

From Milligrams to Megatons

bluesign®



It has become way too complicated to push the problem back upstream

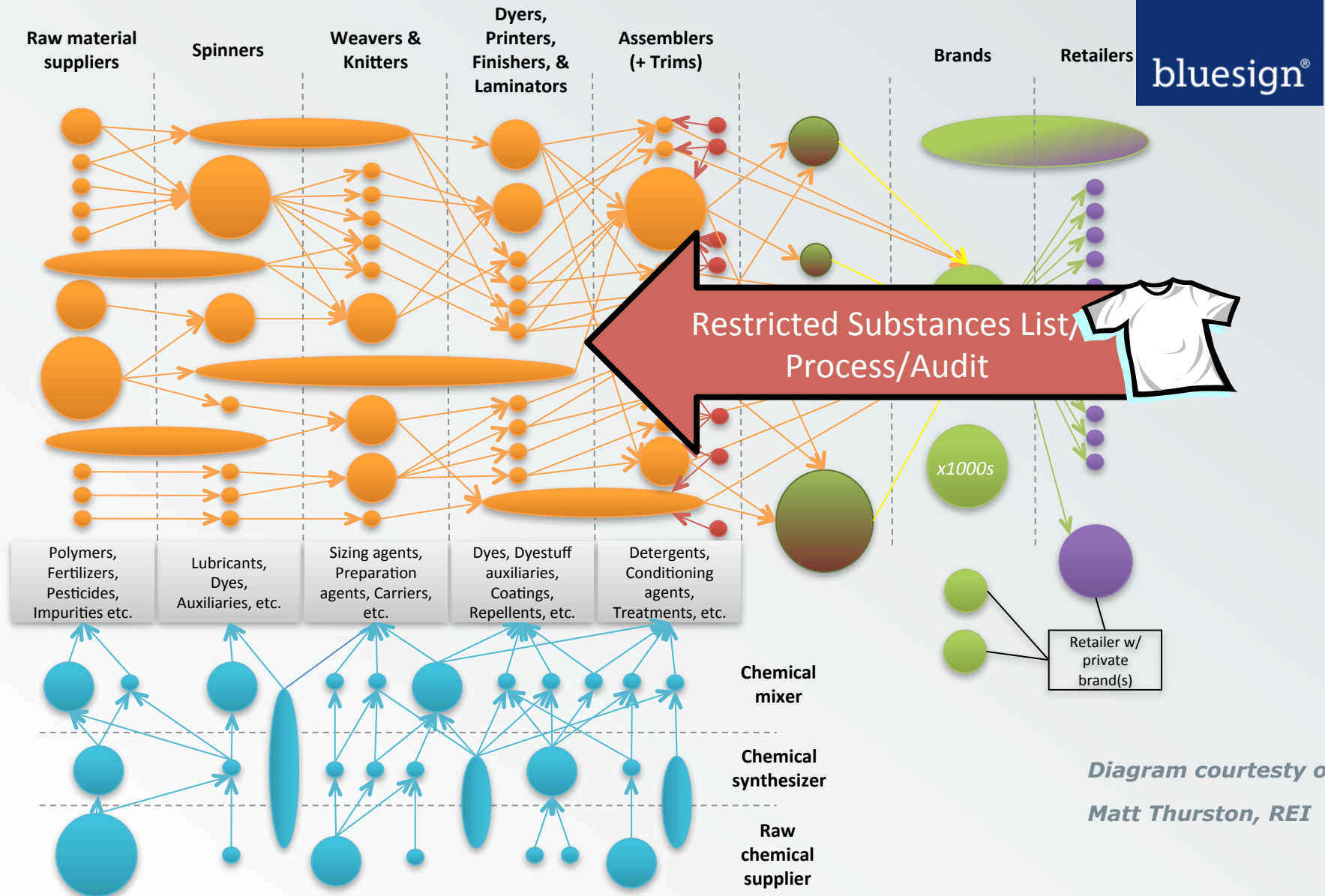


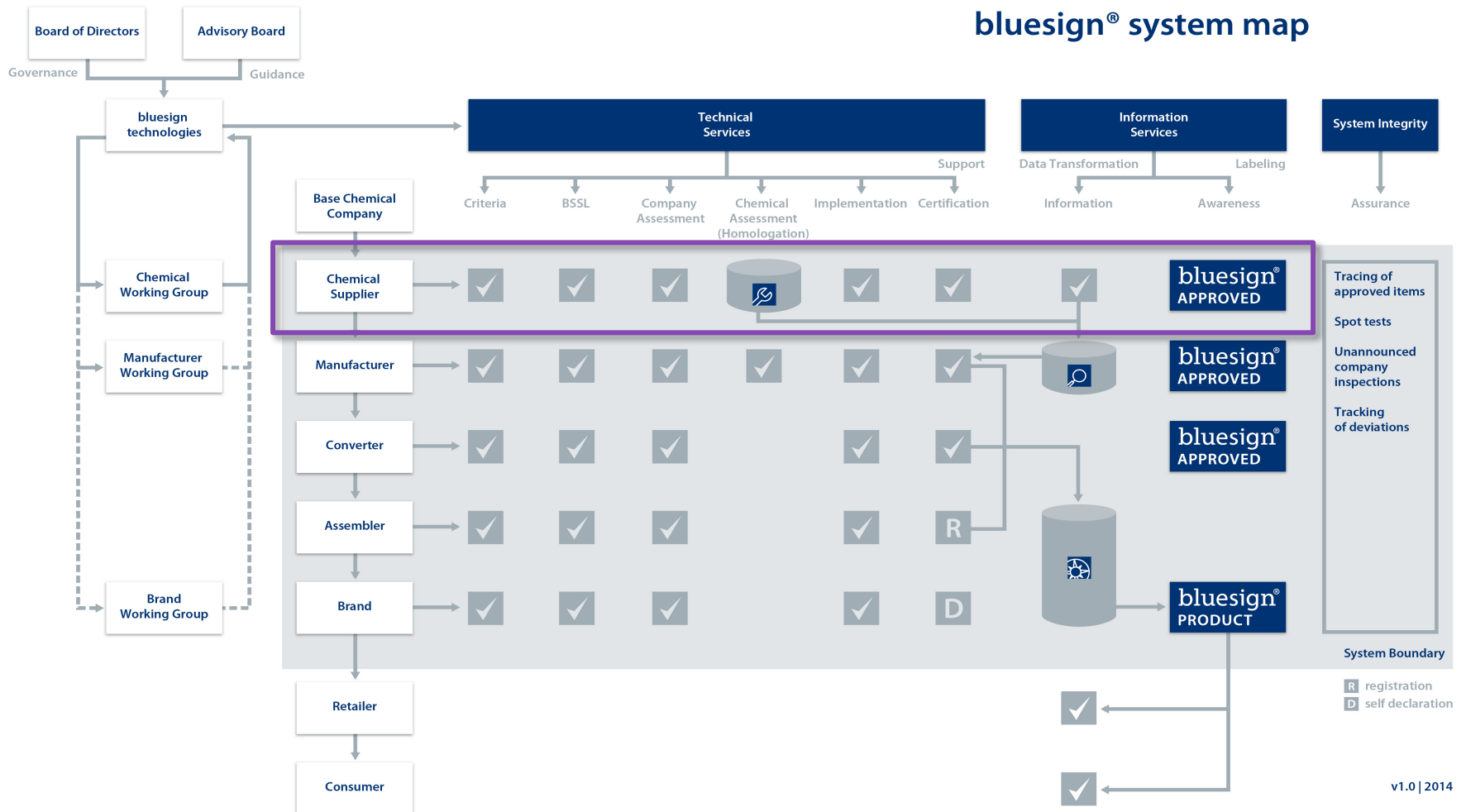
Diagram courtesy of
Matt Thurston, REI

bluesign® system

The bluesign® system

bluesign®

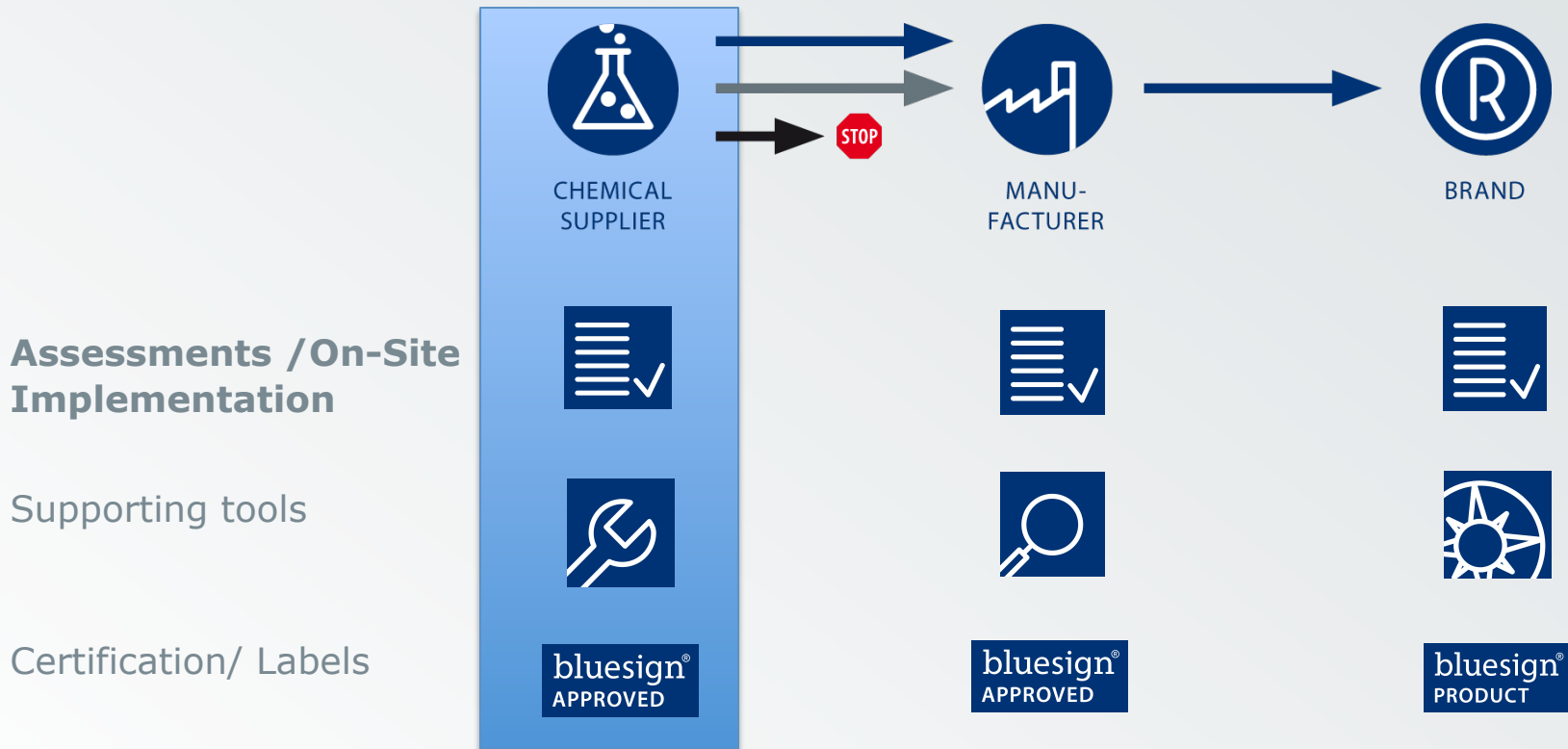




Input Stream Management



Overview bluesign® Service



bluesign® system

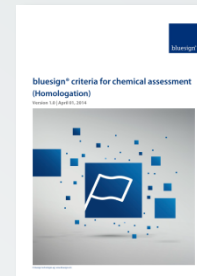
Overview bluesign® Criteria



bluesign® system



bluesign® criteria



bluesign® Criteria



bluesign® criteria
for production sites

ANNEX DOKUMENTS

Chemical Suppliers

Textile Manufacturer

