

bluesign®



The bluesign® standard

The challenges for tomorrow's textile industry

bluesign®

Increasing prices of raw material – due to scarce availability of resources – and active environmental protection are the challenges faced by a future-driven textile industry. Being successful in the market place requires taking responsibility when it comes to environmental and consumer protection and prioritizing the ecological footprint as a prerequisite in corporate strategies. The bluesign standard optimizes the entire textile production process sustainably and reduces harm to the environment and to human health to a minimum. Decreasing production cost, increasing competitiveness and long-lasting innovation speak also for commercial success.

Global production of textiles

The relocation of the production due to globalization creates an additional level of complexity for the sustainable textile production, as different nations have different environmental laws – or even none at all. To secure a “clean” production by manufacturers, trade and brands around the world refer to the Restricted Substance List (RSL). But who can take responsibility of confirming compliance with the RSL? In contrast, the bluesign standard can secure a global transparent, safe and economical textile production.

Complex rules

The complexity of the textile supply chain is growing constantly in many of the producing countries. For example, the European chemical regulation Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) requests that companies autonomously report and register known and innovative chemicals. This is a complex and costly effort that tends to create competitive disadvantages. bluesign technologies ag's simple solution to this problem is providing its partners with its infrastructure and its constantly updated expertise in form of the bluesign standard.

Scarcity of resources

The global shortage of various resources such as water and non-renewable energy forces the textile industry to make sustainable and effective use of them. Fluctuating and constantly rising prices of raw materials become an unpredictable constant of corporate budgets, compromising the competitiveness.

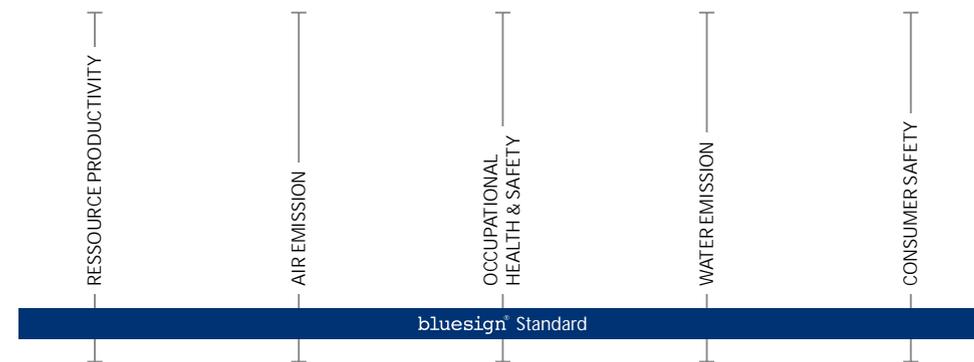
Critical consumers

The number of demanding and critical consumers requesting transparent value chains and high-quality, harmless and environmentally safe products is constantly growing. This is a challenge that future-driven businesses have to accept long before politics, legislators or authorities force them into a new way of thinking.

Eco-labels

Traditional test procedures tell half-truths

There is by no means a lack of responsible and innovative businesses, which are willing to implement sustainability and consumer protection in the textile industry. But there is a lack of a wide-ranging tool helping to achieve this.



What about consumption of resources and working conditions?

Traditional test procedures – such as standards based on analyses, eco-labels or RSLs – mostly focus on consumer protection and thus aim at detecting potential harmful residues in finished products. However, the latter cannot be guaranteed by simply testing the finished product since the applied analyses at final production time can only assess a fraction of the problematic substances involved. A product inspection at the very end will always factor out the entire textile value chain, the work conditions or the careful management of resources like water, non-renewable energy or raw materials.

How relevant is it to test the finished product and thus only cover a fifth of the problematic substances involved? The educated consumer, the brand or the retailer need and want to know a lot more: How do manufacturers handle the necessary resources, exhaust or wastewater; are the workers sufficiently protected?



We all know the studies provided by the NGOs and several environmental protection agencies from around the world. Pollution caused by accidental spilling of wastewater into freshwater reservoirs, excessive pollution of the sewage. Not to forget the exhaust air, which is too often not purified. All these issues are not reflected by the finished product and cannot be detected. The consumer remains in the dark and purchases a seemingly risk-free product.



The bluesign® standard
Environment, health and safety as a strategy



With the global seal of approval for environment, health and production safety, the bluesign standard helps the textile industry and its suppliers establishing sustainable products without compromising functionality, quality and design.

Resource and environmental management

bluesign technologies ag's goal is that products used in the fabrication and finishing of natural and synthetic fibers be solely those which have met the strictest criteria worldwide and whose producers have subsequently been audited by bluesign. bluesign technologies ag screens entire production processes and issues recommendations fully equivalent, but harmless ingredients as an alternative, based on the principle of "Best Available Technology" (BAT; in this case Best Available Internal Technology, meaning that the company's installed technology is evaluated and then optimized for the processes).

Fully independent Switzerland-based bluesign technologies not only follows the strictest international environmental standards and threshold values, but also defines the only world-wide standard, which is based on its own extensive risk assessments in the areas of consumer protection, environmental protection and workplace safety. Thus, bluesign technologies ag offers its system partners a guarantee of environmental safety and production harmlessness; creates transparency for businesses, consumers and the public; and reflects "the whole truth".

