

The bluesign®-Standard – EHS-Management right along the textiles supply chain

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The bluesign®-Standard unites the five aspects of consumer protection, waste water, waste air, industrial safety and resource productivity. Through the utilisation of concrete, practical solutions, the bluesign®-Standard achieves transparency along the entire textiles supply chain, without introducing compromises in terms of functionality, quality or design. It guarantees that products across the complete manufacturing chain comprise only of those components and processes, which are harmless to individuals and the environment.

Introduction

The repeated occurrence of ecological scandals and increasingly limited resources have promoted sensitivity in consumers towards levels of pollutant in textiles and environmentally damaging production methods. Accordingly, legal regulations and limit values (e.g. restrictions to hazardous substances, waste air and waste water) have been tightened globally. It is often the case that a reputation damaged by isolated incidents cannot be restored and results in immense costs. It is therefore increasingly important to companies working within the textile industry that they invest in sustainable, environmentally-friendly and resource-friendly production methods in order to positively distinguish themselves from the competition on the market. New technologies in the textile industry (e.g. nanotechnologies, electrospinning, Drug Delivery Systems) not only bring with them excellent opportunities, but also carry new risks. There is thus a requirement for an instrument that is able to handle complex EHS problems along the entire textile supply chain and which will also be capable of reacting proactively to future developments.

Input Stream Management

The bluesign®-Standard is employed right from the input stream. After all, in order for the output – i.e. the end product, all intermediate products and all substance streams related to the production process – to fulfil the complex EHS requirements, it is essential that the input be controlled accordingly.

With the aid of the intelligent Input Stream Management (diagram 1), reliable verification is provided as to the extent to which raw materials and components comply with the bluesign®-Standard, right from the development phase. If necessary, it is possible to select alternatives.

In order to ascertain whether chemical components, raw materials and production processes conform with the bluesign®-Standard, these are divided up into three categories based on their



Diagram 1: Input Stream Management - critical substances are excluded right at the start of production

human and eco-toxicological profiles: "blue", "grey" and "black". This division is founded on five levels of evaluation (diagram 2): Resource productivity, consumer protection, waste air, waste water and industrial safety. "black" raw materials or chemical components, which contain generally prohibited substances, are excluded from the production process. Raw materials and chemical components which, after undergoing any conventional application, will result in a textile product compliant with the bluesign®-Standard, are classified as "blue". All remaining raw materials and chemical components are assigned to the "grey" category and can only be utilised in combination with the "Best Available Technology". "grey" components require a precise evaluation of the effects in the production process. This does not however mean that the finished textile product is unlikely to attain the bluesign®-Standard. The "grey" classification only means that the use of a chemical component is restricted: It can be tolerated under certain conditions, if it cannot be replaced with a "blue" chemical component at the present time without having a decisive negative effect on the functionality, quality or design. However, consumer protection must be guaranteed at all times.

Supported by leading companies in the chemical industry, a whole range of restricted or prohibited substances are controlled under the bluesign®-Standard. This includes substances which have been categorised as carcinogenic, mutagenic, sensitising or endocrine. It is always essential to ensure here that the expert

knowledge (e.g. the interpretation of Material Safety Data Sheets) is maintained at a comprehensible level.

Strong partners with high EHS standards

The bluesign®-Standard works together with all participants active along the textile value added chain. This starts with the fibre manufacturers and the chemical additives industry and continues through the thread and surface manufacturers/refinement to fabric sizing and the brand name.

All bluesign® partners are high-end companies with very high EHS standards. They all work to reduce their ecological footprint and to take on an exemplary role in the EHS field (e.g. with innovative projects such as "organic cotton", "recycled polyester", "organic wool" and the recycling of clothing items). These strong partners include **Clariant International**, **Huntsman Textile Effects and Erba AG** as suppliers of chemical components, **Getzner Textil AG**, **Christian Eschler AG** and **Schoeller Textil AG** as textile manufacturers and **Vaude**, **Patagonia** and **MEC** as brands. The bluesign®-Standard offers tailored solutions for every one of these partners.

Practical online tools for suppliers from the chemical industry, textile manufacturers and textile brands

The bluesign®-Standard offers individual tools with which to manage complex EHS requirements at all levels. Using the

Features

bluetool™, suppliers from the chemical industry are able to check the extent to which their chemical components comply with the bluesign®-Standard, online and with ease.

The bluefinder™, a databank which contains chemical components compliant with the bluesign®-Standard, enables textile manufacturers to select suitable raw materials and chemical components for their production processes. Finally, the blueguide™ is available for use by brands. This is a protected area of the bluesign® website containing information and material relevant to textile-related EHS issues.

bluesign® labels – Certification at all levels of the textile production chain

Chemical components, threads and accessories, which fulfil the requirements of the bluesign®-Standard, are labelled “bluesign® approved”. They serve as input materials for textile manufacturers. If a textile manufacturer's product line is manufactured exclusively with “bluesign® approved” chemical components and threads, then his semi-finished product can also be labelled a “bluesign® approved fabric”.