Garment Manufacturer/Assembler

Leather Processing

Surface Treatment of Metals

Down & Feathers Processing



bluesign® Criteria for Production Sites



1. Introduction
2. Definitions
3. Guiding principle
4. Legal compliance
5. Social responsibility
- 6. Management system**
- 7. Input stream management**
- 8. Product stewardship**
9. Resource productivity
10. Emissions
11. Occupational health and safety
12. Handling and storage of hazardous chemicals
13. etc.

What is it?

The bluesign logo, consisting of the word "bluesign" in a white, lowercase, sans-serif font, followed by a registered trademark symbol (®), all contained within a dark blue square.

Product Stewardship

- Responsibility for your products during product life cycle
- ... to reduce product's environmental, health and safety impacts (US - EPA)

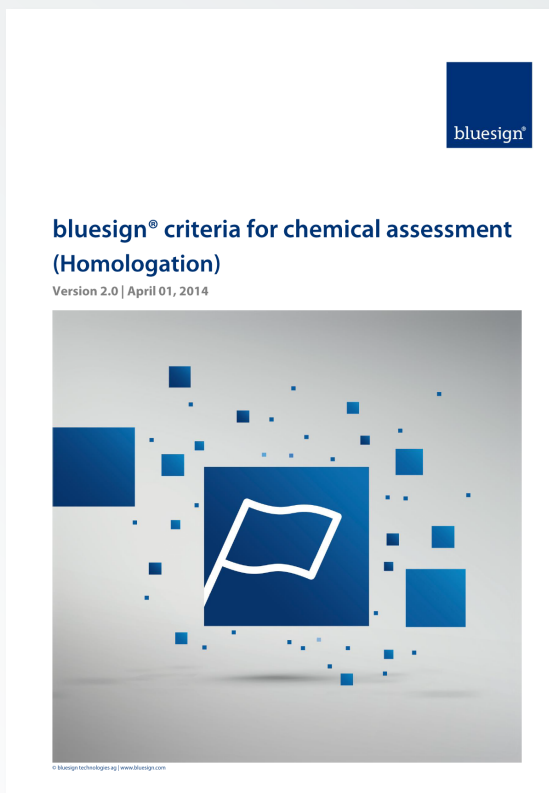
Result from bluesign® Audits in Chemical Companies



- Around 35% chemical companies fail in the audit process!
- Implementation of a „Product Stewardship Program“ takes time. There are costs - but offset by compliance and quality.
- Chemical data evaluation without a „Product Stewardship Program“ is NOT feasible!
- Only an audit of a chemical company with fully implemented actions gives confidence in the reliability of the data!

