wiki/Oeko-tex_standard

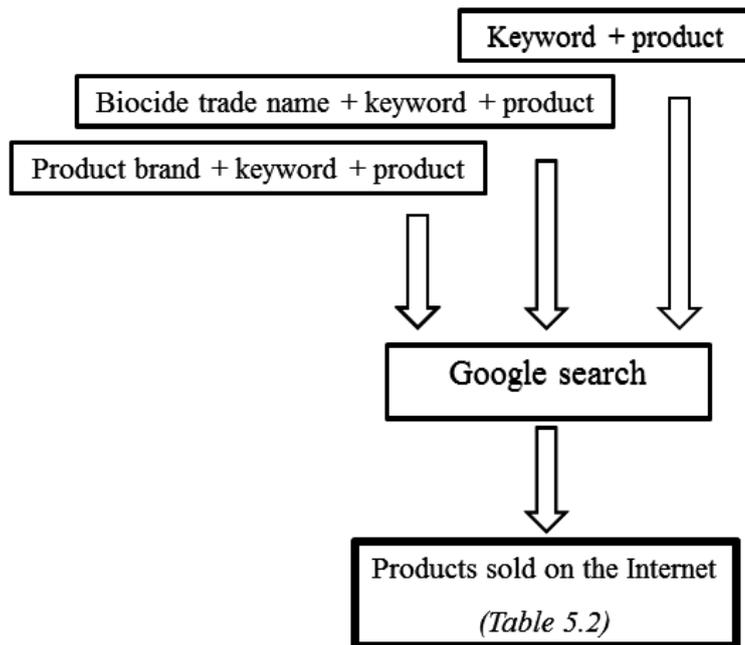


Figure 2 Search for biocide treated products marketed on the Internet

3 Results

The outcome of the stepwise search is presented in two sets of tables, where information from different suppliers' websites is compiled.

Table 5.1 contains trade names, active substances, manufacturers and their claims for several but not all biocide products that can be used in this way. Information about active substances in the biocide products was limited, except for silver and silver compounds. The table also contains information on suitable materials and applications, in some cases even recommended biocide concentrations in the material. This means that the *possible use* of biocide treatment of consumer articles is shown in this table.

Furthermore, the line of arguments within this segment of biocide marketing is shown. Treatments are often claimed to be effective against bacteria, virus, germs, fungi, yeasts, algae, mildew or odour and specific microorganisms such as *E. coli*, *Listeria*, *MRSA*, *Salmonella*, *Staphylococci*, *SARS* and *Streptococci* may be mentioned.

Tables 5.1.1 - 5.1.5 are compiled for five biocide products from *Table 5.1*, listing information on the suppliers' global partner companies and their brands and types of products. The tables show that a large number of partner companies with well-known product brands may be marketing biocide treated articles. They can get regulatory counsel, marketing as well as technical support from the biocide suppliers. Partner companies may use the supplied biocide and show its trademark when marketing their own products. *Tables 5.1.1 - 5.1.5* also show

that producing partners may be marketing their products in most parts of the world. Thereby the tables are indicating the *potential occurrence* of this kind of treatment in a variety of consumer products.

Table 5.2 presents the wide-ranging array of consumer articles that were *identified as treated with biocides*. These treated articles were found through searches with trade names from Tables 5.1 - 5.1.5 in combination with keywords such as “anti-bacterial; anti-microbial; anti-mold” or, for textiles, “anti-odor; odor-free”. The products presented are manufactured from several different materials, specified mostly on the level of “plastic” or “textile” only. The search method used provided a vast amount of information. Therefore the table presents a selection of articles for use in different areas of everyday life, see also *Figure 3*.

3.1 Biocides in plastics

Suppliers offer biocide additives for plastics and surface coatings, to be built into the plastic polymer, mixed into the plastic compound or added as a surface treatment. Inorganic agents used in plastics are mainly silver, zinc and copper ions³ and a well-known organic agent is triclosan. Examples of thermoplastic polymers with which biocides can be compatible are; Poly(Acrylonitrile Butadiene Styrene) (ABS), Ethylene Vinyl Acetate Copolymer (EVA), Polyoxymethylene (Acetal) (POM), Polyethylene Terephthalate (PET), Polycarbonate (PC), Polyethylene (PE), Polyethylene Terephthalate (PET), Polypropylene (PP), Polystyrene (PS), Polyvinyl Chloride (PVC), Poly(Styrene Acrylonitrile) (SAN), Thermoplastic Elastomer (TPE)⁴ and Styrene Butadiene Rubber (SBR)⁵.

Claims for permanent “anti-bacterial” protection are commonly made for plastic materials that are coated in the manufacturing process. The coating is removed by abrasion, e.g. during washing up or in use. As the biocide is used up on the surface, it is continuously replenished⁶.

Some examples of biocide treated plastic products sold on the Internet are toothbrush covers, knives, garbage bags, fitness balls and toilet lids.

3.2 Biocides in textiles

Textiles are mostly imported from countries outside Europe such as China, India and Bangladesh⁷. Many technologies/finishes used are biocide treatments. Only for bicycle apparel more than 50 trademarks and technologies can be seen just by visiting one single website⁸.

Biocides can be involved in many stages of the manufacturing process from fibre to finished textile product. The biocidal effect can be achieved with an active finish such as Sanitized® T 20-19 or with a fiber material that is biologically active in itself, as for X-Static® fibre. Companies offer biocide treatments in several textile applications such as fabric care, mattresses, bedding and home furnishing as well as in sportswear.

In this study trade names as Agiene®, Balsan SilverCare®, Polygiene®, Sanitized®, Silpure® and X-Static® are based on silver treatment. Partner brands with silver are for example Peak Performance, Intersport, Houdini and Haglöfs.

³ <http://www.scientific.net/AMR.380.226> 2011-12-20

⁴ <http://www.matweb.com/reference/abbreviations.aspx> , 2012-01-20

⁵ <http://www.hadeedcarpet.com/padding.html> , 2012-01-20

⁶ <http://www.foodforum.org.uk/f/iles/Microban-Mat+Inn+Pro+Saf+Con-KS4+Post.shtml> , 2012-01-20

⁷ Kemikalieinspektionen (2009a) Kemikalier i textilier Råd till dig som importerar och säljer textilier

