

bluesign®

the
independent
industry
textile
standard

bluesign® standard



Published by:

bluesign technologies ag
EMPA Building
Lerchenfeldstrasse 5
CH-9014 St. Gallen
Switzerland

Edition:

1.2

Date of publication:

March 2010

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1 Guideline for the reader

The document at hand describes the bluesign® standard in general. The methodology behind the limits and bans of chemical components, the criteria for the relevant production sites as well as principle procedures that are prescribed by the bluesign® standard are written down.

Whenever necessary this manual gives a link to more comprehensive documents.

Chapter 2 gives an overview on the objectives of the bluesign® standard.

Chapter 3 defines the scope of the standard.

Chapter 4 explains the definitions and the wording according to the bluesign® standard which is followed by a short explanation of the different roles of the bluesign® system partners in Chapter 5.

Chapter 6 gives insight to the bluesign® methodology. The way to define limits and bans on chemical components is explained.

Chapter 7 identifies the criteria that are prescribed for the production sites.

Chapter 8 compiles comments on limit values and bans for chemical components. Chapter 9 compiles information on consumer safety limits.

Chapter 10 describes the most important items concerning labelling and trademark use.

Chapter 11 shows an overview on the functionality of the web-based bluesign® applications.

It has to be mentioned that several agreements between bluesign technologies ag and the relevant contracting party, that are not in the focus of this report, establish the framework of cooperation within the bluesign® standard. These agreements also regulate labelling and trade name use in all detail. The more technical requirements defined in the document at hand do not replace these agreements.



2 Objectives of the bluesign® standard

The bluesign® standard is a comprehensive Input-Stream-Management-System that covers all Environmental, Health and Safety (EHS)-aspects along the textile manufacturing chain.

The bluesign® standard is built around five principles:

- resource productivity
- consumer safety
- air emission
- water emission
- and occupational health and safety

The basic idea behind the bluesign® standard is to combine aspects of consumer safety, water and air emission as well as occupational health in a single standard under the general objective of resource productivity. To improve the EHS aspects and resource efficiency along the whole textile supply chain is therefore the main critical focus of the bluesign® standard. In other words, the bluesign® standard can be understood as a highly efficient tool to optimise the sustainability of the manufacturing processes along the textile chain.

The bluesign® standard brings together the entire textile manufacturing chain to jointly reduce the ecological footprint of a responsibly acting textile industry. All input streams are analysed– from raw materials to chemical components to resources – with sophisticated tools. Prior to production, components are assessed based on their toxicological and ecological properties and risks. Potentially harmful substances can hence be eliminated before production even begins.

Following the Input-Stream-Management idea, it is a unique feature of the bluesign® standard that limit values and bans for chemical components such as auxiliaries and dyestuffs are defined which assure that consumer safety limits as well as requirements concerning wastewater, off-gas and workplace atmosphere are met.



The bluesign® standard shall guarantee that textiles are produced with as little use of contaminants and resources as possible.

Compliance with the high-level EHS criteria defined by the bluesign® standard shall assure a long-lasting investment in consumer trust and hence in a positive image.

In addition the bluesign® standard provides textile manufacturers with components available in the bluesign® bluefinder that meet the strict requirements of the bluesign® standard and guarantees that along the entire production chain, products only contain components and pass through processes that are harmless to human beings and the environment. With this practical and solution-orientated approach, the bluesign® standard creates transparency along the whole textile production chain without compromising functionality, quality or design.



3 Scope of the bluesign® standard

The scope of the bluesign® standard comprises

- textile products (all processing levels)
- leather products
- components for textile products (accessories, fillings, membranes, etc.)
- chemicals, auxiliaries and dyestuff used in manufacturing the above mentioned products
- product care articles for outdoor and sporting goods
- techniques used for processing textiles

Note: Currently the focus of the bluesign® standard is on the textile process chain and associated items such as accessories for garments. Regarding leather products, the bluesign® standard can be applied analogously, making the necessary changes; the consumer safety limits already apply for leather products.



4 Definitions

4.1 Article

A textile fabric with a defined article number or article name and well-defined recipes. The article number or article name will be mentioned in the attachment to the bluesign® certificate.

4.2 BAT

The term “best available techniques” is defined following to the European Directive 96/61/EC:

- “available” techniques are those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced as long as they are reasonably accessible to the operator;
- “best” means most effective in achieving a high general level of protection of the environment as a whole.
- a “technique” includes, machines, process types, chemical components and other raw materials used, management systems, etc.

4.3 bluesign® system partner

A partner of the bluesign® system bound with a contract. bluesign® supporters, bluesign® manufacturers and bluesign® members rank among the bluesign® system partners. Brand and retailers act as trademark users and members, whereas chemicals suppliers as well as suppliers of accessories, fibres, membranes and machines participate as bluesign® supporters. A textile manufacturer plays the role as a bluesign® manufacturer.

4.4 bluesign® applications

4.4.1 bluesign® bluetool

The bluesign® bluetool is a web-based software application for chemical suppliers. It guides the supplier through the bluesign® homologation process according to the bluesign® standard and provides the necessary information.