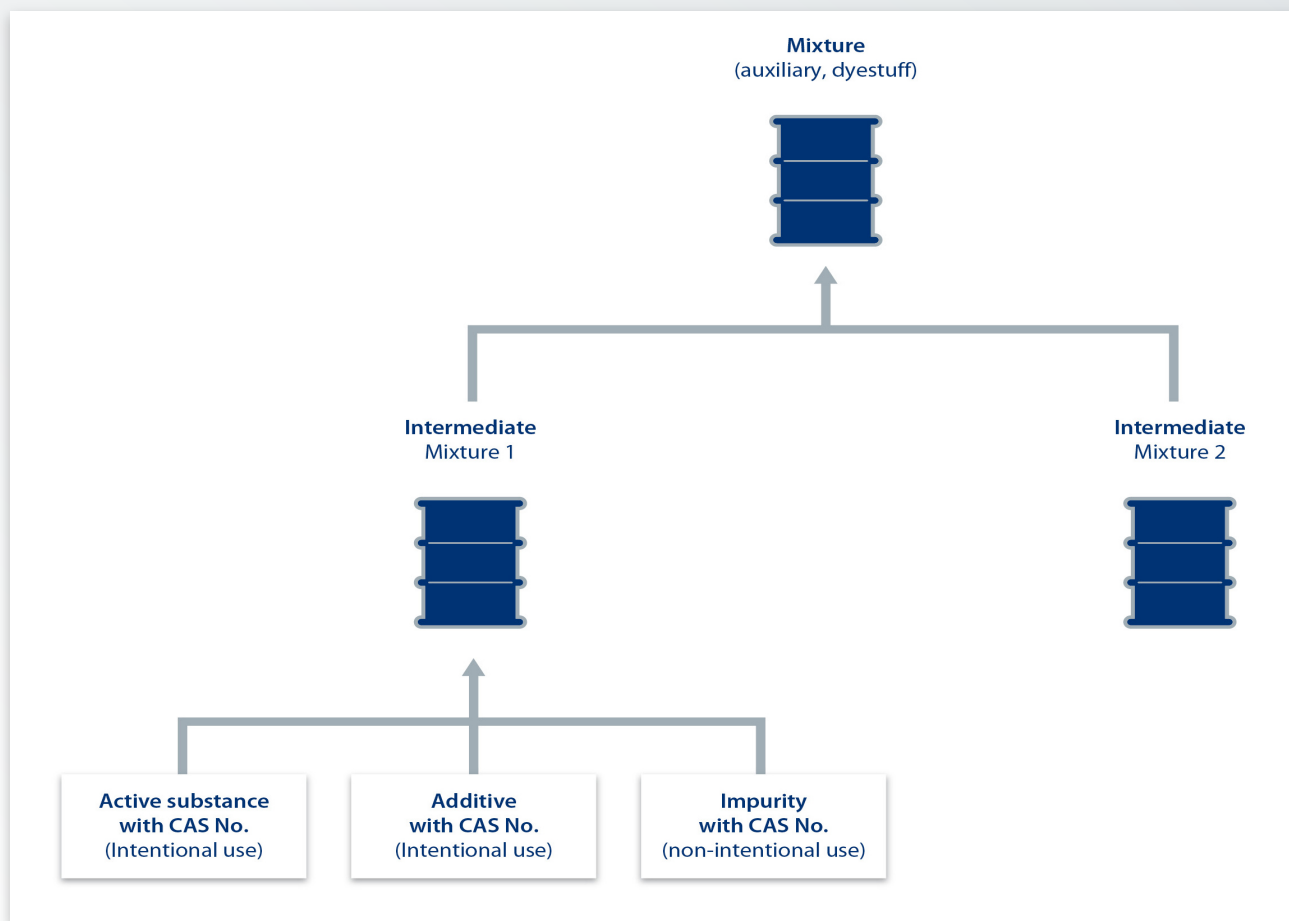
bluesign® Criteria for Chemical Assessment

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1. Introduction
2. Scope
3. Definitions
4. Concept
5. Data sources
- 6. Hazard assessment**
- 7. Exposure assessment**
- 8. Risk assessment**
9. Validity
10. Other applicable documents
11. Supplement

Chemical Compounds and Mixtures



Information in a MSDS

HUNTSMAN
Innovation lives through innovation

Huntsman Textile Effects
SICHERHEITSDATENBLATT (SDS/MSDS)
Erläut. ab 23.11.2008 Erstellt/Erläut. ab 15.08.2005 Produkt-Nr.: 3629377
Verfallsdatum: 23.11.2008

HANDELSNAME
QUEOPHOBOL 7733

1. STOFF- / ZUBEREITUNGS- UND FIRMENBEZEICHNUNG
Bezeichnung des Stoffes oder der Zubereitung
Chemische Beschreibung: Suspension von Flüssigpolymeren, anionisch
Nicht-konzentriert, wasserlöslich

Verwendung des Stoffes/ der Zubereitung
Textil-Chemikalie

Firmenbezeichnung
Produkt-Verwendung: Huntsman Textile Effects (Germany) GmbH
Produkt 1110
Lieferant: Huntsman Textile Effects (Germany) GmbH
Helmweg Str. 1
34462 Langeland a. Lahn
Fax: 06230-41200
Helfelinken: 06230-410

2. ZUSAMMENSETZUNG/ ANGABEN ZU BESTANDTEILEN

Stoffe auf Inhaltsstoffe	Gehalt	GAS-Nr.	Symbol	H-Sätze
+ technisches Pulver, vernetzt, Ethoxylat EO Re. Polymer	1.0-2.5 %	00211-35-5	Xn	22-41

3. MÖGLICHE GEFAHREN
Keine Gefahreneinstufung gemäss EU Richtlinien

4. ERSTE-HILFEMAßNAHMEN

Nach Einatmen: An frische Luft gehen. Auf Konsultieren bei Unwohlsein oder längerer Exposition.

Nach Hautkontakt: Verunreinigte Kleidung entfernen. Haut mit Seife und mit Wasser waschen.

Nach Augenkontakt: Sofort 10 min. mit Wasser spülen. Auf Konsultieren.

Nach Verschlucken: Sofort Arzt anrufen.