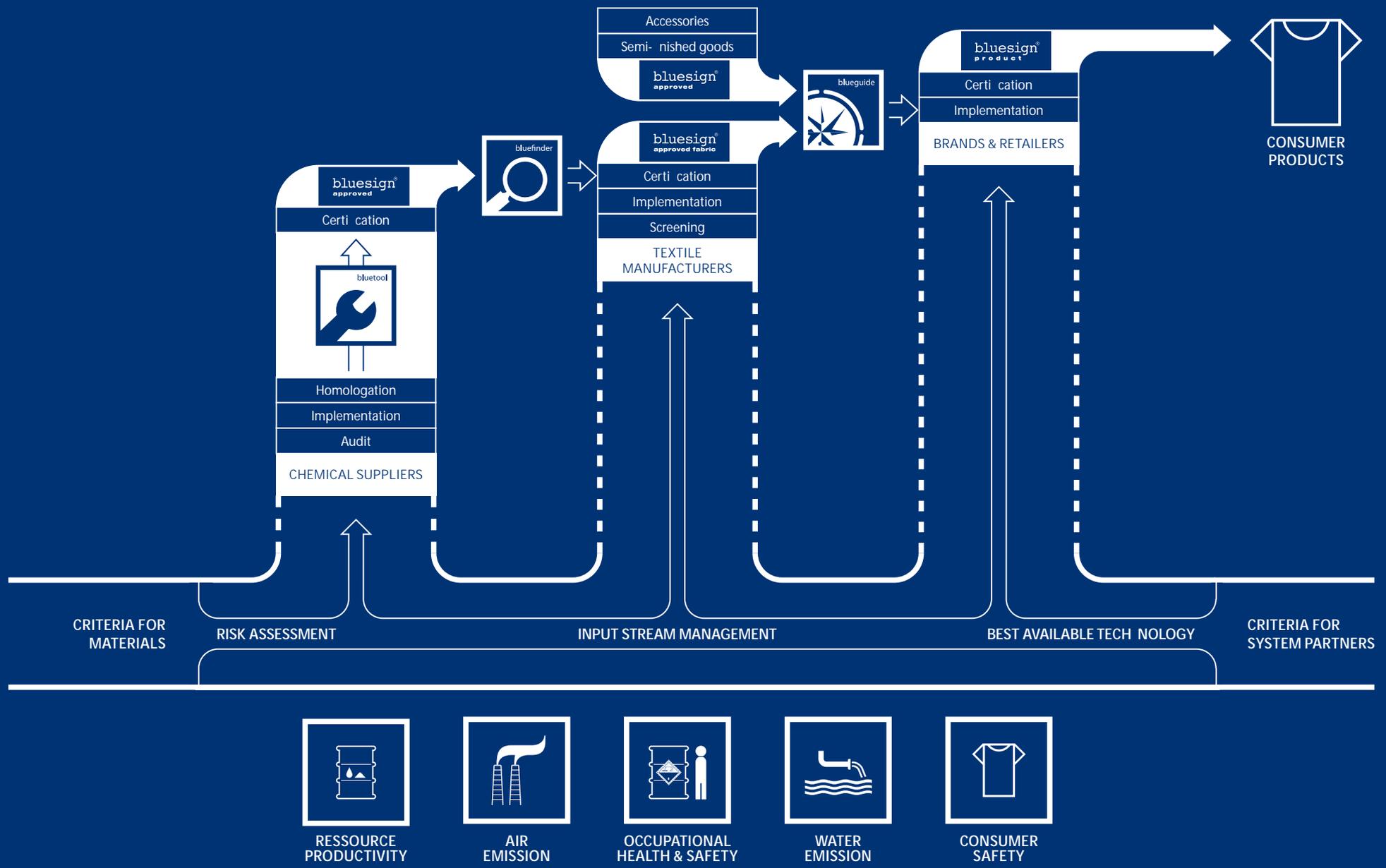
Quality and cost management

The continuous optimization of operational and production processes through the bluesign screening creates maximum cost efficiency when optimally using resources; it also fosters a long-term innovative development for chemical suppliers, manufacturers, retailers and brands. Environment and health become important pillars of a successful corporate strategy.



The bluesign® standard Function and approach

The bluesign standard is based on five principles of sustainability. These are namely resource productivity, consumer safety, air emission, water emission and occupational health & safety. The goal of the bluesign standard is the pursuit of these five principles on all levels of the entire production chain.



To apply these five principles of sustainability consequently, the bluesign standard is using the “input stream management” approach. The focus is not on the finished product but rather on the individual components, which are entering the production processes. For the purposes of the five principles, the approach does not only include the raw materials, but also the consumption of resources. This guarantees that harmless ingredients are used during a clean and resource-efficient process, which involves several intermediate steps and manufacturers, which again leads to completely safe final products. Based on the five principles and input stream management approach, the bluesign standard prescribes several criteria. These are divided into criteria for system partners and criteria for applied materials.

The **criteria for system partners** follow the “Best Available Technology” (BAT) principle. To achieve this, the bluesign standard considers the locally available technologies and assesses the best procedures to allow for a production involving the least possible use of resources.

The **criteria for materials** assess complex risk and exposure scenarios and then determine not only acceptable and sustainable threshold values for the final product but, even more importantly, threshold values for deployed chemicals and auxiliaries. By these means, the complex eco-toxicological data is translated into an easy to understand rating, which immediately provides information on what needs to be taken into account when using a specific chemical product.