4.4.2 bluesign® bluefinder

The bluesign® bluefinder is a web-based search engine to help textile manufacturers find bluesign® approved chemical products. The application also provides EHS information as well as guidelines to incorporate bluesign® approved chemical products into the manufacturing process.

4.4.3 bluesign® blueguide

The web-based bluesign® blueguide is a database containing bluesign® approved fabrics. In addition, comprehensive information about environment, occupational health and safety as well as consumer protection is available in the bluesign® blueguide.

4.4.4 bluesign® screening

The bluesign® screening includes the detailed evaluation of the environmental, resource and occupational health situation of textile manufacturing sites according to the five principles of the bluesign® standard. The main important process steps in the screening phase are

- screening preparation
- on-site inspection
- homologation
- information of manufacturer on EHS performance and compatibility with the bluesign® standard by means of a comprehensive screening report which is the basis for further actions

The first bluesign® screening for the production site is called initial screening.

4.5 Certification “bluesign® approved fabric”

A certificate of “bluesign® approved fabric” can be granted to a product range and the relevant product groups and articles if compliance with the bluesign® standard is achieved.

A certificate is granted for each product range manufactured on the production site that was inspected. A set of regulations concerning labelling aspects and tradename use is given in the relevant contracts between the system partner and bluesign technologies ag.



4.6 Components

All products that a manufacturer uses; e.g. fibres, yarns, raw fabrics as well as chemical components (basic chemicals, textile auxiliaries, dyestuffs).

4.7 Converter

A converter purchases fabrics from one or more suppliers. The supplier(s) may be subcontracted and working on a commission basis or working on their own responsibility.

The fabrics are put on the market from the converter with trade name(s) specified by the converter. It is not obligatory, that the buyer has information on the original supplier(s).

The converter itself has not installed any chemical or physical finishing steps. The original textile fabric is sold without any change with exception of make-up/packaging.

4.8 Homologation

A procedure developed by bluesign technologies ag for the rating of components according to their EHS aspects. Homologation is performed by means of the bluesign® bluetool.

4.8.1 blue rating

Components, production processes and technologies that have been checked according to the five principles of the bluesign® standard; may be used for all applications under the bluesign® standard.

4.8.2 grey rating

Components, production processes and technologies that may be used under one or more pre-conditions following the principles of the Best Available Technology (BAT).

4.8.3 black rating

Black rating is equal to a ban under the bluesign® standard.



4.9 Implementation phase

The time frame in which the manufacturer follows the road map prescribed in the screening report, implements the defined mandatory actions and tries to realise the recommendations. If implementation is completed, the certification of the whole product portfolio or single product ranges that are manufactured in the inspected production site can start.

4.10 Preparation

Preparation means a chemical product composed of two or more substances. All textile auxiliaries and dyes are preparations.

4.11 Product range

A series of product groups. Product ranges are defined by the marketing or sales department and characterise different application fields such as workwear or swimwear. Alternatively, the classification of the product portfolio into ranges can also focus on the textile substrates that are used (polyamide [nylon], polyester, cotton, etc.).

4.12 Product group

A series of articles that are manufactured according to the same routing (similar recipes and process steps in pre-treatment, dyeing and finishing; dyestuff types may vary; similar textile technologies). As an attachment, the bluesign® certificate contains a list of certified product groups including the relevant article numbers.

4.13 Product Screening Form (PSF)

Questionnaire used to request all necessary information for the homologation procedure of components from the entire supply chain. A PSF is used only in cases where the needed information comes from third parties and not from bluesign® supporters (in these cases on-line homologation is not possible). The questionnaire lists all restricted substances of the bluesign® system and contains the relevant ecological and toxicological criteria.



4.14 Production site

Production site shall mean a stationary technical unit which is under the control of one legally independent corporation and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions.

4.15 Re-screening

On-site reevaluation of EHS situation at the production site following the same principles as the initial screening.

4.16 Substance

Substance means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive if necessary to preserve its stability and any impurity deriving from the process used.

4.17 Textile manufacturer

A textile manufacturer is a producer of textile products. Included are manufacturing and processing of yarns (spinning, twisting etc.), manufacturing of raw fabrics (weaving, knitting, non-wovens, tufting, braiding), as well as textile finishing (pre-treatment, dyeing, printing, finishing, coating, laminating) sewing and other related industries.

4.17.1 Usage ranges

4.17.1.1 Class A: Next to skin

This class includes articles with intensive direct skin contact. Next to skin articles are worn with a large part of their surface in direct contact with the skin (examples include: underwear, sweat management clothing, bed linen etc.).

4.17.1.2 Class B: Skin contact

This class includes articles with occasional skin contact. The exposure in this case is much less intensive (examples include: shirts, trousers, outerwear, home textiles and upholstery etc.).

4.17.1.3 Class C: Technical textiles

This class includes technical textiles. There is no direct contact with the skin expected (examples include: geo textiles, filter textiles, military textiles, work protection textiles, textiles for tents, awnings and automotive textiles like roof liner etc.).



5 bluesign® system partners

5.1 General remarks

The group of bluesign® system partner embraces bluesign® supporters, bluesign® manufacturers and bluesign® converters as well as bluesign® members.