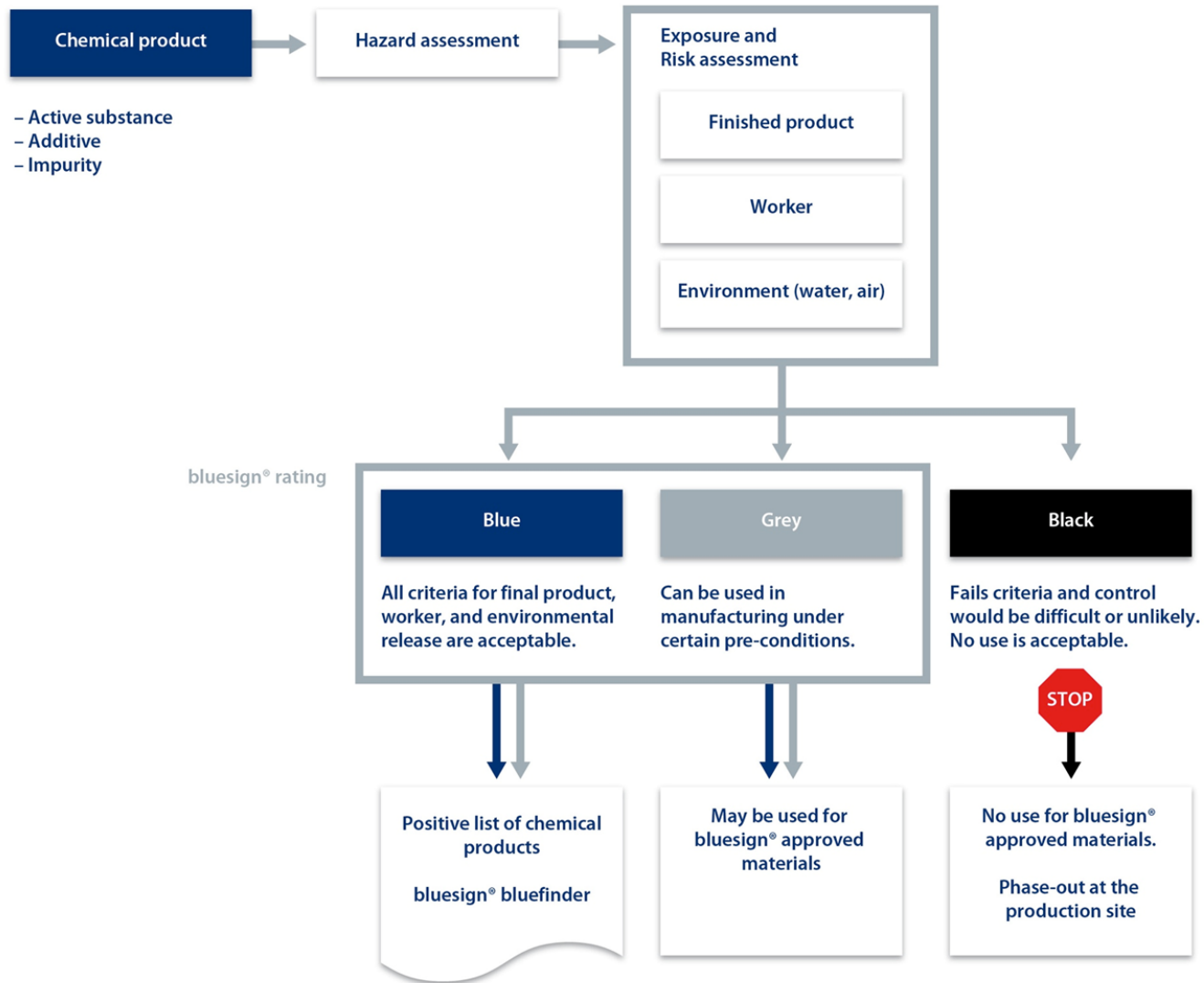
Hinweise für den Arzt: Symptomatische Behandlung.

5. MASSNAHMEN ZUR BRANDBEKÄMPFUNG

Geeignete Löschmittel: Löschmittel der Umgebung anpassen.

Ungeeignete Löschmittel: Keine Einschränkungen.

- A perfect MSDS is not the full story
 - No impurities mentioned e.g. APEO, PFOA or banned Amines
 - No by-products mentioned
 - No reaction products mentioned e.g. p-phenylenediamine in disperse dyes or butanoneoxime in blocked isocyanides
- Most of the above criteria are RSL relevant!
- Content of ecological or toxicological data different from country to country