⁸ <http://bicycleapparel.com/fabric.html> , 2011-12-13

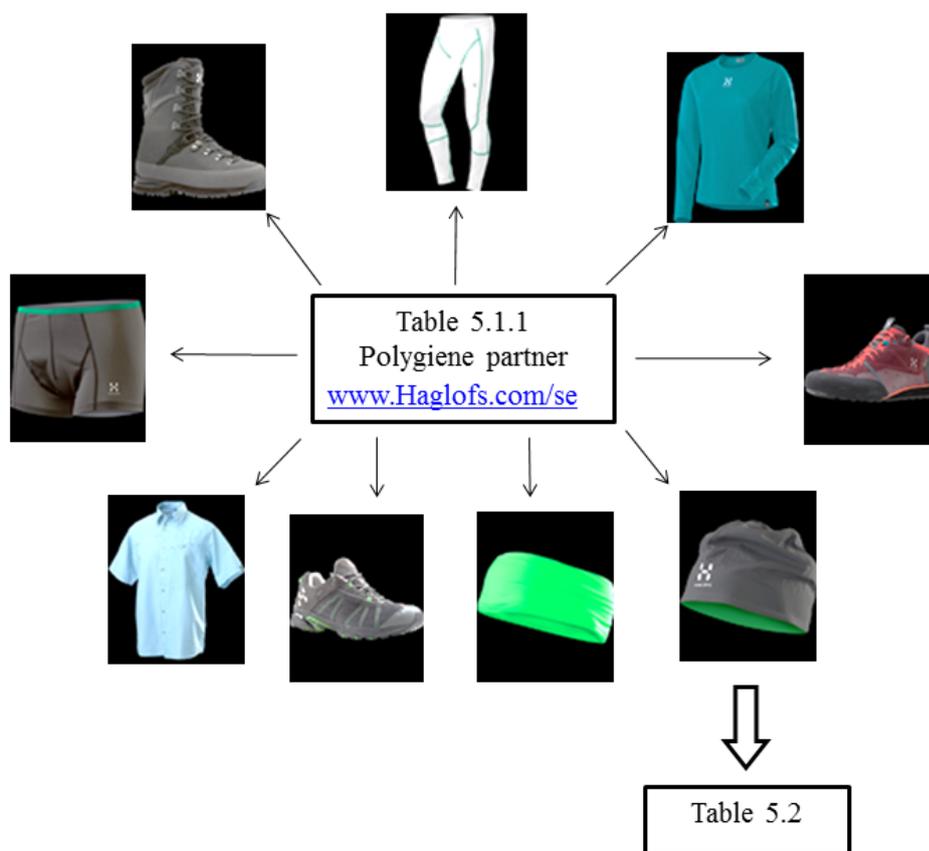


Figure 3 Example of selection from the results of the third step search

3.3 Biocides in building products

Antimicrobial building products such as floor and wall coverings can be found. Many are recommended for public areas such as workplaces, shopping centers, hospitals and schools and not sold over the Internet for the private market. Different floor materials can be treated, for example plasticised PVC may contain Sanitized treated DINCH⁹ and polyurethane concrete can be treated with Polygiene¹⁰.

Interior equipment such as kitchen sinks and worktops may be treated, as well as shower curtains, hoses and bathmats. Spas may be treated with Microban.

The Active system for ceramic floor and wall tiles uses titanium dioxide for porcelain slabs, claiming that the treatment is both “anti-pollution and anti-bacterial which effectively helps to improve the quality of life, and the effect is obtained in presence of any natural or artificial light source”¹¹.

⁹ http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/SAN_FS_PlasticizedPVC_EN_v04.pdf

¹⁰ <http://www.flowcrete.us/our-flooring-news/latest-flooring-news/antimicrobial-technology-presented-at-the-2012-uw-and-gs.aspx>

¹¹ <http://www.ariostea-high-tech.com/porcelain-stoneware/active/>

3.4 Naturally produced biocides

Many products sold on the Internet are naturally “anti-bacterial” by themselves or by an integrated natural “anti-microbial” agent. Some examples are salad bowls made from bamboo, gloves made from bamboo fibers and underwear made from bamboo charcoal fiber. The active substances in bamboo are called bamboo-cun¹¹ but it is questioned if antimicrobial properties remain after the manufacturing process¹².

3.5 Biocides in a variety of products for home activities

As shown in Table 5.2, treated consumer products are abundant on the Internet. For instance, the European Microban partners offer products with biocide treatment for the main home activity areas below.

Cleaning – Cleaning cloths, abrasive scourers, sponge scourers, cellulose sponges, cotton and synthetic mops, bath sponges, cleaning buckets;

Household fixtures and appliances – Door levers, pull handles, grab bars, handrails, sanitary fittings, dishwashers, refrigerators, washing machines;

Kitchen utensils – Cutting boards, plates, canisters, food containers, salad servers;

Office, school and electronics – Scissors, rulers, protractors, erasers, stamps, computer keyboards, mice and mouse pads, coverings for iPods, Mp3 players and cell phones.

4 Discussion

Active substances in biocidal products are designed to prevent or control the actions of different organisms. Due to the intrinsic properties of these active substances and to the associated use of biocidal products, risks to humans, animals and the environment may arise. Additional concerns about the potential development of bacterial resistance to biocidal products such as disinfectants and preservatives are increasingly being raised. Biocides should therefore be used with caution.

This survey was undertaken to improve knowledge about the extent of biocide treatment of consumer products. It has been shown that such treated articles are widely marketed on the Internet, although very little information about the actual biocide use is provided.

Unknown use of biocide substances

In this survey, treated articles were mostly identified only through claims of adverse effects being prevented, e.g. “anti-bacterial; anti-mold or anti-odor”. Trade names for the biocide products used could be shown, but in most cases no information about active substances was disclosed. A single trade name for a biocide can in fact cover several active substances and an active substance can appear under several different trade names. However, in cases of silver treatment some more information may be shown. Silver and silver compounds is then often described as natural, found in nature and environmentally friendly. Zinc- and copper-based technologies may be promoted in similar ways.

Available information about biocide treatment could also change along the way of marketing a product. For example, a hockey helmet from Bauer was described to contain “anti-bacterial”

¹¹ <http://www.bamboogrove.com/bamboo-fabric.html> , 2011-12-12

¹² <http://www.ftc.gov/opa/2009/08/bamboo.shtm> , 2011-12-13

material Poron XRD Extreme Impact Protection¹³. According to the Poron® website¹⁴, this material is treated with Microban. The website of Intersport¹⁵, a retailer in Sweden, claims that the helmet is “anti-bacterial” while this is not mentioned by another retailer, Länna Sport¹⁶.

Firm and increasing market presence - all over the world

The survey has shown that biocides can be incorporated into consumer articles made of all kinds of materials, including textiles, polymers, ceramics, quarts and paper. A strong market presence has been confirmed and the items shown in table 5.2 represent a selection only.

Furthermore, it is shown that biocide suppliers often have links to partner companies. A large number of partner companies with well-known brands are shown to be marketing treated articles. Although only certain segments of a product brand may be treated, new treated collections seem to keep appearing. The partner companies are marketing their products in most parts of the world. Together, these findings suggest that a worldwide interest in the biocide treatment is being established.

Also in products for children – concerns for consumers and retailers

Although a widespread occurrence of treated articles has been identified, knowledge about the biocide substances used is not readily available. This situation of a broad but unknown presence of biologically active substances would be of concern to both manufacturers and retailers of everyday products as well as to consumers.

The line of arguments in the marketing of products treated with biocides seems to play on consumers’ fear of unseen and unknown microorganisms. This occurs also with products for small children, such as baby bottles, sandals and clothing for small children, childrens’ scissors, baby changing stations and teddy bears. Such marketing may give the impression of safety. But the main route for transmission of infection is rather in contacts between people, through droplets, air, food and blood. With normal routines for cleaning and hygiene, the need for antibacterial treatment in these articles should be minimal.

Moreover, it has recently been shown in washing studies that treated textiles lose surprisingly large shares of their biocide content after some washing rounds. Thus, consumers may very well question if decisions to treat products with biocides are well informed and responsible.

Manufacturers and retailers need to be aware of the fact that new legislation is approaching. The new EU Biocidal Products Regulation will enter into force 1 September 2013. Placing treated articles on the market will only be possible when the active substances contained are approved in accordance with this regulation. This requirement will apply also to articles imported from outside the EU. If an article is claimed to have biocidal properties, it will have to be labelled with information about the claim and about the active substances contained. Furthermore, the claimed biocidal property of the treatment will have to be substantiated. This new legislation will require considerable efforts from manufacturers and importers of articles treated with biocides. It would seem important to initiate preparations for this demanding task.