Brand and retailers act as members, whereas chemicals suppliers as well as suppliers of accessories, fibres, membranes and techniques etc. participate as bluesign® supporters. A textile manufacturer plays the role as a bluesign® manufacturer. Converters, often the link between textile manufacturers and brands/retailers can also be bluesign® system partners.

Contracts between the bluesign® system partner and bluesign technologies ag define the appropriate right and duties of the partners.

At this point it shall be mentioned that the bluesign® member has an outstanding mission within the bluesign® system. The bluesign® member undertakes to actively recommend and promote the independent bluesign® standard as its preferred EHS management approach among its supply chain.

Note: Besides other requirements, following the 10 rules of the UN GLOBAL COMPACT is in every case mandatory for all bluesign® system partners and shall be confirmed to bluesign technologies ag.



6 bluesign® methodology for the homologation of chemical components

6.1 Introduction

In the bluesign® standard every chemical component receives a rating based on its ecological and toxicological properties and risks. According to the wording used by the bluesign® standard this procedure is called homologation.

Components that comply with the bluesign® standard are divided into two categories: “blue” and “grey”:

blue components may be used for all applications and completely fulfil the requirements of the bluesign® standard.

“grey” indicates components that may only be used in the production under certain prerequisite required conditions. The principle of “Best Available Technique” applies here.

Whenever possible, blue components should be selected. If performance specifications require the use of grey components, the particular use including the end-of-pipe situation must be evaluated.

Components that don't meet the strict requirements of the bluesign® standard fall in the category “black” and must be eliminated from the manufacturing process.

The bluesign® classification criteria are based on the toxicological and ecological properties and risks of these substances. To be up-to-date, changes in the legal classification of substances and upcoming knowledge on the EHS-behaviour of chemicals are considered.

Risk assessments according to the bluesign® methodology and BAT-philosophy stand behind the limits and bans.

For the identification of substances of concern the following aspects are taken into consideration:

- national/international consumer safety regulations – mandatory adherence
- national/international regulations on environmental protection and occupational health
- SVHC according to REACH (EU Regulation 1907/2006)
- ETAD regulations and recommendations



- voluntary agreements within the chemical and textile industry
- substances of concern listed in so-called “Restricted Substances Lists (RSLs)” of various retailers and brands
- public discussions concerning special chemical substances as well as textile and chemical processes
- emotional fears of the society and their representatives about chemical substances used and released in the textile world

The homologation as well as the entire bluesign® standard is based on the following five assessment levels:

- resource productivity
- consumer safety
- air emission
- water emission
- occupational health and safety

In the following section, the methodology behind the homologation procedure shall be explained in principle.

6.2 Derivation of limits and bans for chemical substances and preparations (dyestuffs and auxiliaries)

6.2.1 General procedure

The homologation of chemical components is based on two pillars

- the rating of the preparation (auxiliary or dyestuff) as a whole on the basis of toxicological and ecological properties which are given for the preparation (such as for example the biodegradation of an auxiliary)
- the rating of the preparation on the basis of information on chemical substances that are intentionally used or that are found as a non-intended by-product in the preparation

Figure 6.1 demonstrates these two points of views of the homologation procedure. If both routes lead to a grey classification the final rating will be grey. If one of the routes is grey or black, the final rating will be also grey or black.

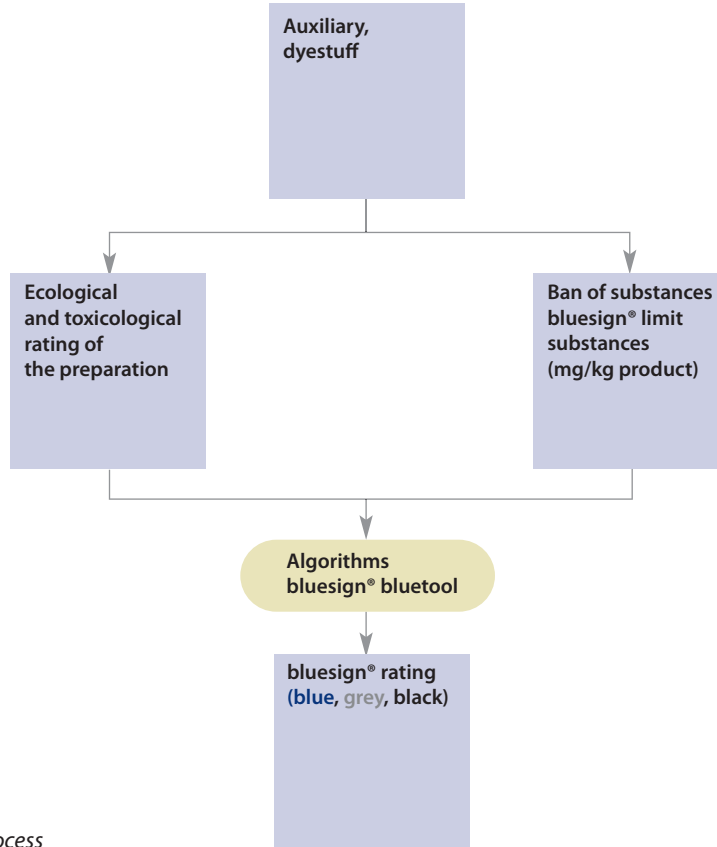


Figure 6.1:
Principle of the homologation process

6.2.2 Preparations (textile auxiliaries, dyestuffs)

The following parameters are used to review the toxicological and ecological properties of the preparation (textile auxiliary or dyestuff):

