

HOHENSTEIN WEBINAR: REACH REGULATION, ANNEX XVII & SVHC

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REACH REGULATION, ANNEX XVII & SVHC

CURRENT STATUS & CHALLENGES FOR THE TEXTILE
& FOOTWEAR INDUSTRY



HOHENSTEIN



AGENDA

1. Product Safety in Europe
2. Rapex Notifications & Recalls
3. Reaction of EU Commission
4. Two Examples: APEO & Quinoline
5. SVHC Update
6. Ban on Bisphenols
7. Summary & Conclusions

PRODUCT SAFETY IN EUROPE

RAPEX NOTIFICATIONS & RECALLS

PRODUCTS	HAZARDOUS SUBSTANCE
Garments / Clothing / Leather Goods	<ul style="list-style-type: none">• Azo dyes• Chromium VI
Bags, Accessories & Fashion Jewelry	<ul style="list-style-type: none">• Azo dyes• Chromium VI• Lead• Cadmium• Short-chain chlorinated paraffins (SCCP)• Nickel Release
Footwear & Toys	<ul style="list-style-type: none">• Chromium VI in leather shoes• Lead in plastic as well as metal components• Short-chain chlorinated paraffins (SCCP)• Phthalates• Polycyclic aromatic hydrocarbons (PAH)
Working Gloves	<ul style="list-style-type: none">• Chromium VI

RAPEX NOTIFICATION

NORWAY JANUARY 2023

THE WRIST STRAP CONTAINS

dibutyl phthalate (DBP), bis(2-ethylhexyl) phthalate (DEHP), di-
'isononyl' phthalate (DIP) and diisobutyl phthalate (DIBP)
(measured values: up to 5.8 % by weight)

and

short-chain chlorinated paraffins (SCCPs) (measured values: up
to 0,72 % by weight).

MEASURES

- Measures ordered by economic operators (to: Distributor)
- Withdrawal of the product from the market

DESCRIPTION

- Yellow wristwatch with Pokemon Pikachu figures.
- Product also sold online, in particular via AliExpress.



RAPEX NOTIFICATION

IRELAND FEBRUARY 2023

The product has an excessive concentration of cadmium
(measured value up to 87 % by weight)

MEASURES

- Measures ordered by economic operators (to: Distributor)
- Removal of this product listing by the online marketplace

PRODUCT

Fashion Earrings

Home / Jewelry & Accessories / Jewelry / Fashion Jewelry / Earrings / Earrings from Ireland



CHILD DIES OFF LEAD POISONING

USA 2006

A Child swallows a talisman that consists of 100% lead and dies!

USA 2008

REEBOK pays a fine of 1 Mio US\$

NEWSPAPER

Reebok is paying an unprecedented \$1 million federal fine for giving away lead charms with its children's shoes, including the heart-shape pendant that poisoned and killed a 4-year-old Minneapolis boy two years ago.

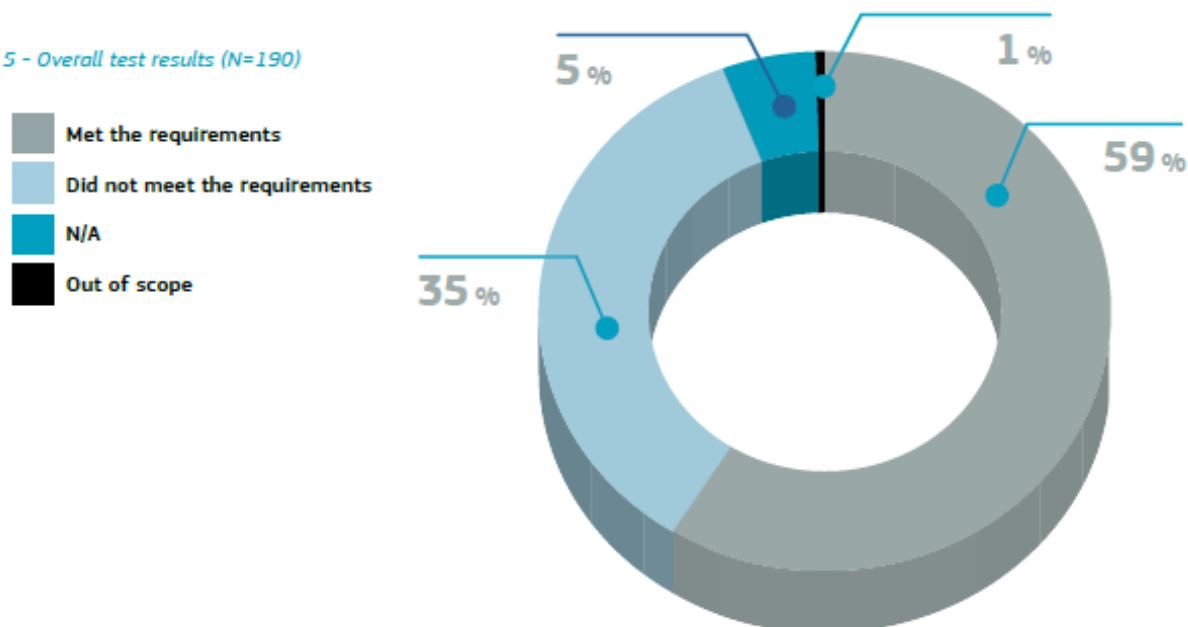
The fine is the largest ever issued by the U.S. Consumer Product Safety Commission against a company for a hazardous-substance violation.