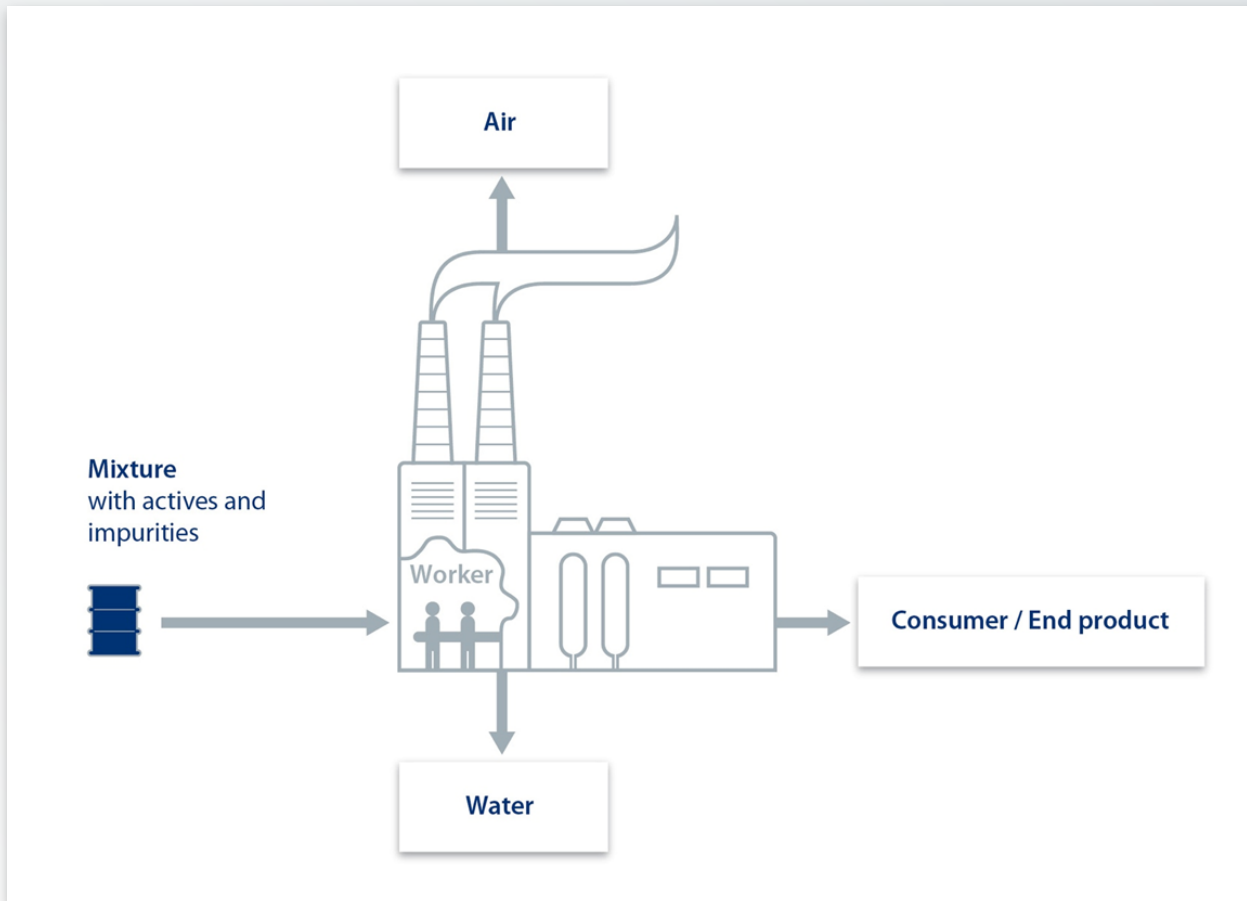


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Exposure and Risk Assessment

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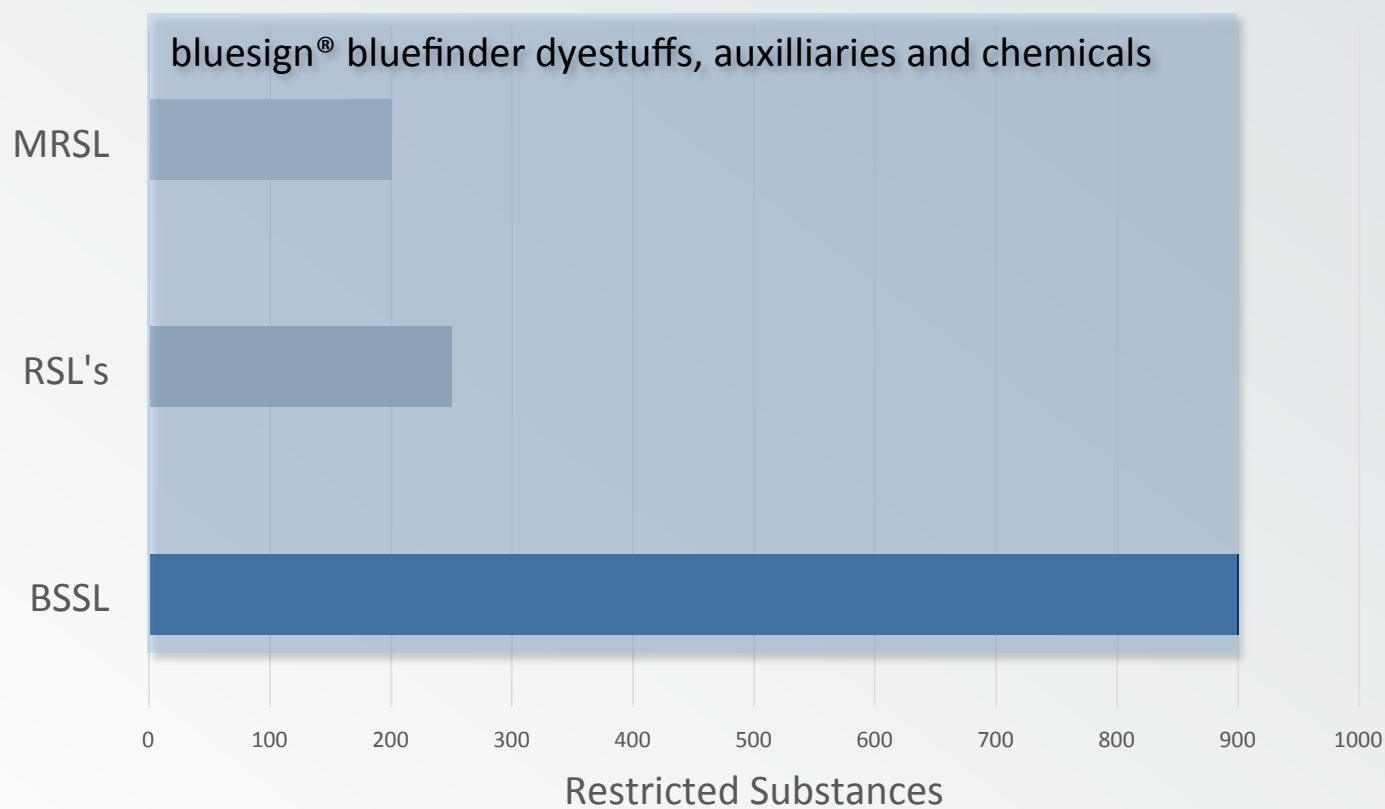
bluesign® bluefinder

With more than 6'500 chemical products in the bluesign® bluefinder we can realize today:

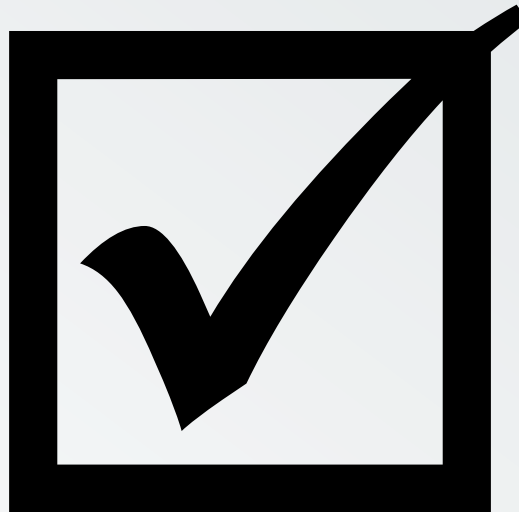
**100% color shades
and
95 to 98% of all possible finishes!**

2 to 5% on the radar for optimization!