The five principles of the bluesign® standard



Those operating sustainably – meaning conserving resources and reducing the environmental impact to a minimum – also act responsibly and innovatively. Wanting to produce sustainable goods though involves a detailed examination of all materials and processes used as well as the impact of the production on the environment. Only this holistic observation, which starts well before the actual production, will guarantee a final product that is harmless to human beings and the environment.



1. Resource productivity

Resource productivity defines the ecological and economical goal to produce textile products of maximum quality and added value, using a minimum amount of resources as well as causing the least possible environmental impact.



2. Air emission

Air emissions need to comply with strictly controlled emission limits along the entire production chain. Optimizing the energy flow as well as using low-emission components reduces the CO2 load, implicating active climate protection.



3. Occupational health & safety

The health and safety of employees in the textile industry has to be safeguarded by strict guidelines. Weak points occurring locally must be detected. In accordance with the risk-potential of the deployed chemical substances, corresponding occupational safety measures are mandatory.



4. Water emission

Water emission control aims at feeding back purified water into the natural cycle and causing the least possible pollution of rivers, lakes and seas. This can be achieved by the use of ecologically harmless components as well as by optimizing production and wastewater treatment processes.



5. Consumer safety

Consumer safety includes not only the mandate for high-quality textile products without health risks, but also the assurance that all of the principles of sustainability are consistently implemented during the production process.

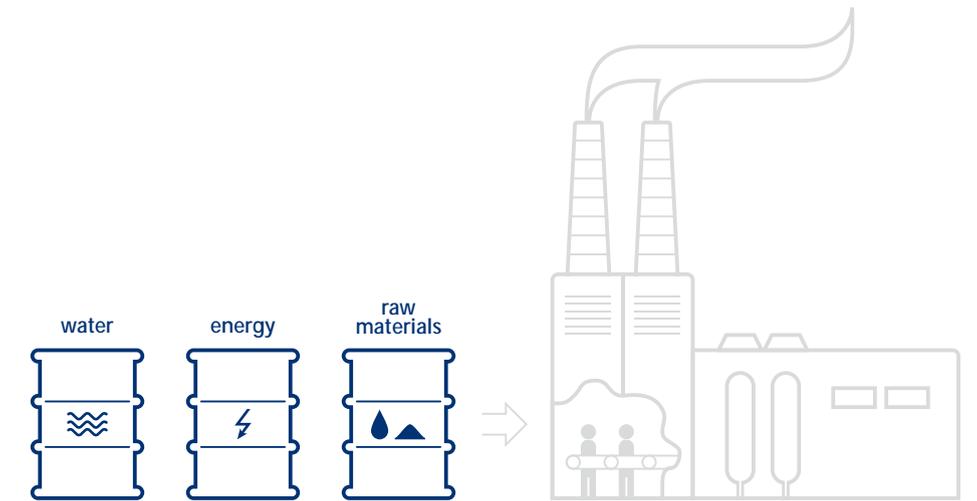


Resource productivity

Cautious use of energy and raw materials

1
principle

Resource productivity defines the ecological and economical goal to produce textile products of maximum quality and added value, using a minimum amount of resources as well as causing the least possible environmental impact.



Improved resource productivity automatically involves improved cost efficiency. The environmental impact decreases by a reduced use of resources. Simultaneously, the added value of the produced textile goods increases. It all ends with the ecological footprint. It is com-

posed of energy and material input per kilogram of manufactured textile product. The bluesign standard assists in optimizing this process, meaning: both energy and material input are minimized.



2

principle

Air emission

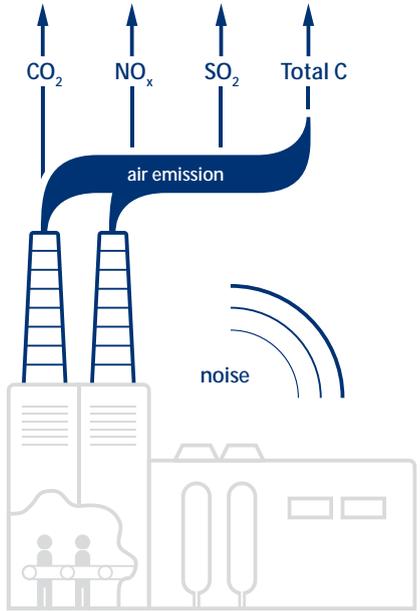
Less air pollution for a better climate

Air emissions need to comply with strictly controlled emission limits along the entire production chain. Optimizing the energy flow reduces the CO2 load, implicating active climate protection.

During all phases of textile production exhaust air is emitted. On the one hand, it can either be generated by the deployed raw fabrics or by the chemicals or other resources used. On the other hand, its origin may lie directly in the facilities or in the factory's energy production.

The bluesign standard comes into effect throughout all phases. Primarily, it is about avoiding potential emissions from the outset. This starts with the selection of the raw materials and the chemical products. The bluesign standard specifies strict critical values for substances and materials, which have an impact on air emission. This may not only reduce emissions within the own company, but also avoid emissions during subsequent processes.

In case air emissions remain significant, the exhaust air needs to be treated with adequate purification equipment. This is the only measure to ease the burden on the environment and to actively contribute to the reduction of greenhouse gas emissions.