REACTION OF EUROPEAN COMMISSION

3.1 Overview of the test results and main findings

In total, 190 samples were collected by the MSAs and 179 were tested by the testing laboratory on chemical safety¹⁴. More than one third of the products did not meet at least one of the requirements of the testing criteria (see Figure 5).

Figure 5 - Overall test results (N=190)



CASP 2020

Coordinated Activities on the Safety of Products

**Dangerous metals
in jewellery**

Final Report



PROTECTING
European consumers
together

APEO

APEO is abbreviation for
Alkyl-phenol-ethoxylate

Industrial importance:

NPEO: Nonyl-phenol-ethoxylat

OPEO: Oktyl-phenol-ethoxylat

APEO

APEO ARE APPLIED ON LARGE TECHNICAL SCALE:

Tensides (detergents) for industrial washing and cleaning processes, in textile and leather industry

Emulsifiers/dispersing agents:

- in preparations of disperse dyes
- in „polymer dispersions“: dyestuffs and paints, textile coatings (carpets), adhesives
- Leather: degreasing, dyeing, fatlicker, impregnation

FAIL RATE

Fail Rate (with reference to limit value of 100 mg)

- in 2009 40 %, in 2011 11 %,
- today ~ 5-10 %

- typically in the range of 100- 800 mg/kg, sometimes higher than 1000 mg/kg

HOW TO AVOID NPEO

TEXTILES

- Carefully rinsing of final products
- No NPEO-containing preparations of disperse dyes!
- In general no NPEO-based dispersing agents!

LEATHER

- Washing process during production
- Avoid NPEO-based auxiliaries!

QUINOLINE

SOURCES OF QUINOLINE IN TEXTILES:

- Impurity in certain disperse dyes
- In „Naphthol-AS“-dyes, used for dyeing of cotton
- As impurity in certain naphthalene based finishing resins

FINDINGS:

- In Polyester, typical range up to 250 mg/kg
- Currently ~ 10% Fail-Rate, ~ all in Polyester
- Solution: Certified Dyes & Finishing agents of high quality & purity

CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN (SVHC)

LATEST UPDATE ON 17 JANUARY 2023

- 9 new entries
- now totally 233 entries
- How is the industry affected?

LIST OF NEWLY ADDED SVHC

Entry	SVHC	CAS-Number
	Brominated Flame Retardants	
225	BTBPE: 1,1'-[ethane-1,2-diylbisoxy]bis[2,4,6-tribromobenzene]	37853-59-1
226	Tetrabromobisphenol A: 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	79-94-7
229	Bis(2-ethylhexyl) tetrabromophthalate	26040-51-7
227	Bisphenol S, (4,4'-sulphonyldiphenol)	80-09-1
228	Barium diboron tetraoxide	13701-59-2
230	Isobutyl 4-hydroxybenzoate	4247-02-3
231	Melamine	108-78-1
	PFAS:	
232	Perfluoroheptanoic acid and its salts	375-85-9
233	reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	-

BROMINATED FLAME RETARDANTS

Industrial usage of brominated flame retardants in all kind of plastic materials where flame/fire protection is needed:

TETRABROMOPHTHALATE IS BEING USED:

- in Polyurethane foam to replace pentabromodiphenylether
- in flexible PVC (Polyvinylchloride), e.g. wire & cable insulations, films, carpet backings, coated fabrics etc.