- Biodegradability
- COD (chemical oxygen demand)
- TOC (total organic carbon)
- BOD5 (biochemical oxygen demand)
- P total (total phosphorous content)
- N total (total nitrogen content)
- Sulphite
- Sulphate
- Aliphatic hydrocarbons
- Aquatic toxicity (fish, daphnia, algae, bacteria)
- AOX (adsorbable organic halogens)



- Irritancy skin
- Irritancy eye
- Sensitisation skin
- Acute oral toxicity
- Acute dermal toxicity
- Mutagenicity/Ames test
- Chromosome aberration test
- Air emission (emission factors for Total-C and specific substances)

If available data on the German water hazard class (WGK) and the wastewater relevance level (ARS-classification) shall be given in addition.

The above mentioned parameters determine the rating according to the bluesign® methodology; the relevant algorithms are prescribed by the bluesign® methodology and provided by the bluesign® bluetool. However the data are also used for the input/output balance and characterisation of wastewater and off-gas quality in the screening reports.

Note 1: The specific test methods behind the parameters above are defined in the bluesign® bluetool and the Product Screening Forms.

Note 2: For auxiliaries that are used in solvent-borne processes, tailor-made parameters are requested from the chemicals supplier.

Figure 6.3 shows an example for the rating mechanism; the correlation between biodegradation and aquatic toxicity is regarded.

Substances that have low fish toxicity and are readily biodegradable will be rated as blue. A high aquatic toxicity and a low bioelimination degree on the other hand will lead to a black rating. The grey scale is using the bacteria toxicity as a third parameter. If a preparation shows a relatively high aquatic toxicity and a relatively low bioelimination, the bacteria toxicity that defines whether a biological wastewater treatment works well or not decides on a grey or black rating.

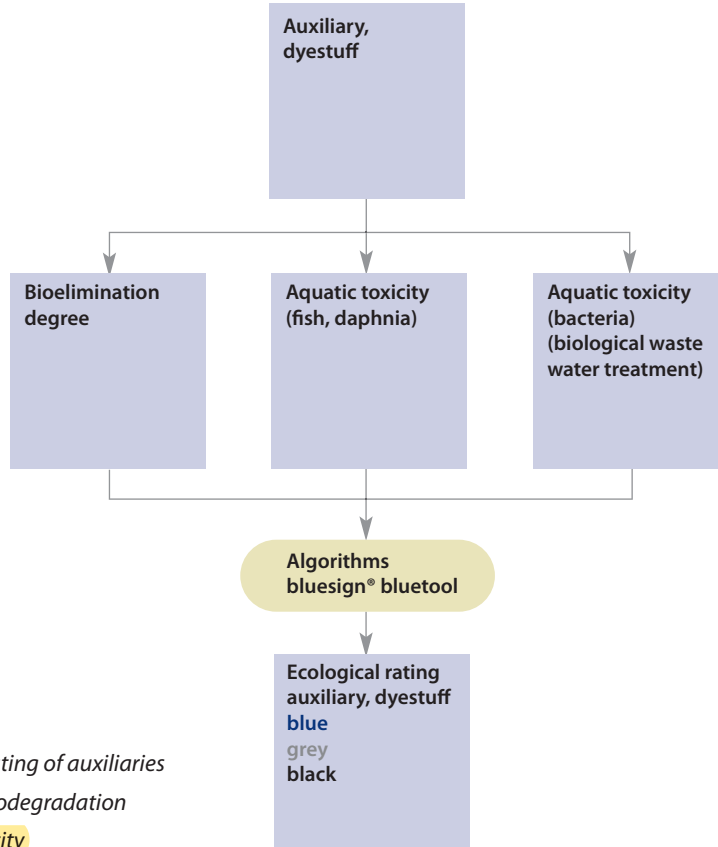


Figure 6.3:
Principle of the rating of auxiliaries on the basis of biodegradation and aquatic toxicity

Note: The parameters for aquatic toxicity and biodegradation currently determine only the rating for chemical components that are not intended to be fixed on the textiles. The ecological impact of the other chemical components (e.g. dyestuffs, finishing agents, after treatment agents) is assessed by the on-site inspections. The reason for this is that these components are designed to guarantee long-time functionality or colour on the textile that is equal to an inherent low biodegradation behaviour. Recommendations or mandatory actions can be necessary if the on-site inspection concludes that the manufacturer has to optimise the wastewater quality concerning these chemical components.

6.2.3 Substances

The principle procedure about whether a limit or a ban is defined on a chemical substance in an auxiliary or dyestuff is shown in Figure 6.5.