¹³ <http://www.hockeymonkey.eu/sv/hjalm-bauer-9900-combo.html> (2011-12-10)

¹⁴ <http://www.poronxrd.com/newproducts/xrd-x-pad.aspx/> (2011-12-10)

¹⁵ <http://www.intersport.se/Produkter/Utrustning/Ishockey/Hjalmar/BAUER-9900-COMBO-HJALM/> (2011-12-11)

¹⁶ <http://www.lannasport.se/sv/articles/2.3023.91354/bauer-ishockeyhjalm-9900-combo> (2011-12-11)

5 Tables

5.1 Biocide trade names, active substances, manufacturers, claims and material applications

Trade name	Active substance	Manufacturer	Claims made	Material	Application
Agiene®	Silver	Anovotek, LLC Barnwell, USA	US EPA registered and Oeko-Tex approved. Agiene® harnesses silver in a way that unleashes the natural power of silver's antimicrobial efficacy while meeting the needs of today's leading textile and apparel manufacturers http://www.agiene.com/ (2011-11-27)	Textiles	Bed linens, bath sets, active wear, footwear etc. http://www.agiene.com/markets (2011-11-28)
Balsan SilverCare®	Silver ions http://www.idecollect ion.se/vara-golv/textilgolv/balsan-silvercare (2011-12-01)	Balsan Moquette, Arthon, France	This protection system, acting at the heart of the carpet fibres, permanently inhibits bacteria and unpleasant odours from the carpet, and, as an indirect result, dust mites. Balsan is working alongside the Pasteur Institute in order to better understand the mechanisms associated with allergies http://www.balsan.com/en/traitement-antibacterien-silvercare.asp (2011-11-29)	Polyamide http://www.balsan.com/en/catalogue-produit.asp?c=&q=%C3%89corce (2011-11-29)	Textile floors, carpets
Microban®	Triclosan for Microban Additive B, Microban B http://www.sinoapi.com/product-view.asp?cas=3380-34-5 (2011-12-09)	Microban International Ltd., Huntersville, NC, USA. Several contacts in Europe see http://www.microban.com/europe/english/about-us/global-locations/ (2011-11-28)	Built-in antimicrobial product protection, engineering durable antimicrobial solutions. Microban uses a broad range of antimicrobial technologies that can be engineered into a breadth of materials including: polymers, textiles, coatings, paper and adhesives. Built-in to products during the manufacturing process, Microban antimicrobial product protection inhibits the growth of microbes, such as bacteria, mold and mildew that can cause stains, odors and deterioration of a product. The Microban brand is your assurance of continuous, durable and effective antimicrobial protection that will provide an added level of defense against damaging microbes for the useful lifetime of the product http://www.microban.com/europe/english (2011-11-28)	Polymers, textiles, coatings and adhesives	Home products, commercial and foodservice, apparel, textiles etc. http://www.microban.com/americas/english/products (2011-11-28)

Trade name	Active substance	Manufacturer	Claims made	Material	Application
Omadine®	OMACIDE™ IPBC fungicides: Iodopropynyl butyl carbamate; Sodium pyrithione; Zink pyrithione; Polyhexa-methylene biguanide hydrochloride; 3-iodopropynyl-butylcarbamate http://www.archbiocides.com/Docs/textiles_guide.pdf (2011-12-15)	Arch Chemicals, Inc. In Europe: France, Germany and United Kingdom http://www.archbiocides.com/About/worldwidelocations.htm?selRegion=europe.htm (2011-12-15)	OMADINE™ products are highly active, broad spectrum antimicrobial agents that are registered around the world for use in both personal care as well as industrial product applications. In the US, OMADINE products are approved for use by the EPA and allowed by the FDA http://www.archbiocides.com/Products/Brand/Omadine.htm (2011-12-15)	Plastics, textiles, leather, paint	Can be applied to most textiles. PVC, polyurethanes and rubbers. Leather processing, antifouling paints, metalworking fluids, dry paint film
Polygiene®	Silver salt	Polygiene AB, Malmö, Sweden	Natural silver salt, a highly effective antimicrobial agent, to safely inhibit the growth of odor-causing bacteria and fungi. However, Polygiene does not affect the natural bacterial flora of your skin. And without odor-causing bacteria, you stay fresh. Polygiene is bluesign® approved, which is the most demanding environmental certification for textiles, and is on the Oeko-Tex® list of approved products. Polygiene is registered under the EU Biocidal Product Directive and the US Environmental Protection Agency. The odor-free effect is guaranteed for the normal lifetime of the product and has been verified through field tests by leading brands as well as independent laboratory tests http://polygiene.com/polygiene-technology-1.aspx (2011-12-01)	Textiles, plastic parts and laminates	Clothing, underwear and lingerie, bike shorts, socks, gloves, footwear, ski boots, helmets, body armor, wet suits, uniforms, suit linings, shirts etc. http://polygiene.com/applications-1.aspx (2011-12-01)
Sanitized® LX 90-01		Sanitized AG, Burgdorf, Switzerland	Effective against a broad range of microbes including bacteria, yeasts and fungi http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/Factsheet_Rubber%20and%20Latex_EN_.pdf (2011-11-25)	Rubber and latex	Gloves, carpet backings and mattress foams
Sanitized® MB P 20-66	Silver	Sanitized AG, Burgdorf, Switzerland	Effective against a broad range of bacteria. It inhibits germ growth and supports optimum hygiene. With a high dosage it also shows effects against yeasts and fungi. Incorporated in polypropylene fibers the antibacterial effect is durable up to 100 wash cycles at 40°C http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_PolypropyleneFibers_EN_v02.pdf (2011-11-25)	Polypropylene fibers	Fibers for apparel such as sportswear, sleepwear and socks, for home furnishing and household articles like interlinings, upholstery, wiping cloths and mops. Filaments for personal care

Trade name	Active substance	Manufacturer	Claims made	Material	Application
					or industrial use such as non-woven materials, filters or ropes
Sanitized® MB PA 99-57 (Sanitize® Silver BC A 21-41)		Sanitized AG, Burgdorf, Switzerland	Effective against a broad range of bacteria. It inhibits germ growth and supports optimum hygiene. With high dosage it also shows effects against yeasts and fungi. Incorporated in polyamide fibers the antibacterial effect withstands up to 100 wash cycles at 40°C http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_PolyamideFibres_EN_v02.pdf (2011-11-25)	Polyamid fibers	Upholstery, quilt pillow fiber fill, wiping cloths, mops. Filaments for personal care such as tooth brush bristles
Sanitized® MB PET 20-53	Silver	Sanitized AG, Burgdorf, Switzerland	Effective against a broad range of bacteria. It inhibits germ growth and supports optimum hygiene. With a high dosage it also shows effects against yeasts and fungi. Incorporated in polyester fibers the antibacterial effect withstands up to 100 wash cycles at 40°C http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_PolyesterFibres_EN_v02.pdf (2011-11-28)	Polyester fibers	Upholstery, quilt pillow fiber fill, wiping cloths, mops. Filaments for tooth brush bristles and non-woven materials
Sanitized® PL 21-60	Zinc 2-pyridinethiol-1-oxide http://www.pesticideinfo.org/Detail_Product.jsp?REG_NR=00309000218&DIST_NR=003090 (2011-12-01)	Sanitized AG, Burgdorf, Switzerland	Effective against a broad range of microbes encompassing bacteria, yeasts and fungi http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_PolyurethanesFibres_EN_v02.pdf (2011-11-25)	Polyurethane foams	Upholstery foams for mattresses and pillows
Sanitized® PL 24-32		Sanitized AG, Burgdorf, Switzerland	Effective against: » Mold fungi that destroy plasticized PVC and cause unsightly stains » <i>Streptovorticillium waksmanii</i> which is responsible for pink stains » Yeasts that form slimy surfaces » Algae which cause slimy films and green or red stains » Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA), http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/SAN_FS_PL2432SoftPVC_EN_V02.pdf (2011-11-25)	Plasticized PVC	Flooring, shower curtains, artificial leather, swimming pool liners, tents, rainwear, shoes, boots, PVC slippers