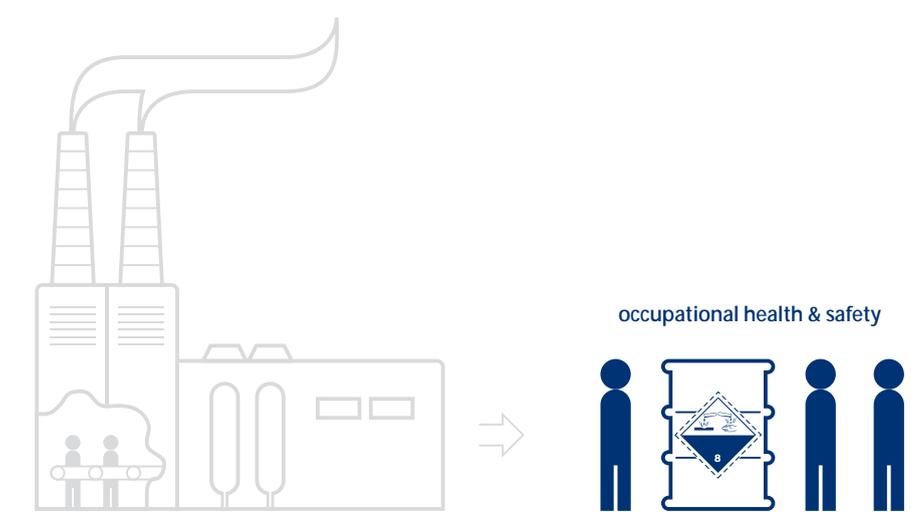


Occupational health & safety

Health and safety at work



The health and safety of employees in the textile industry has to be safeguarded by strict guidelines. Weak points occurring locally must be detected. In accordance with the risk potential of the deployed chemical substances, corresponding occupational safety measures are mandatory.



Many of the chemical products used in the textile production process involve a certain risk factor regarding health and safety at work. This is relatively normal when handling chemicals. It becomes all the more important to protect employees in the textile industry from potential hazards. Therefore, the bluesign standard indicates training programs for

employees regarding the storage and handling of hazardous substances. Occupational health and safety also includes the protection against environmental pollution such as dust and noise. With the bluesign standard, the situation on the spot is evaluated and according to the guidelines of work safety, appropriate measures are stipulated.



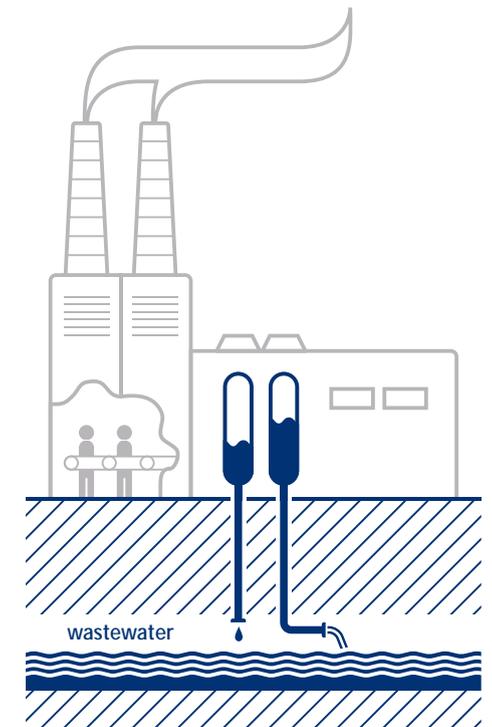
Water emission

Improved protection of the entire water cycle

4
principle

Water emission control aims at feeding back purified water into the natural cycle and causing the least possible pollution of rivers, lakes and seas. This can be obtained by the use of ecologically harmless components as well as by optimizing production and wastewater treatment processes.

The bluesign standard imposes strict requirements regarding water pollution control. It is necessary to reduce the amount of hazardous substances in wastewater by intelligently selecting the products used in the production process. This can lower the basic contamination of sewage. Additional requirements aim at a properly functioning wastewater treatment. Strict controls of the compliance with sewage limit values ensure the harmlessness of the wastewater. Considering local condi-



tions, the bluesign standard has the objective to only feed water that meets its criteria back into the natural cycle.



Consumer safety

Responsibility for people and environment



Consumers are becoming consistently more critical and do not only question the quality of a product, but also the conditions under which the product is made. Thus, consumer safety includes not only the mandate for manufacturing high-quality textile products without health risks, but also the assurance that all of the principles of sustainability are consistently implemented during the production process.



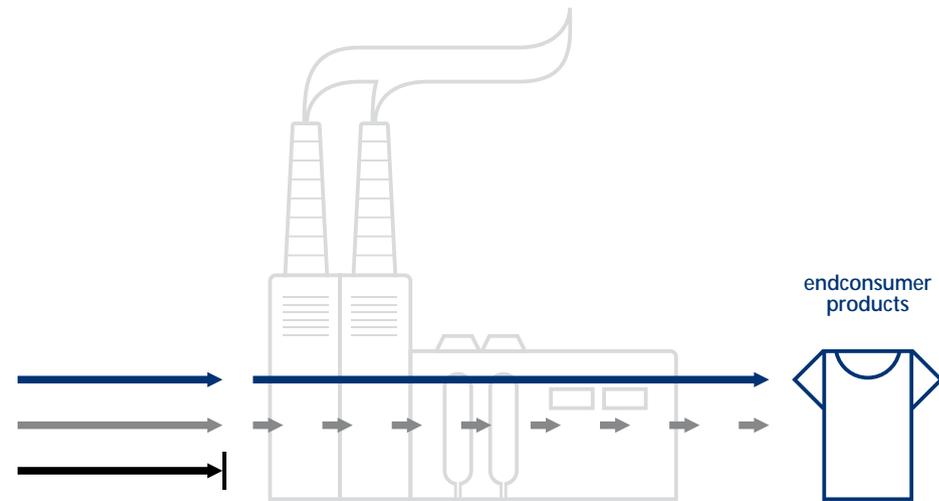
Due to its holistic and systematic approach, the bluesign standard is meeting this challenge. The bluesign standard ensures the exclusive use of components and procedures during the entire production chain that are harmless to human beings and the environ-

ment. Contemporary proactive manufacturers are thus able to meet the demand for sustainable reliable products, well ahead of legal regulations that will sooner than later force them to act.