As a first step, a risk assessment regarding consumer safety, workplace situation, air emission and wastewater emission is carried out. If the risk assessment leads to values that are above the concentration met by using BAT, the BAT value will be decisive.



Example:

- The risk assessment yields a concentration of 100 mg/kg auxiliary for a “blue” rating.
- bluesign supporters place the auxiliary on the market with a concentration of 10 mg/kg

In this case the lower BAT-value will be taken to define the limit value.

Note: In some cases the limit value must be derived from the detection limit of the corresponding test method.

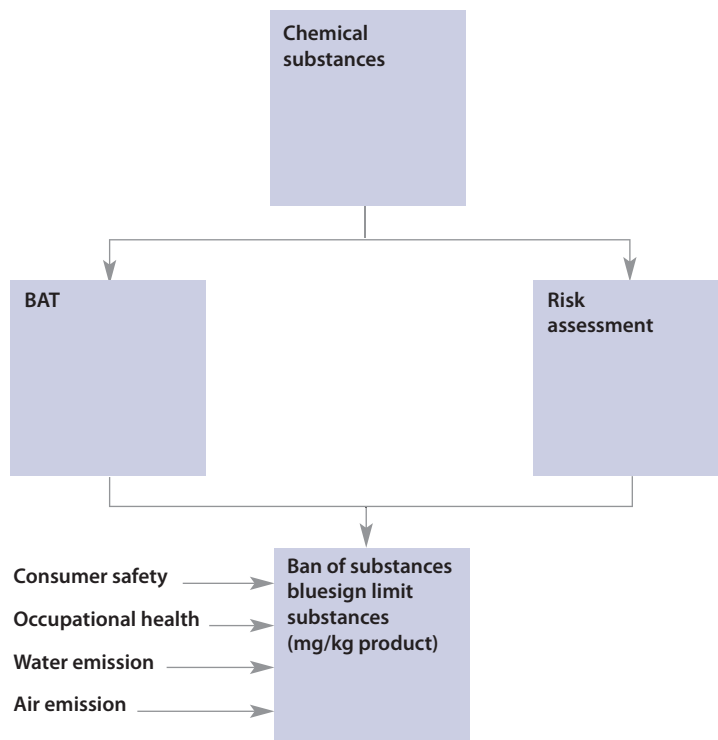


Figure 6.5:
Principle procedure for the definition of limits and bans for substances



6.2.3.1 Methodology of risk assessments

In the following section, the methodology behind the risk assessments shall be explained in principle.

The definition of limits and bans for chemical substances and preparations due to the focus on an appropriate and intelligent Input-Stream-Management is a unique feature of the bluesign® standard.

Risk assessments for the following areas are carried out (see the following Chapters).

- consumer safety
- workplace atmosphere in textile finishing
- off-gas situation in textile finishing
- wastewater situation in textile finishing

are carried out (see the following Chapters).

Looking at the risk assessments for the workplace atmosphere, the off-gas and the wastewater, it is evident that the results lead directly to a limit value expressed in mg substance per kg preparation (auxiliary or dyestuff).

Regarding the consumer safety assessment, in a first step a safe value expressed in mg substance per kg textile is calculated. Based on realistic worst-case scenarios, with knowledge of typical textile processes, these textile related values are then converted to limit values for the chemical preparation giving values expressed in mg substance per kg formulation.

Risk assessments are carried out for the four areas above (consumer safety, occupational health and safety, air emission and water emission) and the lowest limit will be used as the bluesign® standard limit.

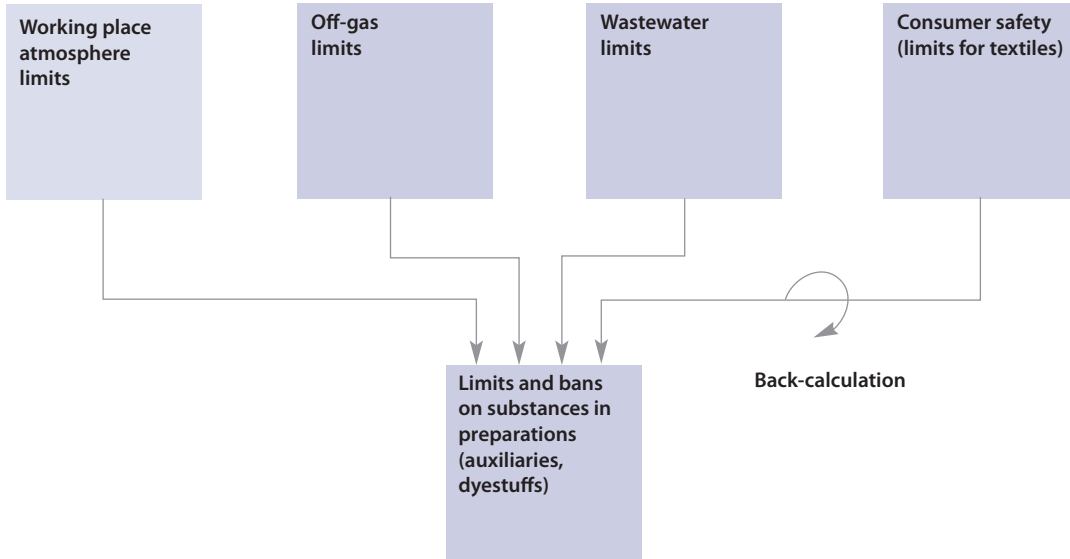


Figure 6.7:
Risk assessments for four areas define the limit according to the bluesign® standard