Trade name	Active substance	Manufacturer	Claims made	Material	Application
Sanitized® PL 28-40	DINCH	Sanitized AG, Burgdorf, Switzerland	See Sanitized® PL 29-36, http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/SAN_FS_PlasticizedPVC_EN_v04.pdf (2011-11-25)	Plasticized PVC	Clothing, tarpaulin, shower curtains, bath mats, coated textile, conveyer belts
Sanitized® PL 29-36		Sanitized AG, Burgdorf, Switzerland	Antimicrobial additives protect plasticized PVC against: » Bacteria and yeasts grow at an exponential rate. These micro-organisms make surfaces of articles slimy and unpleasant odors develop. » Mildew and yeasts have the ability to destroy the plasticizers and therefore can irreversibly damage soft PVC articles. Stains form that negatively impact esthetical & mechanical properties. » Algae grow in the presence of light and humidity. Green films and red stains form negatively effecting general appearance and requiring additional cleaning & maintenance work http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/SAN_FS_PlasticizedPVC_EN_v04.pdf (2011-11-28)	Plasticized PVC	Flooring, roof liner, swimming pool liner, tarpaulin, clothing and sport articles
Sanitized® PUR 22-41		Sanitized AG, Burgdorf, Switzerland	Effective against house dust mites and a broad range of microbes including bacteria, yeasts and fungi http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_PolyurethanesFibers_EN_v02.pdf (2011-11-25)	Polyurethane coated textiles	Upholstery foams for mattresses and pillows
Sanitized® Silver	Silver	Sanitized AG, Burgdorf, Switzerland	Antimicrobial effects: › Inhibition of bacteria, fungi and mildew › Prevention of unpleasant odors › Protects polymers from being destroyed by fungi and mildew › Prevents unsightly mildew stains › Effective against antibiotic resistant bacteria such as MRSA, VRE and β -lactamase producing strains › 24h antimicrobial protection http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_Personal_Care_EN_V01.pdf (2011-11-25)	Compatible with most of the thermoplastic polymers such as PP, PE, PET, PS, POM, ABS, PC, PBT, SAN, EVA, TPE, SBR etc.	Shavers, toothbrushes, rubber sealings, handholds, grips, toilet seats, soap dispensers etc.

Trade name	Active substance	Manufacturer	Claims made	Material	Application
Sanitized® TPL 20-02	A halogenated phenoxy derivative and a halogenated carbamide compound in dimethyl formadide	Sanitized AG, Burgdorf, Switzerland	Effective against a broad range of microbes including bacteria, yeasts and fungi http://www.sanitized.com/fileadmin/sanitized/Factsheets/EN/FS_PolyurethaneFibers_EN_v02.pdf (2011-11-25)	Polyurethane coated textiles	All sorts of polyurethane coated textiles e.g. work wear, protective wear, raincoats as well as artificial leather for shoes or furniture
Silestone®	Cobalt, tert-butyl peroxybenzoate (TBPB), gamma-methacryloxypropyl-trimethoxysilane http://www.silestone.com/pcomp/sw/FS_SILESTONE.pdf (2011-12-05)	Gosentino Scandinavia, Gothenburg, Sweden. Distributors around the world http://www.silestone.com/ (2011-11-29)	This is the one and only worktop made of quartz with anti-bacterial protection, giving it hygienic properties that are not to be found anywhere else on the market http://www.silestone.co.uk/quartz/what-is-silestone.asp (2011-11-29)	Quartz; crystalized silicon dioxide and polyester resin	Surface treated quarts for kitchen worktops, sinks, bathrooms, floors and wall cladding, http://www.silestone.co.uk/quartz/what-is-silestone.asp (2011-11-30)
Silpure®	Silver chloride http://www.guidechem.com/products/7783-90-6_country-United+Kingdom.html (2011-12-01)	Thomson Research Associates, Toronto, Canada	A simple to use process that attaches silver to textile fibers, giving long-term protection against the development of odor-causing bacteria. Tests carried out in TRA laboratories established that even on difficult fabrics such as 100% polyester, Silpure provides effective bacteria control through extensive washing cycles http://www.silpure.com/man-about-silpure.php (2011-11-27)	Textile and garments	Home textiles such as sheets, draperies, mattress covers, towels, upholstery. Sportswear such as shorts, T-shirts, socks, athletic wear http://www.silpure.com (2011-11-28)
SteriTouch®	Silver ions	SteriTouch Limited, United Kingdom	A range of antimicrobial masterbatches, additives and coatings designed to reduce the growth of harmful organisms such as bacteria, mould and fungi, while remaining safe for even the most sensitive applications. SteriTouch® is particularly effective against illness causing bacteria such as MRSA, <i>E. Coli</i> and Salmonella http://www.steritouch.com/ (2011-12-02)	Plastics. Additives in water, resin, oil and solvent based paints and coatings and in polyester films	Paints and lacquers, radiators, drinking cups, silicone covers, worktops http://www.steritouch.com/steritouch_applications.htm (2011-12-12)

Trade name	Active substance	Manufacturer	Claims made	Material	Application
TouchClean®	Titanium dioxide http://www.dortrend.co.uk/files/touchcleanv080410_2.pdf (2011-12-08)	Dortrend International Ltd, United Kingdom	Nanotechnology anti-bacterial coating. Can be used to protect against a broad range of pathogens and is effective against MRSA, SARS, c. difficile, <i>E.coli</i> , as well as the much publicised swine flu. TouchClean has been tested to EN13697:2001 http://www.dortrend.co.uk/product/1007 (2011-12-08)	Aluminium, brass, stainless steel etc.	Walls, doors, floors, equipment and clothing
Ultra-Fresh®	Triclosan in Ultra-Fresh NM 100 and Ultra-Fresh NM-V 2 http://www.sinoapi.com/product-view.asp?cas=3380-34-5 (2011-12-05)	Thomson Research Associates, Toronto, Canada. Distributors in Europe see http://www.ultrafresh.com/manufacturers-distributors.php (2011-11-28)	Antimicrobial treatment, designed to limit the growth of bacteria and fungi http://www.ultrafresh.com/consumers-how-performance.php (2011-11-27)	Fabric, polyurethane foam, polyester staple fibre http://www.ultrafresh.com/consumers-mites-solution.php (2011-11-28)	Uses in mattresses, furniture, laminate flooring and floor coverings, carpets, pillows, duvets etc. http://www.ultrafresh.com/consumers-mites-solution.php (2011-11-27)
X-Static® Fibre	Silver	Noble Fiber Technologies, Inc. Scranton, PA, USA Contact in Europe: Noble Biomaterials, Italy	Designed to protect the finished product itself from microbial growth. Made with 99.9% pure silver, X-STATIC® enhances products with permanent anti-odor and antimicrobial performance. It naturally inhibits the growth of bacteria in apparel and textiles, keeping odors in check and gear smelling fresher http://www.noblebiomaterials.com/category2.asp?itemid=60 (2011-11-25) Safe and non-toxic, containing no chemical or pesticides http://www.x-staticfiber.com/index3.htm (2011-11-25)	Textile fibre	Apparel and textiles as hosiery, cycling gear, golf wear, running apparel, ski wear, yoga wear. Fabrics made with X-STATIC® CircuiteX® textile product for power and data circuits and other high tech applications http://www.noblebiomaterials.com/category2.asp?itemid=144 (2011-12-05)