Input Stream Management

Avoiding problematic substances from the start

How relevant is it to test finished products if new and problematic substances were previously integrated into the production cycle on an on-going basis, or if existing processes and production facilities are environmentally inefficient or even harmful? In order to produce in a sustainable manner according to these factors, the production process needs to be considered as a whole.



This is why the bluesign standard addresses the very root of the problem. Instead of testing a manufacturer's finished product, the applied components and processes are already audited pre-production. This ensures that the use of problematic substances is avoided from the start. This so-called Input Stream Management guarantees the use of harmless ingredients in a clean process, resulting

in an entirely safe finished product regardless of how many intermediate steps or manufacturers are involved. Once the Input Stream Management is rigorously applied, textile businesses will learn to produce in an environmentally friendly, resource-efficient and thus economical way and commit to the principle of sustainability.



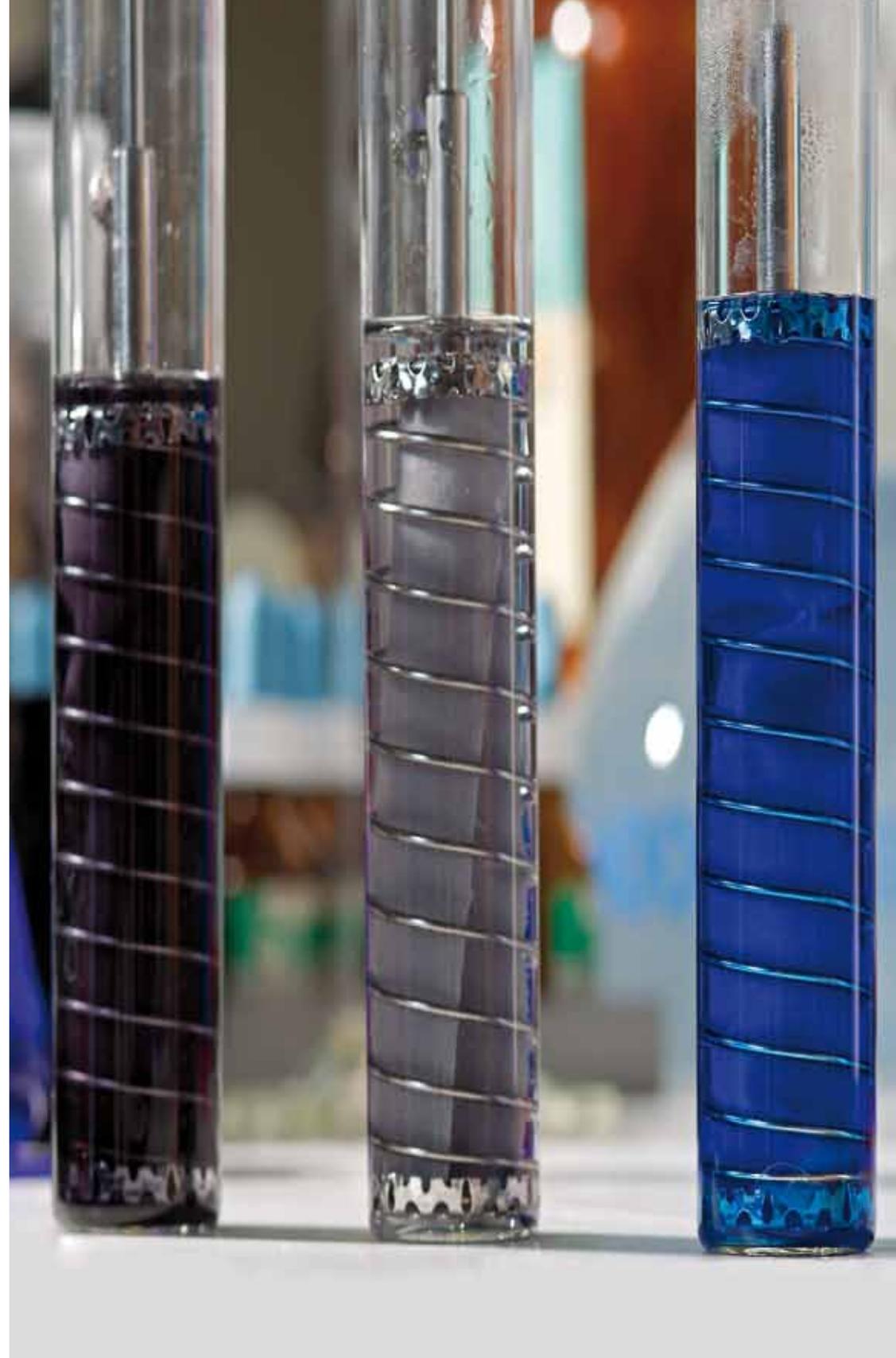
Criteria for materials

Threshold for chemicals, textiles and accessories

The criteria for materials established by the bluesign standard are an important requirement for effective input stream management. The attributed value of the bluesign standard differentiates between threshold values for substances in finished textiles and threshold values for substances in applied chemicals.