6.2.3.1.1 Data base

For each substance that is assessed by bluesign technologies ag, a comprehensive set of data is reviewed including at least the following sources:

- GESTIS (Germany)
- GESTIS Occupational Health
- DFG (Germany)
- TRGS 900 (Germany)
- TRGS 905 (Germany)
- ESIS (European Commission)
- IUCLID (European Commission)
- RAR's (European Commission)
- NIOSH (US)
- TCPP (US)
- OEHHA (US-CEPA)
- IRIS (US-EPA)
- OECD-Screening Information Data Sets (SIDS)
- Concise International Chemical Assessment Documents (CICADs)
- International Agency for Research on Cancer (IARC)
- International Chemical Safety Cards (ICSC)



6.2.3.1.2 Consumer safety

The following exposure routes are considered

- Exposure to skin
 - acute
 - chronic
- Oral intake
 - mouthing (contact with or in the mouth for an extended period of time)
 - swallowing
- Inhalative exposure
 - acute
 - chronic

Realistic worst case exposure scenarios have been considered to define safe levels for these substances.

If a substance is classified as carcinogenic according to regulations from EU, US-EPA IARC or CEPA the cancer risk is included in the chronic exposition scenarios.

6.2.3.1.3 Workplace atmosphere

The following exposure scenarios for textile manufacturer are considered:

- “blue barrel” (exposure situation directly at the un-diluted textile auxiliary)
- dyeing machine
- stenter, coating- or printing machine

Typical liquor concentrations, liquor pick-ups, temperatures, air exchange rates, etc. as well as data on vapour pressures and diffusion coefficients etc. are used to calculate or estimate the concentration of a substance at these working places. The calculations are based on Raoult’s law and diffusion controlled evaporation.

For workplaces with a high possible risk for the workers (for example in solvent coating) measured values have to be available.



6.2.3.1.4 Off-gas emissions

If off-gas emissions from special substances have to be assessed, the emission factor concept is taken to estimate off-gas loads and off-gas concentrations.

If data from the chemical suppliers on substance specific emission factors are available, an exact calculation can be carried out. In all the other cases, default values are used. Estimated or calculated emission values are used to characterise the air emission quality and to decide on the basis of the emission factor concept whether an off-gas abatement system has to be installed or whether an existing off-gas abatement system has to be optimised.

6.2.3.1.5 Wastewater emissions

Regarding wastewater emissions, in most of the cases, the properties of the preparation as a whole are sufficient for the rating. In other cases a PEC/PNEC calculation on the basis of default values or real data from the textile finishing plant is carried out to decide whether a substance is harmful regarding the wastewater path.



7 bluesign® criteria for production sites

The bluesign® criteria for the activities in the production sites are described in several documents:

- general bluesign® criteria for production sites
- bluesign® criteria for textile manufacturers
- bluesign® criteria for chemical suppliers

For all types of production sites the following guiding principles have to be followed in every case. A high level of human health and environmental protection should be ensured with the goal of achieving sustainable development.

The activities in the production site must not have any harmful impacts on human beings, animals, plants, soil, aquatic body or the atmosphere.

The producer shall be aware of Best Available Techniques that are relevant for the industry and shall implement these techniques to continuously improve the environmental performance.

Social responsibility management shall be at least confirmed by a self-assessment form which contains requirements concerning

- management system, corporate policy
- abolition of child labour
- working hours
- wages and benefits
- forced and compulsory labour
- elimination of discrimination
- freedom of association and right to collective bargaining
- health and safety at work

Besides the above mentioned criteria, focused on production plants, bluesign® criteria for members as well as bluesign® criteria for converters are existent which describe the role and obligations for these bluesign® system partners.



8 Limit values and bans for chemical substances in preparations

8.1 General aspects

The limit values concerning substances in preparations are provided by the bluesign® bluetool. The scientific background and the methodology to derive bans and restrictions are described in Chapter 6. Limit values and bans that refer to chemical substances in preparations are not publicly available. This know-how is only shared with the chemical supporters by means of the bluesign® bluetool.

For chemical components that may have a higher EHS risk such as biocidal products, antimicrobial active compounds, nanoscale materials and flame retardants tailor made bluesign® criteria have to be followed. The manufacturers of such products intended for bluesign® certification have to report the required facts in a compact risk assessment to bluesign technologies ag.

These special bluesign® criteria also include requirements regarding function and effect, fastness properties and EHS aspects.

The risk assessment shall consider the following aspects:

- description of the substance/preparation material and its application
- lifecycle hazard profile
- lifecycle exposure profile (human beings, environment)
- risk evaluation (workplace, consumer, environment)
- risk management (workplace, consumer, environment)



9 Consumer safety limits

The bluesign® standard defines restrictions and bans on chemical substances for consumer products made of textiles, leather and components for textile products (accessories, filings, membranes, etc.)