At the end of the production chain, end products are manufactured in full compliance with the bluesign®-Standard. These are marked with the “bluesign® safety” label. All components (semi-finished products and accessories, including

buttons and zips) included in an end product marked with the “bluesign® safety” label, must fulfil the bluesign®-Standard themselves, in order to ensure that the product created at the end of the textile production chain is of the best quality and reflects the highest EHS performance.

The bluesign®-Standard – Development and integration of new technologies

The bluesign®-Standard directs specific focus towards the development and implementation of new technologies such as nanotechnologies, electrospinning and Drug Delivery Systems.

An example:

In particular in production, employees must be protected against nano-particles which may penetrate the lungs and pose an unknown risk to the health of individuals. Safe handling of nano-particles and the application of the “Best Available Technology” is an absolute must. With the aid of internationally recognised scientific institutes and under the guidance of bluesign technologies ag, it was possible to develop a measuring technique for verifying the presence of nano-particles at the workplace.

The Sol-Gel-System was found to be the most useful and safest solution when using nano-particles in textile production. The use of this application entirely eliminates risks at the workplace.

The bluesign®-Standard offers organisations the opportunity to comply with EHS requirements with ease (“Restricted Substance Lists” (RSL) issued by the brand, e.g. RSL Levi's, RSL Nike, GOTS, “Environmental, Chemical and Factory Minimum Standard” (C99) Marks & Spencer etc.) Furthermore, manufacturers have access to a specialist tool, bluesign®-Screening, which enables the differentiated evaluation of the local environment, resources and workplace circumstances of textile production facilities, in accordance with the five columns of the bluesign®-Standard (see diagram 2).

bluesign®-Screening – On-site evaluation of the resources and EHS circumstances

bluesign®-Screening precisely assesses all of the chemical components and production processes used in the production facility. In the first phase, EHS data and general production information is collected from the textile manufacturer.

Following the analysis and interpretation of this, bluesign technologies ag draws up a detailed report with comprehensive recommendations.

The data available enables bluesign technologies ag to compare the technologies used within the organisation with the internal “Best Available Technology” (i.e. the equipment currently in use).

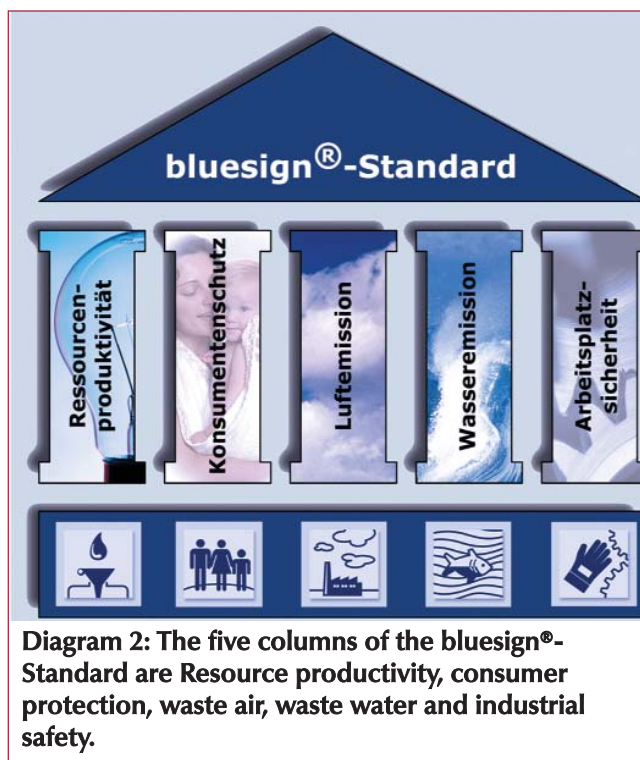
An interesting “secondary effect” of this takes the form of potential cost savings. bluesign®-Screening is solution-oriented and also accounts for local circumstances.

If a chemical component must be replaced, the textile manufacturer is able to consult the bluefinder™. With the aid of this tool, it is possible to locate alternative chemical components with ease.

Summary

With its intelligent Input Stream Management and tailored tools, the bluesign®-Standard enables all participants in the textile production chain and in particular textile manufacturers, to overcome complex EHS challenges.

It leads to concrete solutions proactively and also integrates new technologies. With the bluesign®-Standard, risks posed by new products are minimised as early as the development stage. ♦



The bluesign®-Standard creates transparency

The bluesign®-Standard guarantees that products have been produced exclusively with components and processes which are harmless to people and the environment, across the complete manufacturing chain.

Fulfilment of the EHS criteria at the highest level in accordance with the bluesign®-Standard means sustainable investment in the trust of the consumer and generates a positive image.