The values for substances in already finished textiles derive from comprehensive exposure scenarios. The threshold values for substances in applied chemicals include additional detailed risk assessments according to the principles of sustainability. The strictest calculated value will then be decisive for the practical evaluation. An auxiliary will not only be evaluated according to its individual contents, but also based on its environmental impact as a whole. Its specific application in the process is additionally considered in the assessment.

Under the bluesign standard, every chemical component used receives a rating based on the criteria described. Thus, the complex eco-toxicological information is clearly categorized and easy to understand: Components in the "blue" category meet all of the bluesign standard's criteria and requirements. Components with a "grey" rating shall only be used in the production process under certain conditions. Components rated "black" do not meet the bluesign standard.



Criteria for system partners

Production according to the Best Available Technology

bluesign®

The bluesign standard defines specific criteria applied to each phase within the production chain to ensure compliance with the five principles of sustainability. Criteria are based on the concept of "Best Available Technology" (BAT). Fundamentally, they require a high level of safety both for human beings and the environment as well as a sustainable production.

Applying BAT means to always implement the most advanced technological solution locally available. Consequently, existing machinery is utilized more efficiently or existing processes are optimized, thus maximizing the potential of the individual system partner environmentally, but also economically and technologically. The essential aim of the criteria for system partners is the continuous development

and improvement of the ecological efficiency without compromising functionality, quality or design. In addition to the principles of sustainability, criteria regarding social responsibility are also relevant to system partners. The partners commit to the observance of UN Global Compact. This international initiative supports universal social and environmental principles for businesses.

bluesign® applications

Individual tools for daily business

bluesign technologies ag provides three innovative applications to assist with the easy and smooth implementation of the bluesign standard. bluesign system partners have access to user-friendly software applications to comply with the bluesign standard criteria on a daily work basis.



bluesign® bluetool

Knowledge portal for the homologation of chemical products.

Through the web-based bluetool, chemical suppliers can easily ascertain whether their textile finishing products meet the criteria for materials of the bluesign standard. This process is called homologation. All the necessary information for the evaluation of chemical substances is available within this tool. As soon as compliance with the criteria for materials of the bluesign standard is validated, the products become bluesign-approved.



bluesign® blue nder

Efficient search engine for sustainable input streams.

The blue nder is an efficient search engine database of bluesign-approved chemical products, thus meeting the bluesign standard. The blue nder provides all the detailed information required to select bluesign-approved input streams and to utilize them according to the bluesign standard of production. This search engine is always up to date and producers permanently find the latest, easy to understand textile-related EHS information. The blue nder is the ultimate tool when handling sustainable input streams.



bluesign® blueguide

High-performance database for textiles.

With the web-based blueguide, bluesign technologies ag provides a high-performance database of bluesign-approved fabrics and bluesign-approved accessories. Textiles produced using bluesign-approved fabrics or bluesign-approved components meet the highest resource efficiency and environmental protection criteria. In addition, the blueguide also contains detailed information on the environment, occupational health and safety as well as consumer protection.





bluesign® certification process

How to become a bluesign® system partner



The bluesign standard is designed for easy implementation by all parties involved. With its special regard to the individual conditions of each business involved in the textile production chain, it creates a common path to meet the prescribed criteria as simply and efficiently as possible. This process is generally divided into three steps: screening, implementation and certification. The process is repeated at regular intervals, allowing a continuous improvement.

Screening

The screening is the first step of the implementation process. bluesign experts evaluate the company on-site in a detailed manner and take into account local conditions. The input streams, utilized processes and locally available end-of-pipe technologies are essentially assessed. The detailed screening of the company permits not only the elimination of hazardous materials and other environmental risks, but also indicates the inherent most economical use of resources and financial savings.

Implementation

The next step is the implementation, where critical factors detected during the screening phase need to be resolved. This may include several aspects such as replacing inadequate input streams, filling of previously missing data, optimizing processes or improving wastewater or exhaust emissions. Due to extremely different baseline conditions, every system partner benefits from an individual implementation plan conceived to meet the objectives efficiently and within a short timeline.