5.1.1 Polygiene partner companies and some examples of their biocide treated products

<http://www.polygiene.com> (2011-12-05)

Brand/company	Biocide treated product types
Bailo	
Bikers	Motorcycle thermal underwear and accessories
BMW Motorrad	
Briko	
Buff	Odour-free winter sportswear
Duca del Cosma	Golf clothes
Eider – pure equipment	
Haglöfs	Odour-free winter sportswear
Henri Lloyd	
Hillet	
Houdini	Odour-free winter sportswear
Hummel	
Intersport	
Jack Wolfskin	
Lowe Alpine	Odour-free winter sportswear
Maloja	T-shirts, shirts
Mountain Equipment	
Nalini	
Nolan	
Norrøna	Shirts, jackets and T-shirts http://www.norrøna.com/ (2012-01-11)
Ortovoxx	Odour-free winter sportswear
Outdoor Research	
Outlyne	Sport clothes
Peak Performance	Odour-free winter sportswear
Poc	Helmets
Polartec	All Power Dry® fabrics
Rab	
Rohan	
Röjk	Sport clothes with focus on winter sports http://www.addnature.com/product.aspx?pf_id=ROJKCOOLCLAVA# (2011-12-04)
Salewa	
Sole	
Ufeventure	
Wind stoppers®	Motorcycle thermal underwear and accessories
Zerofit sports	

5.1.2 Microban partner companies, partner areas and some examples of their biocide treated product types

<http://www.microban.com> (2011-12-10)

Brand/company	Series/brands	Partner areas	Biocide treated product types
Acme United Corporation	Products marketed under Westcott®, Clauss® and PhysiciansCare®	Europe, America, Asia-Pacific	Consumer products: scissors, rulers, protractors, erasers, floral cutting tool products
Acrylicon		Europe, America	Building materials: Acrylicon floors
Adamo	Sanaliving premium range of plastic dining products http://www.adamo.it/img/SANALIVING%202011.pdf (2011-12-05)	Europe	Consumer products: salad bowls, plates, canisters, food containers and salad servers. New 2011: fabrics made with X-STATIC® CircuiteX® textile product for power and data circuits and other high tech applications
Aluf plastics	Super-Lene®, Pro-Lene® and ALUF's COEX Supertuff	America	Consumer products: plastic garbage bags
Armaflex	Armacell	America, Europe, Sweden	Building materials: insulation of HVAC systems in commercial and residential buildings http://www.armacell.com/WWW/armacell/INETArmacell.nsf/standard/EDECA0C8497A32C7C125781C005E29B9 (2011-12-15)
Barefoot spas	Barefoot spas, Barefoot Fitness spas	Europe	Consumer products: spas
Bata	Bata		Textiles, consumer products: footwear
Bauer	Bauer Hockey		Built-in helmet paddings
Bauknecht			Consumer products: dishwashers, refrigerators and washing machines
Baukulit			Building materials: exterior plastic facades, plastic ceilings, wall and balcony paneling, roof underside paneling, installation ducts and pipes, cable housings
BJC Cellox			Consumer products: tissue paper
Clou			Consumer products: for treating wooden surfaces of interior decoration in schools, hospitals, offices etc.
Colop		Europe	Consumer products. New 2011: stamps http://www.canmarkindustries.com/?p=13&option=com_wordpress&Itemid=13 (2011-12-05)
Conair Corp	Conair®, Scunci®, Pollenex®, Interplak®, Rusk®, Cuisinart®, Waring®	America	Consumer products: combs, brushes, rollers, shower caps and more
Contour Showers		Europe	Building materials: shower trays
Cool Blue Box		Europe	Commercial: boxes for transportation of fish
Dirt Devil	Pulse Home Products	Europe	Consumer products: hand-held vacuum cleaners
Dunlop	Adhesives products	Europe	Building materials: finish for tiled surfaces
Dunlop Living	Home Comfort Solutions	Asia-Pacific	Textiles: pillows, quilts, sleeping bags and foam mattresses
DuPont		America	Consumer products: air filters, water pitchers and water filters

Brand/company	Series/brands	Partner areas	Biocide treated product types
Early Childhood Resources		America	Consumer products: rest cots, resin chairs and tables, wooden classroom furniture and soft play environments
EGL Homecare		Europe	Consumer products: cleaning cloths (non-woven and woven), abrasive scourers (domestic and industrial), sponge scourers, cellulose sponges, cotton and synthetic mops, bath sponges, automotive cleaning products and numerous associated articles
Fellowes		Europe	Consumer products: computer keyboards, mice, mouse pads and other ergonomic essentials
Galiperfil		Europe	Consumer products, building materials: natural wood mouldings
Gap	GAP Kids brand	Europe, Americas	Textiles: socks
Granorte	Floating floor line and cork underlay flooring	Europe	Consumer products, building materials: flooring products
Grundig	Bodyguard and Little Guard	Europe	Consumer products: vacuum cleaner
Hobart	Hobart 2000 Series slicers	Europe, America	Cleaning buckets
Indesit	Hotpoint® products	Europe	Consumer products: incorporated into refrigerator linings and door furniture
iSkin	iSkin	America	Consumer products: electronic accessories as coverings for iPods, Mp3 players, cell phones, as well as Apple keyboards, mice and laptops
Johnson & Johnson	Reach	Asia-Pacific	Consumer products: toothbrushes
Koala Kare Products		Europe, America	Baby changing stations
Kottman & Gosla			Consumer products: shower hoses
Neckerman		Europe	Consumer products: rugs
Neoflam		Europe	Consumer products: cutting boards and vacuum saver food storage products
New Balance		America	Textiles: footwear
Normbau		Europe	Door levers, pull handles, grab bars, handrails, balustrades, sanitary fittings and bathroom accessories as well as a complete system for toilet partitions in nylon and stainless steel
Oakley	SNARE™ sandal collection	Europe, America, Asia-Pacific	Consumer products: sandals
Panariagroup	Cotto d'Este, Lea, Fiordo, Margres, Love Tiles and Panaria	Europe	Building materials: built into the main lines of ceramic flooring and covering tiles in stoneware and laminated stoneware
Phifer	SheerWeave fabrics	America	Textiles: fabrics
Reebok International	Authentic NFL	Europe, America, Asia-Pacific	Textiles: sportswear
Sharp Electronics			Consumer products. New 2011: calculators http://www.prnewswire.com/news-releases/microban-signs-exclusive-agreement-with-sharp-electronics-to-launch-calculators-with-new-microban-3g-silvertm-antimicrobial-technology-78996057.html

Brand/company	Series/brands	Partner areas	Biocide treated product types
			(2011-12-09)
Silver Cross	Sovereign and brunch highchairs, Boost table seat, Spa bathing unit	Europe	Consumer products: kids equipment
Super Lock Dual Action	Super Lock		Consumer products: food storage containers http://superlock.se/index.html (2011-12-09)
Tong Siang Co. Ltd		Asia-Pacific	Textiles. New 2011: sports apparel
Teva		America	Textiles: Shoes, boots and sandals
TOA Paint	SuperShield DuraClean, SuperShield All, SuperShield Polyurethane Extra	Asia-Pacific	Building materials: paints and coatings
VDM		Europe	Consumer products: cleaning buckets
Venture	Best-Step™, Funplay™, Organized by Design™, Safety 1st®, Shock Athletic™	America	Consumer products: on-floor solutions