The limits and bans, which are derived according to the methodology described in Chapter 6 are compiled in a separate document (the bluesign® standard substances list – BSSL) and are also provided by the bluesign® bluetool.

10 Labelling, certificates

10.1 bluesign® approved

10.1.1 Chemical components

The trademark “bluesign® approved” can only be used, if the component is homologated (received a rating [blue, grey] based on its ecological and toxicological properties as well as possible areas of application [Class A, Class B, Class C]), the homologation was approved by bluesign technologies ag and as long as no changes to component specification, composition of ingredients and raw materials, or the quality are made.

“bluesign® approved” products can be published in the bluesign® bluefinder. The bluesign® bluefinder is the only source for “bluesign® approved” products.

10.1.2 Other components

Other components such as fibres, yarns, membranes, accessories can also be certified as “bluesign® approved”. The trademark “bluesign® approved” can only be used, if the component is homologated and as long as no changes to component specification, composition of ingredients and raw materials, or the quality are made.

bluesign® approved” products can be published in the bluesign® bluefinder and/or the bluesign® blueguide. These two applications are the only sources for “bluesign® approved” products.



10.1.3 Techniques

Techniques can also be certificated as “bluesign® approved”. The trademark “bluesign® approved” can only be used, if BAT is given and as long as no changes to specification and functionality or the quality are made.

“bluesign® approved techniques can be published in the bluesign® bluefinder.

10.2 bluesign® approved fabric

After successful completion of a bluesign® screening, the bluesign® system partner (textile manufacturer) receives a bluesign® certificate for every product range which fulfils the requirements prescribed by the bluesign® standard.

bluesign® approved fabrics are published in the bluesign® blueguide.

10.3 End-user labelling

The approach for end-user labelling is fixed in detail in the relevant agreements and regulations concerning trademark use.

10.3.1 bluesign® product

If all components of an end-user product (as for example a garment) are bluesign® approved and as a consequence manufactured by a bluesign® system partner the product itself can be labelled as “bluesign® product”.

10.3.2 bluesign® approved fabric

Due to the fact that currently, especially regarding accessories, there is not a wide variety of bluesign® approved choices available, the label “bluesign® approved fabric” can be used as an end-consumer label also. However, at the latest by 2015, the end-user label with “bluesign® approved fabric” shall be phased out.

A pre-condition for using an end-user label with “bluesign® approved fabric”, 90 % share of the area of the inner and outer layer in total (inclusive printings on the layers) must be bluesign® approved fabrics (inner and outer layer are visible parts of the product which can be easily mechanically separated from other components; measuring accuracy 5 %).

Members can use this kind of end-user labeling, however for products placed on the market by a company who is not a system partner the “bluesign® approved fabric” label can only be used together with information about the textile finishing company who holds the “bluesign® approved fabric” certificate for the relevant fabric(s).



11 Web-based bluesign® applications

11.1 General aspects

Three web-based applications build the backbone of the bluesign® standard:

- the bluesign® bluetool
- the bluesign® bluefinder
- the bluesign® blueguide

The functionality of the applications and the way in which they are linked together is shown in Figure 11.1.

The bluesign® bluetool is used for the rating and registration of chemical components. Chemical components from bluesign® system partners that are rated blue or grey can be found in the bluesign® bluefinder that is used by the bluesign® manufacturers.

The bluesign® manufacturer itself can give information on bluesign® approved fabrics to the bluesign® blueguide. bluesign® members have access to the information in the bluesign® blueguide.