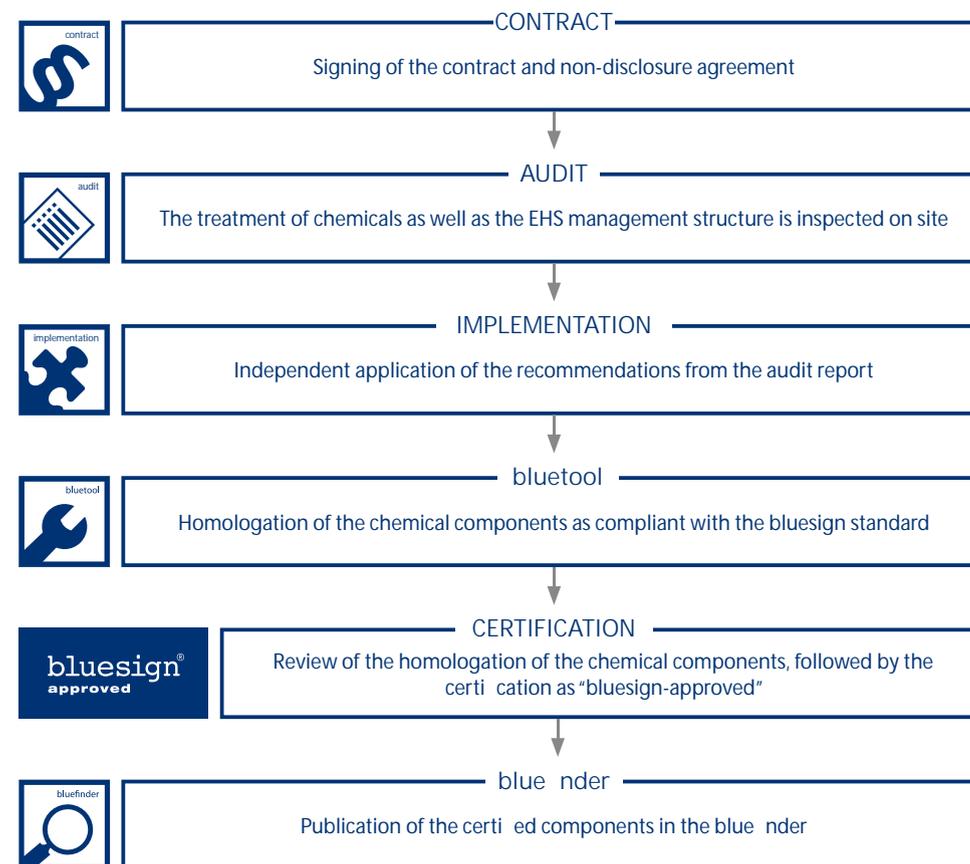
Certification

To finalize the original implementation of the bluesign standard, individual products and product groups are certified. Since an unnecessary inspection effort should be avoided, the final products are only tested randomly. These inspections can be conducted in a highly targeted way based on the previously acquired knowledge of the process parameters and formulas. At the same time, the proper functionality of the bluesign standard is also reviewed. If testing is successful without objections, the respective certificate will be issued.

bluesign® certification

The path to the bluesign® certificate for chemical suppliers

Input Stream Management requires working with partners from the chemical industry. To make sure that the criteria of the bluesign standard are met, the EHS (Environment, Health & Safety) knowledge of the chemical industry partners is reviewed and audited on site. This is the procedure that needs to be followed:



Benefits for chemical suppliers



The bluesign standard guarantees that the supplier will at any time comply with the strictest international guidelines. The homologation of the chemical components according to the bluesign standard and their publication in the blue finder show that the bluesign-approved chemical supplier is a reliable partner for potential business partners.

Safety through the bluesign standard

Tools such as the bluetool or the bluesign audit help suppliers of chemical components to satisfy the constantly changing demands of manufacturers, retailers and brands. In addition, EHS inquiries and individual RSL references are reduced since the BSSL (bluesign Standard Substances List) automatically excludes all harmful substances listed in the relevant RSLs. This saves unnecessary workload and associated costs. The chemical expertise and the manufactured products are certified by bluesign technologies ag as an independent entity.

Increasing competitiveness

Due to the high EHS level of the product, wide acceptance by retailers and long-term preservation of the product's innovative value, bluesign system partners can set themselves apart from their competitors. At the same time, they secure their market potential within tomorrow's textile industry because their actions are environmentally sound, preserve resources and serve the interest of the end-consumers.

EHS in combination with a production that preserves resources will soon become another critical factor of economical success. As a bluesign system partner, companies can react effectively and proactively to the inevitable development of requirements and announced legal regulations. With bluesign technologies ag as their partner, they set themselves apart from manufacturers, who have no or merely poor EHS structures, securing their long-term success.

bluesign® certification

The path to the bluesign certificate for textile manufacturers

To evaluate the final product of the textile value chain, the manufacturers are investigated using the bluesign screening. This process requires that the manufacturers are examined and screened on site to make sure that both the production process and the finished product meet the criteria of the bluesign standard.



Benefits for the manufacturer



Clear distinction and certified quality. Generally, manufacturers will experience an innovation boost after implementing the bluesign standard. In addition, a maximum cost efficiency regarding the resources is generated. Therefore, the bluesign standard is an innovative instrument of a holistic quality policy.

Management of complex EHS questions

“Environment, Health & Safety” (EHS), in the context of a production chain that integrates the highest preservation of resource processes, will crucially change the buying behavior around the world and become the key to economic success. The bluesign standard with its intelligent Input Stream Management System guarantees the compliance with the required stages and sustainable production conditions and provides easy management of the complex contents of EHS. The bluesign standard’s chemical expertise helps manufacturers to satisfy the inquiries and demands of the brands.

Production optimization and resource efficiency

The independent bluesign standard does not exclude existing Restricted Substance Lists (RSLs). On the contrary, it goes one step further and integrates all the leading manufacturers’ RSLs as well as the Substances of Very High Concern listed by REACH. In the process, it takes into account the “Best Available Technology” (BAT) principle. The bluesign standard helps optimizing the production, which results in resource and cost efficiency as well as transparency regarding the production process. In addition, the ecological footprint is determined. This will be a significant requirement of tomorrow’s brands.