5.1.3 Sanitized partner companies, active substances and some examples of their biocide treated products

<http://www.sanitized.com/> (2011-12-05)

Brand/company	Active substance	Series/ Brands	Biocide treated product types
Franke	Sanitized® Silver http://www.franke.com/kitchensystems/uk/en/home/products_information/franke_materials/fraganite_/sanitized.html (2011-12-08)	Fragranite®	Kitchen sinks made of real granite and composite resins
Hansgrohe	Silver	Novaflex, Isiflex	Shower hoses http://www.vvsinfo.se/upload/hansgrohe%20antibakteriella%20duschslangar.pdf (2011-12-01)
Solidea	Silver	MerylR Skinlife	Stockings http://www.diatermikliniken.se/solidea.htm (2011-12-01)
Levi's®	Sanitized™ T20-19, quaternary ammonia salt http://www.swampfox.ws/2010/12/15/sanitized%C2%AE-launches-t20-19-new-economical-and-ecological-antimicrobial-product-designed-c (2011-12-08)	Commuter series	New 2011: clothes, jackets and trousers http://www.pdnonline.com/impressions/industry-news/Levis-Commuter-Se-1899.shtml (2011-12-05)

5.1.4 *SteriTouch partner companies and some examples of their biocide treated products*

<http://www.steritouch.com> (2011-12-05)

Brand/Company	Biocide treated product types
A little touch of Genius, ALTG 360°™ Welsh	AnyWayUp polypropylene cups
Advanced Communication Solutions	Silicone ear pieces
Aspex UK	Architectural ironmongery
Autron	Low surface temperature radiators
Crown Trade	Steracryl antimicrobial paint
GLASSeco	Worktops
Jackson Beazeley limited	The Wean Machine Infant feeding aid
Proporta	Silicone phone covers
Ultrawave	Hygea ultrasonic cleaning bath

5.1.5 *X-static partner companies and some examples of their biocide treated products*

<http://www.noblebiomaterials.com/> (2011-12-05)

Brand/company	Biocide treated product types
Brooks	Apparel and accessories
Cabela's	Socks
Fox River	Socks
Giro	New 2011: shoes and helmets
Lazer	Helmets
Lululemon	Apparel and accessories
Mico	Socks
REI	Socks
Shock Doctor	Protective gear
Smith	Helmets
Spyder	Skiwear
Sunice	Apparel and accessories
Thorlo	Socks

5.2 Selection of identified consumer products with biocide treatment

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Active Odor Control Wash-In	Active Odor Control Wash-In	Liquid	Polygiene	Polygenic Wash-in neutralizes odors in a safe and environmentally sound manner. Treatment inhibits bacterial growth in clothing and other textiles and makes sure you do not need to wash your clothes function as often http://travelheroes.se/b2c/Servlet?page=11&parent=sN110&sort=61&nr=POWASHIN (2011-11-21)
Active Odor Control	Stay Fresh Active Odor Control Spray	Liquid	Polygiene	Polygiene is a breakthrough, patented antimicrobial technology that employs ionic silver to inhibit the growth of micro-organisms. Independent tests have shown the technology to have high efficacy against harmful bacteria and fungi, even against the SARS virus when used with products manufactured from amino moulding compounds http://www.v15.gr/products.asp?product_id=1292&gear_id=240&lang_id=1 (2011-11-26)
Baby bottle	Kid Basix safestarter baby bottle	Plastic	Antimicrobial	Does not leak and is antimicrobial http://barnvagnsmagasinet.se/nappflaskor/451-kid-basix-safestarter-nappflaska-265-ml.html (2011-12-01)
Beanie	COOL BEANIE	Textile	Polygiene®	Permanent odour control from Polygiene® Natural Silver Salt Technology http://www.haglofs.com/en-us/products/clothing/layers/accessories/unisex/COOL-BEANIE.aspx (2011-11-26)
Bra posts	Medela bra posts		Antimicrobial material	Antimicrobial material reduces odor and the risk of bacterial growth http://www.barabus.se/produkt509/81_/medela_bh-inlagg_flergangsanvandning_(4_pack).html (2011-12-02)
Calculator	CALC F-718SGA-BLACK	Recycled photocopier material	Antimicrobial (inorganic)	Canon's antibacterial function calculator helps eliminate potential health hazards because the keys are coated with an approved, inorganic antimicrobial agent. Approved by the US Food & Drug Administration. Testing of antimicrobial effectiveness was conducted and certified by SIAA (Society of Industrial-Technology for Antimicrobial Articles) ISO 22196 (JIS Z2801) https://store.canon-europe.com/DRHM/store?Action=DisplayProductDetailsPage&SiteID=canoncon&Locale=sv_SE&nv=BASE&productID=228577500 (2011-12-08)
Carpet	Carpet	Textile	Balsan SilverCare®	Effective protection against bacteria, dust mites and unpleasant odors. The system is based on a natural technique in which silver ions penetrate into the carpet and textile fibers enclose with a protective layer http://www.idecollection.se/vara-golv/textilgolv/balsan-silvercare (2011-11-28)

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Carpet	Fashion carpet tiles with gold	Textile	Antibacterial	http://www.alibaba.com/product-gs/481760383/1200_1800mm_Fashion_carpet_tiles_with.html (2011-12-03)
Case	iPhone 4 iSkin - Solo VU Silicon Case	Silicon	Microban	Antimicrobial protection to inhibit the growth of bacteria and fungi on the product http://www.mytrendyphone.se/shop/iphone-4-iskin-45552p.html (2011-12-02)
Cat litter	Lightweight Non-Clumping Antibacterial by Pets at home	Sepiolite clay granules	Microban	The super absorbency of Lightweight Non-Clumping Antibacterial Cat Litter will help to keep your cat's litter tray hygienic, making it a safer environment for your cat http://www.petsathome.com/shop/lightweight-non-clumping-antibacterial-cat-litter-25ltr-by-pets-at-home-15261 (2011-12-04)
Changing station	Koala kare baby changing station	Polyethylene	Antibacterial	When microbes, such as bacteria, mold and mildew that can cause stains, odors and product deterioration come in contact with the product surface, Microban protection penetrates the cell wall of the microbe and disrupts key cell functions so that the microbe cannot function, grow or reproduce http://www.ameraproducts.com/Koala_Bear_Kare_Baby_Changing_Stations.htm (2011-12-03)
Cleaning cloth	E-cloth Microfibre Cleaning Cloth	Microfibre	Antibacterial	http://www.amazon.com/E-cloth-Microfibre-Cleaning-Cloth-Anti-Bacterial/dp/B001BO76KG (2011-12-03)
Cups	4 Seasons Ecological and antibacterial Cup	Ceramic	Antibacterial	High efficiency and long-term antibacterium functions. Activating and purifying water http://factory.dhgate.com/ceramic-cups/4-seasons-ecological-and-antibacterial-cup-p46044108.html (2011-12-03)
Cutting board	Chef's Edge Color ID Cutting Boards with Microban	Plastic	Microban	Protection built into cutting board inhibits the growth of bacteria. Meets EPA and FDA guidelines http://www.akitchen.com/store/ce-boards.html (2011-12-03)
Diapers	Breathable Cotton Antibacterial Super Bibulous Baby Diapers	Cotton	Antibacterial	This cotton baby diaper is super bibulous, which offers extra protection to your baby http://www.shopbot.ca/ps-breathable-cotton-antibacterial-super-bibulous-baby-diapers-41066605.html (2011-12-19)
Ear Tones	iSkin earTones	Silicone	Microban	To keep clean the headset has iSkin Microban on earphones and microphone. Microban inhibits the growth of odor, fungal stain and bacteria, http://www.iphonebutiken.se/iskin-eartones-1589.html (2011-12-03)
Fitness ball	Togu MyBall with actisan	Plastic	Antibacterial	The Togu MyBall is equipped with an Actisan addition making the gymnastics ball antibacterial and antimicrobial for a hygienic workout http://www.sport-tiedje.se/se/Togu-MyBall-55-cm-mit-actisan-TOGU-420430-TOGU-420440 (2011-12-08)