BTBPE IS BEING USED:

- especially in ABS to replace octabromodiphenylether
- in many thermo-plastics, especially when stability at high temperatures is needed
- Replacement for Tetrabromobisphenol A

BISPHENOL S

LEATHER | Usage as Synthetic Tanning Agent (Syntan):

- Industry stakeholders estimate residual BPS concentrations in leather products in the range of 0,1 to 3 %.
- TEGEWA, a German association of process and performance chemicals manufacturers, confirmed that typical mean concentrations of BPS amount to around 0,26 % for 75 % of their members.

TEXTILES | Usage as Colour Fixing Agent in Polyamide (Nylon):

- Globally, 80 % of polyamide textiles are finished with syntans
- TEGEWA confirmed that concentration ranges typically between 200 to 1000 ppm (0,1 %)
- Cases exceeding the limit of 0,1 % are highly probable

MELAMINE

Melamine Resins are being used to large extend:

- Melamine/Formaldehyde (MF) resins & Melamine/Urea/Formaldehyde (MUF) resins
- Food contact materials, cookware & kitchen utensils
- Flame retardant finishing

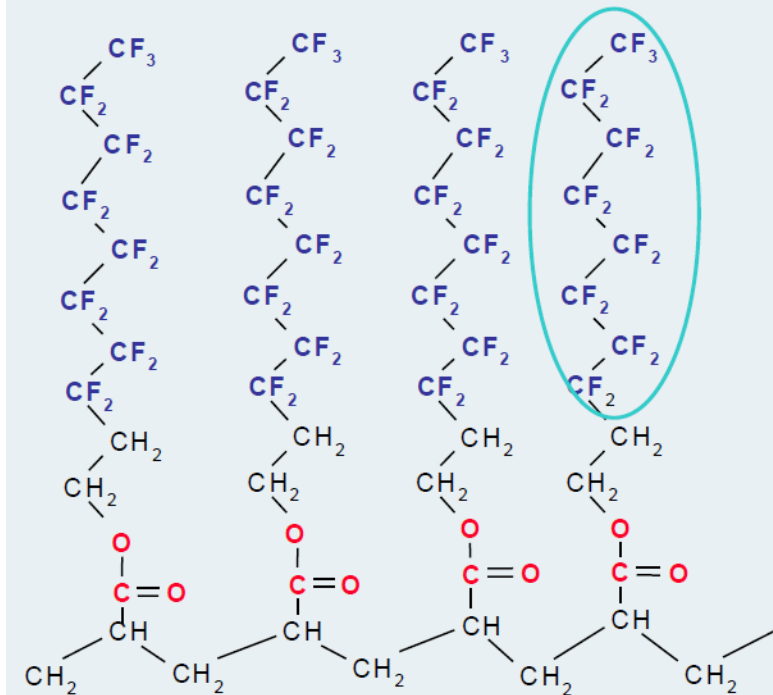
Textiles & Leather Finishing:

- Cellulose impregnated to enhance dimensional stability
- Resin finishing and syntans used in leather production

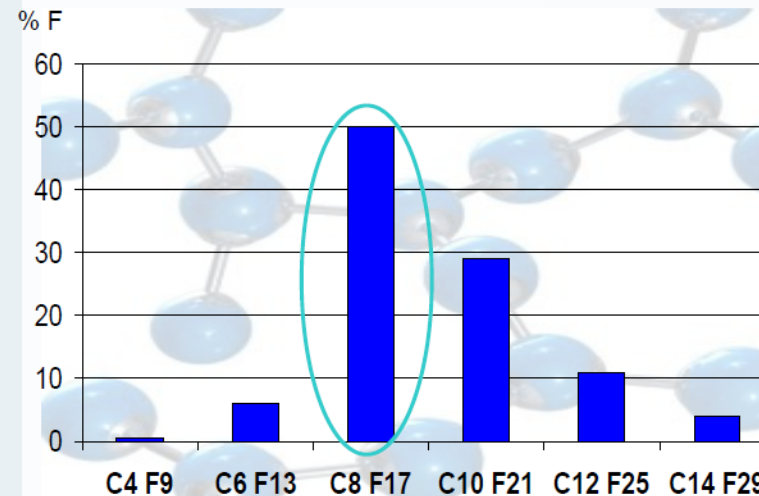
PERFLUOROHEPTANOIC ACID & COMPOUNDS

„C8-Chemie“

Produkte auf „C8-Basis“:



perfluorierte Seitenketten
unterschiedlicher Kettenlänge
(C4, C6, C8, C10 ...) mit
Verteilungsschwerpunkt bei C8



ECHA STATEMENT:

Although not registered under REACH.

Identification as an SVHC can be seen as a measure to avoid regrettable substitution

ISOBUTYL-HYDROXYBENZOATE

**This compound is a group member of so-called
PARABENS WHICH ARE USED AS PRESERVATIVES:**

- Cosmetics
- Food
- Pharmaceuticals

- Usage in Textiles & Leather at high risk levels rather improbable

EU WILL BAN BISPHENOLS

“All News” on ECHA website in August 2022:
Group assessment of bisphenols identifies need for restriction

Five Bisphenols, identified as “endocrine disruptors”
are explicitly listed:

- Bisphenol A
- Bisphenol B
- Bisphenol S
- Bisphenol F
- Bisphenol AF

BAuA
Federal Institute for Occupational Safety and Health
Division 5 - Federal Office for Chemicals
Friedrich-Henkel-Weg 1-25
D-44149 Dortmund, Germany

ANNEX XV RESTRICTION REPORT

PROPOSAL FOR A RESTRICTION

SUBSTANCE NAME(S):

4,4'-isopropylidenediphenol (Bisphenol A) and bisphenols of similar concern for the environment

EU WILL BAN BISPHENOLS

“All News” on ECHA website in August 2022:

Group assessment of bisphenols identifies need for restriction

- A group approach must be taken to cover all bisphenols having endocrine disrupting properties for the environment and fitting specific structural group boundaries, since owing to the high structural similarity of ED bisphenols there is a high risk that these substances are used among each other as drop-in substitutes for restricted uses (*e.g.* as it could be observed in thermal papers, where BPA has been largely replaced by BPS). This would render any restriction approach focusing on single ED bisphenols disproportionate.
- Regrettable substitution must be avoided to achieve an effective measure.

EU WILL BAN BISPHENOLS

CONDITIONS OF RESTRICTIIONS

1. Shall not be placed on the market in mixtures and articles in a concentration equal to or greater than 10 ppm (0.001 % by weight). This limit value refers to the sum of all substances subject to this Annex XVII entry which are present in the respective mixtures and articles.
2. Paragraph 1 shall not apply to mixtures and articles where the bisphenols listed in Annex X are either covalently bound to any type of matrix (i.e. via functioning as a cross-linker) or are used as intermediates in the manufacture of polymers, and for which
 - i. contact to aqueous media in any form (i.e. also cleaning) can be excluded during their reasonable and foreseeable use throughout their service life or
 - ii. the migration limit in the respective mixtures and articles does not exceed 0.04 mg/L over the entire service life. Conditions for migration testing are described in Annex Z below.

Leather articles	Concentration limit 500 ppm for 5 years.	High uncertainty regarding current concentrations of BoSC in leather articles. Information available on R&D for syntans containing fewer amounts of BoSC. Limited costs expected when tanneries use new syntans. Information is lacking on whether even lower concentration limits can be met in the future.
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SUMMARY & CONCLUSION

General Product Safety and Compliance with REACH Regulations has to be improved!

- Alarming Number of Product Recalls and Rapex Notifications!

Pattern of hazardous substances unchanged over years:

- **Phthalates, e.g. DEHP**, banned since years still present especially in Toys!
- **APEO** show high fail rate, although „target Nr 1“ to be phased out by industry involved in ZDHC!
- **Lead & Cadmium** , although banned since years, still being used in metal fashion jewelry & accessories

Upcoming ban on Bisphenols will be huge challenge to the industry in the EU!

- *Big concerns in the leather industry!*

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SCAN FOR MORE
CONTACT DETAILS





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