BSSL vs. ZDHC MRSL and RSL's



Chemicals Management



From Milligrams to Megatons





The textile industry's big challenge

How to improve resource productivity?

The background image shows a textile factory interior. A long, narrow channel of water is being sprayed from multiple nozzles, creating a misty, blue-lit environment. The water is contained within a metal frame. The overall scene is industrial and futuristic due to the monochromatic blue lighting.

Our target

50% less water

by using intelligent chemistry



Our target

30% less energy

by using intelligent processes



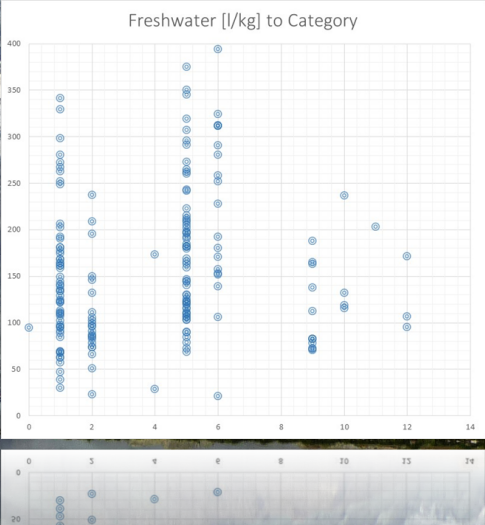
Our target

15% less chemicals

by buying less, but the best!




**166 liters of
water per
kilogram textile**





**The 27 Liter Company
World Record!**

**Swisstex
Los Angeles, USA**

A blue t-shirt is laid flat on a parched, cracked earth surface. A thick stream of water is poured from above, cascading over the shirt and creating splashes. The background is a vast expanse of dry, cracked soil, emphasizing the contrast between the water and the drought-stricken ground.

**45'026'450'000
liters of water/year**

A man with a mustache, wearing a white lab coat and orange safety glasses, is focused on his work. He is holding a small, cylindrical metal component with both hands, examining it closely. He is positioned in front of a large, complex industrial machine made of polished metal. The machine has various pipes, valves, and a large circular opening. In the background, the factory environment is visible, with other machinery and structural elements. The lighting is bright, highlighting the metallic surfaces and the man's concentration.


**What is needed to provide
sustainable solutions?**



bluesign® blueXpert



**revolutionary
approach**

- 
- ❑ **Huge expert knowledge generated over decades available on-line**
 - ❑ **Unique combination of clean chemistry with process knowledge**
 - ❑ **“Best Available Technology”**
 - ❑ **Information about impacts to the environment before production starts**



**Protection
guaranteed
by bluesign®
data center**

Process

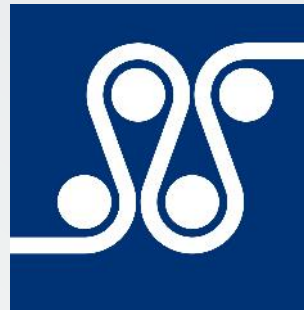
Chemicals



Process
Technology



Machine



Material



bluesign® blueXpert

bluesign® blueXpert – Resource Productivity Calculator

bluesign®



- bluesign® network and server structure
- bluesign® approved auxiliaries and dyestuffs integrated from bluesign® bluefinder
- EHS data from bluesign® bluetool
- Work with BAT processes from bluesign® chemical suppliers
- Machine industry will make available BAT machines profiles



How does it work?

Saving potential from the resource analysis of the bluesign® screening given?

Start working with the bluesign® blueXpert:

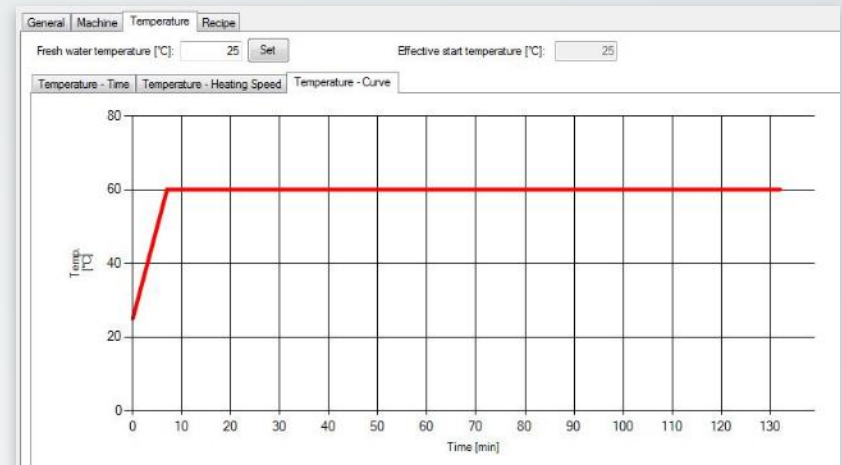
- Input factory base data
- Insert your processes
- Insert your fabric details
- Calculate your actual figures
- Search and calculate BAT processes with your conditions
- Benchmark
- Achieve savings
- Start process and chemical change management