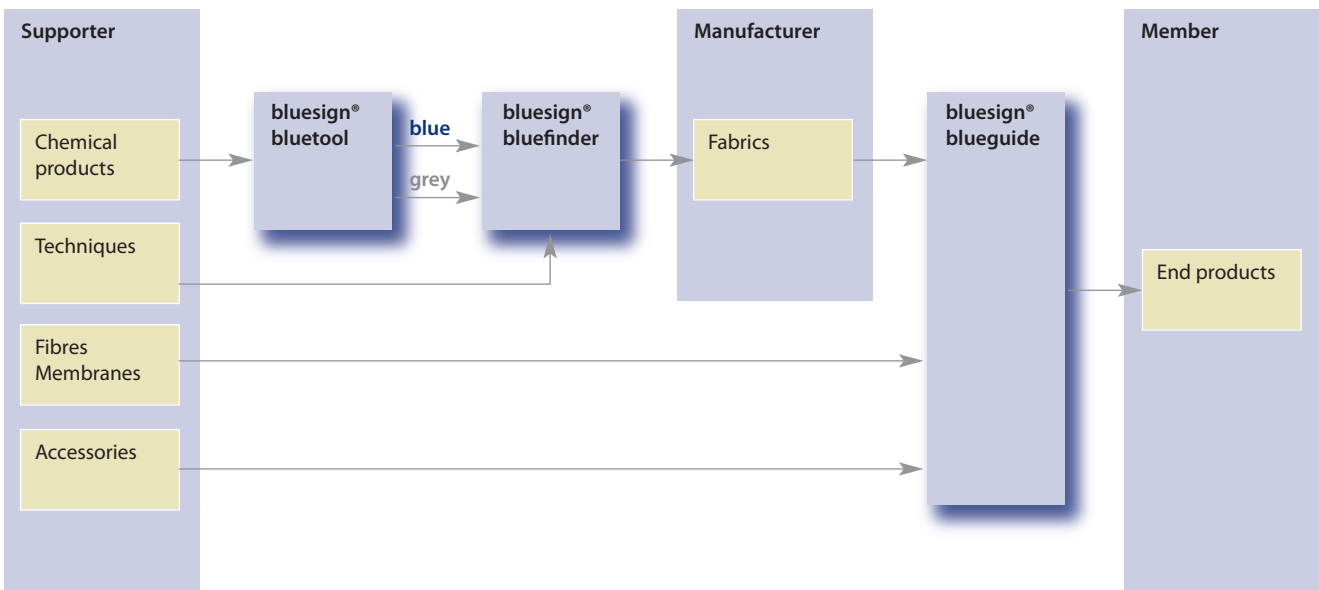


Figure 11.1:
Web-based bluesign® applications



11.2 bluesign® bluetool

In order to be able to ascertain, simply and reliably, the degree to which chemical components for the textile production comply with the bluesign® standard, a special web-based software application – the bluesign® bluetool – is used. The administration of the bluesign® bluetool is the responsibility of bluesign technologies ag. Chemical suppliers that are bluesign® system partners use the application to rate and register their products in the data base. The data input from the chemical suppliers is in every case peer-reviewed by bluesign technologies ag. If chemical components from third parties have to be homologated on the basis of Material Safety Data Sheets and Product Screening Forms, bluesign technologies ag uses the application for the rating. The bluesign® bluefinder can be seen as an extract of the bluesign® bluetool; blue and grey rated chemical components from bluesign® system partners are compiled in this online database (see Chapter 11.3).

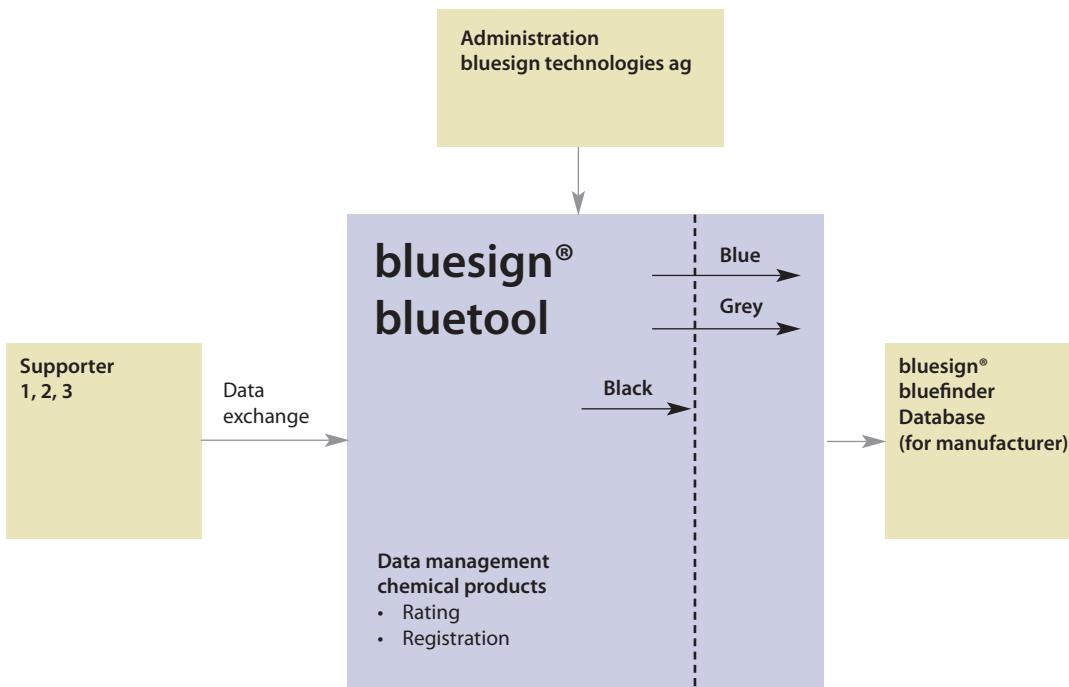


Figure 11.3:
Schematic overview on the bluesign® bluetool functionality



11.3 bluesign® bluefinder

The bluesign® bluefinder is a growing, online database containing chemical components that comply with the bluesign® standard, i.e. homologated components such as auxiliaries, dyestuffs and finishing agents etc. It contains all important information that is needed to select “bluesign® approved” components and to implement them under the bluesign® standard. By means of the bluesign® bluefinder that is a chemical product search engine, bluesign® manufacturers can quickly select products that comply with the newest EHS requirements.

11.4 bluesign® blueguide

The web-based bluesign® blueguide is an advanced database containing bluesign® approved fabrics. Beyond that, comprehensive information about environment, occupational health and safety as well as consumer protection is available in the bluesign® blueguide.