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Food storage bag	Food Storage Bag, Rambo Guard		Microban	Antimicrobial fabric http://www.alibaba.com/product-free/109049118/Antimicrobial_Food_Storage_Bag.html (2011-12-03)
Garbage bag	Antibacterial garbage bags	Plastic	Sanitized	The bags have a special antimicrobial additive Sanitized® that prevents from developing bacteria and other pathogens. http://www.alibaba.com/product-free/212687663/Antibacterial_garbage_bags_35_L.html (2011-12-04)
Gloves	Foam Coated Bamboo Gloves	Foam coated	Antibacterial	Naturally anti-bacterial (bacteriostatic) 100% Organic Certified Oeko-Tex 100 Standard http://www.gloves-online.com/proddetail.php?prod=WK-CGO-888 (2011-12-07)
Gloves	Winter warm Antimicrobial working glove	Latex	Antimicrobial	Antimicrobial brushed working glove http://factory.dhgate.com/safety-gloves/winter-warm-antimicrobial-brushed-working-glove-p47854587.html (2011-12-05)
Helmet	Bauer 9900 Combo	Textile pad	Microban	Antibacterial protection http://www.hockeymonkey.eu/sv/hjalm-bauer-9900-combo.html (2011-11-29)
Insole	Leather insoles	Leather	Antibacterial, odourless	Combined with natural activated carbon, these leather insoles help keep your feet dry, odourless and with their antibacterial properties, guarantee optimal foot hygiene, http://localmobility.co.uk/product_info.php/products_id/2153 (2011-12-15)
Jacket	Burton	Textile	X-Static silver fiber	http://www.junkyard.se/Product.aspx?ProductId=13303&ProductDetailId=84262 (2011-12-01)
Jacket	Trackable Jacket, Oakley	Polyester and spandex	Antibacterial	Antibacterial action to feel fresh and comfy, http://www.oakley.com/women/products/trackable-jacket/511413-82D (2011-12-03)
Keyboard	Keyboard Polygiene	Plastic	Polygiene	Studies conducted in recent years have shown an increasing problem with bacteria that live and thrive in the keyboard. It has been shown that the keyboard is spreading more bacteria than a toilet! Now launch the unique keyboard with the Swedish compound Polygiene as in an environmentally and skin friendly manner prevents bacteria to live and multiply on the keyboard, http://www.ergonomi.se/tangentbord-polygiene-p-632-c-160.aspx (2011-12-02)
Knife	New Rachel Ray Knife antimicrobial handle Gusto Grip	Polypropylene core covered with thermoplastic synthetic rubber	Microban treated handle	New antimicrobial inhibitors are incorporated directly and permanently into the handles during the manufacturing process finger groove for control, http://www.ebay.com/itm/NEW-RACHAEL-RAY-KNIFE-ANTIMICROBIAL-HANDLE-GUSTO-GRIP-/270337491522#vi-desc (2011-12-03)

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Knives	Victorinox 4622.30	Plastic handle	Microban	Antibacterial protection in knife handles. Microban® inhibits the growth of bacteria and for hygienic protection throughout the blade life. Benefits of Microban® <ul style="list-style-type: none"> • More hygienic protection when working with sensitive products. • Reduces the risk of infection transmission through hand contact. • Eliminates reproduction of bacteria ex. Salmonella, Listeria, <i>E coli</i>, Staphylococci and Streptococci. • The antibacterial protection is permanent because the plastic is coated throughout the manufacturing process. • The antibacterial protection is sufficient material life, http://web.sliptkliniken.se/contents/sv/d110.html (2011-11-21)
Mattress protector	Anti Bacterial Mattress Protector, King	Textile	Treated with an antibacterial agent	This antibacterial Teflon® king-size mattress protector is made from fibres treated with an antibacterial agent, providing an ideal solution for those with allergies. This treatment also helps with dust mite resistance http://direct.tesco.com/q/R.100-2901.aspx (2011-11-29)
Mop	Fuller Brush Workhorse Traditional Blended Yarn Wet Mop	Synthetic blended yarn	Antibacterial	Antibacterial mop heads, http://www.bettymills.com/shop/product/view/Fuller%20Brush/FLB28516B.html (2011-12-03)
Mouse	Waterproof mouse	Plastic	Antibacterial treatment of the plastic	Antibacterial treatment of the plastic allows the bacteria are much more difficult to "take hold". Although it is not washed, it is bacteria lower than in normal mice http://ergonomiprodukter.se/visa_produk.asp?id=767&t=Vattens%E4ker+mus%2C+Svart (2011-12-02)
Pants	Adidas golf ClimaLite® warm winter weight pant	Textile	Antimicrobial	ClimaLite® fabric is antimicrobial, quick-drying and moisture-wicking to make sure you stay clean and comfortable during your round http://www.zappos.com/adidas-golf-climalite-174-warm-winter-weight-pant-black-black?utm_source=shopstyle (2011-12-05)
Pencil	DIX 13953 Dixon Ticonderoga Woodcase Pencil	Wood	Microban	Inhibits the growth and spread of germs to keep you safe and healthy http://www.office-supplies.us.com/Wood-Pencils-Dixon-p/dix13953.htm (2011-12-08)
Pillow	Microshield pillow	Textile, (outer cotton, filling fibre)	Anti-fungal and anti-bacterial	Anti-fungal to prevent dust mites. Anti-bacterial to prevent skin bacteria irritants. Keeps your bedding fresh and clean http://www.puraspace.com/pillows/anti-bacterial-pillows/microshield-pillow.html (2011-12-05)
Polo shirt	Jockey P77200 Men's Ultimate Tipped Pique Polo Shirts	Polyester	Antibacterial	Anti-bacterial treatment, http://www.buygolfshirts.net/store/pc/Jockey-P77200-Men-s-Ultimate-Tipped-Pique-Polo-Shirts-5p201307.htm (2011-12-12)