Specific Factory Base Data

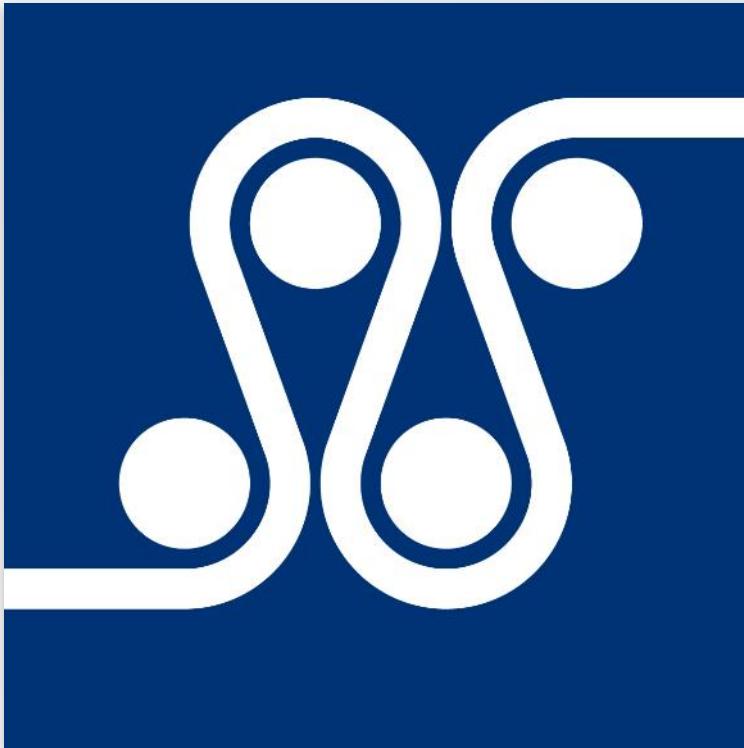


- Machines in operation
- Define your machine data
- Energy types
- Define your effective costs

Record Local Process Technology bluesign®



Define Machine Types and Specific Machine Data



Edit Machine Type

Process type

Continuous

Name

Coating machine

Cancel

OK

Collect Specific Material Data



Edit Material

Material type

Fabric

Name

Test fabric

Number

ABC-2015

Blend

100 % PA

Weight running meter

[g/m]

120

Weight square meter

[g/m²]

67

Material width

cm

180

Material price

[USD]

1.00

CurrencySymbol

USD

User : christian.dreszig@bluewin.ch

Modification date : 7/6/2015 11:02:04 AM

Creation date : 6/10/2015 12:21:28 PM

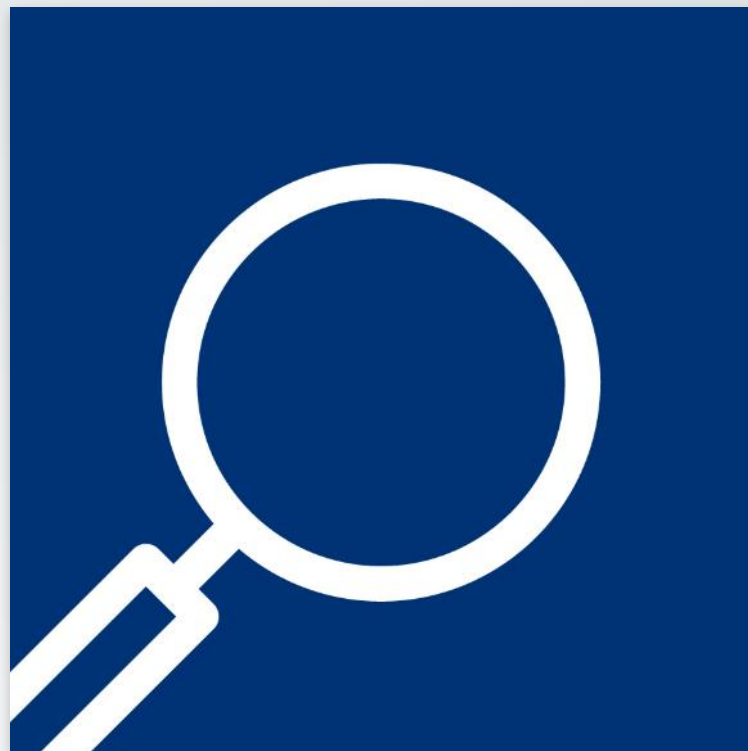
Cancel

OK

bluesign® blueXpert

Select Intelligent Processes with Smart Chemistry

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Calculation Based on Verified Algorithm



Typical Example of Reduction of Impact and Costs

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- 44 %

Water



- 38 %

Energy



- 11 %

Chemicals



- 14 %

CO2



- 31 %

Time



- 18 %

Costs

- Peace of mind that dyes and auxiliaries are RSL/MRSL and BSSL compliant
- Overall production cost savings
- Capacity increase



bluesign® blueXpert

Available
for bluesign®
system partners
Q.1/2016



Conclusion

**The bluesign system addresses the concerns
of milligrams/kg pollutants
and
megatons of wasted resources**

Thank you

The bluesign logo, consisting of the word "bluesign" in a white, lowercase, sans-serif font, followed by a registered trademark symbol (®), all contained within a dark blue square.

Headquarter bluesign technologies ag

Moevenstrasse 18, 9015 St.Gallen, Switzerland

Phone +41 71 272 29 90, Fax +41 71 272 29 99

info@bluesign.com, www.bluesign.com