Quality and innovation assurance

Access to the blue index, the knowledge database with the latest bluesign-approved components, allows meeting the latest technological standards in the manufacturer’s respective fields. For the manufacturer, this means a maximum of quality and innovation assurance. It secures a considerable competitive advantage and turns manufacturers into reliable, competent and forward-thinking partners of their clients.

bluesign® certi cation

The path to the bluesign certi cation for brands and retailers

Brands and retailers take responsibility for putting the system into effect. In cooperation with bluesign technologies ag, the brands' targets are outlined and their implementation in the supply chain is developed. To the end-consumer, this complex sustainable process becomes visible by labeling merchandise with the "bluesign product" quality seal.



Benefits for brands and retailers



Setting the highest standards regarding environmental and consumer protection means gaining security and sovereignty as well as respecting the client's trust. As a bluesign system partner, the trade benefits from the confidence provided by this quality seal and improves its image as a responsibly operating market participant.

Transparency and credibility

The future of the textile business lies in the hands of those sustainability-oriented brands, which carry products guaranteed harmless to both human beings and the environment. Besides conventional quality factors such as functionality, quality or design, aspects like environment, health and safety and the associated sustainable sense of responsibility are crucial for the brand image. The bluesign standard provides the necessary authority and credibility.

Trust and improved image

The bluesign standard guarantees that products carrying the certification label are made exclusively of a combination of components and processes that are harmless to human beings and the environment. This creates trust in a brand and reinforces its positive image. Furthermore, the blueguide grants access to the latest information and materials on EHS topics relevant for the textile industry. Brands as well as retailers benefit from their transparency and responsibility.

Tool for global buying

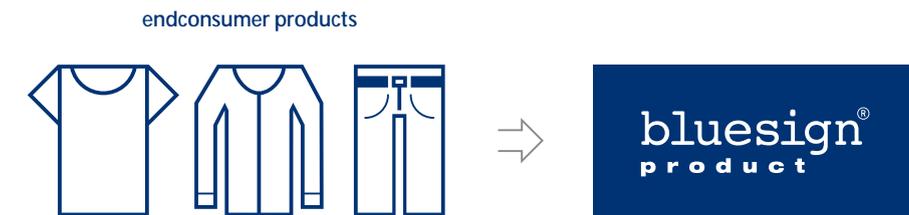
With its global network, the bluesign standard as a quality seal enjoys broad support. Since it follows the strictest and most advanced regulations and laws worldwide, it is also internationally recognized and allows for easy worldwide buying. Purchasing is optimized and the risks for the brands are reduced with the utilization of already tested and certified materials.



bluesign® products
Health and trust for the end-consumer



End-consumers grow more aware of sustainability issues. They want to get involved in making the world a better place, at the same time they do not want to miss out on innovation and functionality.



Purchasing clothing or a backpack labeled with a bluesign certificate guarantees the possession of a retail product that involves the lowest level of harmful substances, poses no danger to health and was produced in an environmentally sound manner. Thus, the end-consumer's natural wish to receive a product that is safe, environmentally friendly and sustainable can nowadays be nearly fully satisfied. The label "bluesign product" represents the respective seal of approval. In addition, it provides assurance and certainty that the end-consumer take action against global warming and the destruction of the environment.

bluesign technologies ag

Global partner of a sustainable textile industry

bluesign technologies ag, based in Switzerland, was founded in 2000 by a group of textile and chemical experts. With a unique combination of expertise in key segments of textile production – chemical substances, components and technological developments – the company manages all business relations and developments as well as the implementation and maintenance of the bluesign standard. bluesign technologies ag committed itself to cultivate its established interdisciplinary network and to act as a system provider for internationally leading companies.

Meanwhile, various globally leading textile manufacturers implement the bluesign standard. In addition, important players of the chemical and engineering industry support the bluesign standard. Well-known sports apparel and fashion brands also count on bluesign technologies ag's expertise.

bluesign technologies ag and SGS

SGS, the world's leading inspection, audit and certification company, and bluesign technologies ag decided in 2008 on cooperating to further develop the growth and acceptance of the independent bluesign standard. This partnership simplifies the worldwide implementation of the bluesign standard in the entire supply chain by allowing access to the extensive and globally established SGS network of approved specialists.

Our vision

The path to a healthy textile future leads across safe technologies, sustainable use of the resources and active consumer safety. Leading textile industry companies have already recognized this fact and abide by the standards and threshold values, which serve the environment, health and safety. In the end, those companies offering products harmless to human beings and the environment control the future of the entire textile business. Implementing the bluesign standard is a clear step in this direction! bluesign stands for the philosophy and daily practice of sustainability, which is an advantage for all of us. For us personally, for the others, but also for those who will follow – our children.





bluesign®

Headquarter
bluesign technologies ag

EMPA Building
Lerchenfeldstrasse 5
9014 St.Gallen
Switzerland

Ph: +41 71 272 29 90
Fax: +41 71 272 29 99

info@bluesign.com
www.bluesign.com

bluesign technologies
germany gmbh

Am Mittleren Moos 48
D-86167 Augsburg
Germany

Ph: +49 821 74 77 544
Fax: +49 821 74 77 545

bluesign technologies
hong kong ltd.

Room 901, Metropole Square
2 On Yiu Street, Siu Lek Yuen
Shatin, N.T., Hong Kong

Ph: +852 2204 8328
Fax: +852 2637 0020

English version