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Refrigerator/ Freezer	Whirlpool WBE3623A + NFWF		Microban	Antibacterial coating. Antibacterial filters http://www.hemmabutikerna.se/Koket/Whirlpool_850521601100-1083.aspx (2011-12-01)
Sandal	Teva Infant's Hurricane sport sandals		Microban® Zinc	An environmentally friendly zinc technology that fights the growth of odor causing bacteria and fungus. Built in anti-microbial product protection provides continuous odor control that won't wash off or wear away http://www.teva.com/productdetails.aspx?g=i&productID=6243&model=Hurricane (2011-12-13)
Sandal	Teva		Microban®	Antibacterial insole http://www.friluftsland.se/default.aspx?load=main&&Data=productprops&Key=24897 (2011-12-01)
Salad bowl	Kyoto Bamboo 4pc Salad Bowls	Kyoto Bamboo	Bambo	Antimicrobial and Antibacterial: Protects your food and health! Eco-Friendly: Made with no pesticides, herbicides, fertilizers or artificial materials. http://www.onlyasseenontv.com/site/4pcbowls.php (2011-12-03)
Scissors	Children scissors	Plastic	Handle with Microban coverings.	A built-in antibacterial protection http://www.hidi.se/saxar-och-knivar/857837-sax-barn-set-om-24st-4027521147560.html , (2011-12-02)
Shower curtain	Antibacterial Polyester Shower Curtain	Polyester	Antibacterial	Anti-bacterial polyester curtain fabric http://www.argos.co.uk/static/Product/partNumber/8281216.htm#pdpFullProductInformation (2011-12-03)
Sink	Teka Lugo	Tegranit, similar to natural granit	Pro Clean	Antibacterial protection http://rock-1.se/sv/diskho/108-teka-lugo-60-b-tg.html (2011-12.05)
Sink	Antibacterial Acrylic Solid Surface Kitchen Sink	Artificial marble with acrylic surface	Microban	http://www.alibaba.com/product-gs/425918142/Antibacterial_Acrylic_Solid_Surface_Kitchen_Sink.html (2011-12-03)
Spa	Ultra Wave Sunbelt Spas DeLuxe Wave	Acrylic	Microban	Acrylic with Microban anti-bacterial substance http://fonteynspas.se/sida7.html (2011-12-02)
Sponge	Scotch Brite™ 3000 Power Sponge	Cellulose	Sanitized®	These dual-action cleaning pads carry a unique antimicrobial protection--promoting both a clean and sanitary kitchen http://www.shoplet.com/Scotch-Brite-trade-3000-Power-Sponge/MCO3000/spdv (2011-12-05)
Table set	Table set BACT-O- CLEAN	Plastic	BACT-O- CLEAN, antibacterial	Antibacterial and contains BACT-O-CLEAN, antimicrobial additives inhibit the growth of various bacteria and viruses such as <i>E. coli</i> , Listeria, MRSA and Salmonella http://www.durable.se/se/produkter/detail/5912/Bordsstll_BACTOCLEAN.html (2011-12-02)

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Teddy Bear	Benny the Bear Antimicrobial Stuffed Toy	Foam	Antibacterial	World's first anti-microbial toy protects the product and your children against bacteria, mites or mold and kills odor-causing bacteria http://www.overstock.com/Baby/Benny-the-Bear-Antimicrobial-Stuffed-Toy/2876408/product.html (2011-12-04)
Toilet lid	Hafa Moon Design WC Lock Svart	Plastic	Antibacterial	Toilet lid of antibacterial plastic http://www.vvsochbad.se/Badrum-Toaletsitsar-Hafa--Hafa-Moon-Design-WC-Lock-Svart-357355.html (2011-12-04)
Toilet paper	Anti-bacterial disposable toilet paper tissue roll	Paper	Antibacterial	Anti-bacterial kitchen toilet paper roll http://honglipaper.en.alibaba.com/product/389593039-209817361/anti_bacterial_disposable_toilet_paper_tissue_roll.html (2012-01-05)
Toothbrush	Butler GUM Travel Toothbrush Antibacterial Bristles	Plastic	Antibacterial	Bristles have a patented Chlorhexidine antibacterial coating for continuous bristle protection during the recommended life of the brush. Bacterial growth that may affect the bristles is inhibited http://www.just4teeth.com/Butler-GUM-Travel-Toothbrush-Antibacterial-Bristles (2011-12-03)
Toothbrush	Oral B Advantage Complete Manual Toothbrush - Anti- bacterial – Soft	Plastic	Antibacterial	Oral-B Advantage Complete has anti-bacterial bristle protection to help keep your toothbrush bristles clean between brushing for up to 3 months. Features anti-bacterial bristle protection to help keep bristles cleaner between brushing http://www.toothshop.co.nz/afawcs0149423/CATID=15/ID=287/SID=210922750/Oral-B-Advantage-Complete-Manual-Toothbrush-Anti-bacterial-Soft.html (2011-12-08)
Toothbrush covers	GUM® Protect® Toothbrush Covers	Plastic	Antibacterial protection	Antibacterial toothbrush covers keep your brush cleaner between uses http://www.gumbrand.com/toothbrush-covers/products/gum-protect-toothbrush-covers/ (2011-12-05)
T-shirt	Medalist Silvermax T-Shirt	Textile	Antimicrobial	Medalist® Silvermax™ powered by X-STATIC® is a high performance fiber with a 360° layer of 99.9% pure silver fiber - the world's most effective ANTIMICROBIAL agent. Worn next-to-skin, Medalist® Silvermax™ instantly inhibits bacterial growth, while neutralizing ammonia and denatured proteins which cause odor, achieving all day odor free protection http://www.odourfresh.co.uk/item.jsp?id=1641 (2011-12-08)
Underwear	Bamboo Fiber Women's Underwear	Bamboo/Spandex (nylon/rayon/polyester)	Anti-fungal and anti-bacterial	This is high quality thermal underwear made of bamboo charcoal fiber, not only hygroscopic and breathable, but also antibacterial and deodorant, Bamboo charcoal material for deodorization and quick absorption of moisture, bringing and keeping dry and fresh. Charcoal will release far infrared, and thermal effects, can help smooth the blood circulation, help the immune system active. http://nbfanghung.en.made-in-china.com/product/VbpxCkerhKRP/China-Super-Thin-Bamboo-Fiber-Women-s-Underwear-K-501-K-502-.html (2011-12-06)

Product	Trade name Product type	Main material	Biocide treatment	Claims made
Vacuum cleaner	Grundig Hand Vacuum Cleaner VCH8830		Antibacterial	Antibacterial Microbes Hygiene protection in filters and container http://shop.conrad-uk.com/1/2-a2-uk0855250_grundig-hand-vacuum-cleaner-vch8830-vch7630-.html (2011-12-03)
Wallpaper	Earth Tone Geometric Style Wallpaper	Vinyl	Microban	Antimicrobial Product Protection works to inhibit bacterial odors, stains and mold and mildew growth http://www.homedepot.com/webapp/wcs/stores/servlet/ProductDisplay?storeId=10051&productId=100629873&langId=-1&catalogId=10053&PID=500871&cm_mmc=CJ--500871--10368321&cpncode=18-107971563-2&AID=10368321&cj=true&srccode=cii_9324560&locStoreNum=121 (2011-12-28)
Wallpaper	Cupcake Wallpaper	Non-Woven paper	Antibacterial	Antibacterial http://www.grahambrown.com/us/search/product?query=antibacterial&filter=+%2BCollection_t%3A%22Contour+Anti-Bacterial%22&max=24&offset=0&sort=&order= (2011-12-28)
Washing ball	Swipe ball (antibacterial)		Microban	Swipe Ball containing silver nitrate as a silver salt found in nature. The ball has a core of fibers with silver nitrate ions. At each washing ball emits billions of ions, which effectively ensures that the bacteria disappear http://www.gunico.se/produkter.asp?ID=VisaProdukt&PKID=103&PID=1018&v=0&LevID=48 (2011-12-08)
Washing-up brush	Washing-up Brush antibacterial Rösle	Synthetic material	Antibacterial	Antibacterial http://www.alltikok.se/index.php?page=shop.product_details&category_id=76&flypage=flypage.tpl&product_id=575&option=com_virtuemart&Itemid=54 (2011-11-18)

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