



Associazione Tessile e Salute



WORKSHOP LIFE-FLAREX

Sostenibilità e riduzione dell'impatto ambientale
dei prodotti ritardanti di fiamma nel finissaggio tessile:
le possibili alternative

I requisiti eco-tossicologici nel
mercato del fashion e
l'attività nazionale di monitoraggio di
Tessile e Salute

*Marco Piu – Coordinatore scientifico e organizzativo
dell'Associazione Tessile e Salute*

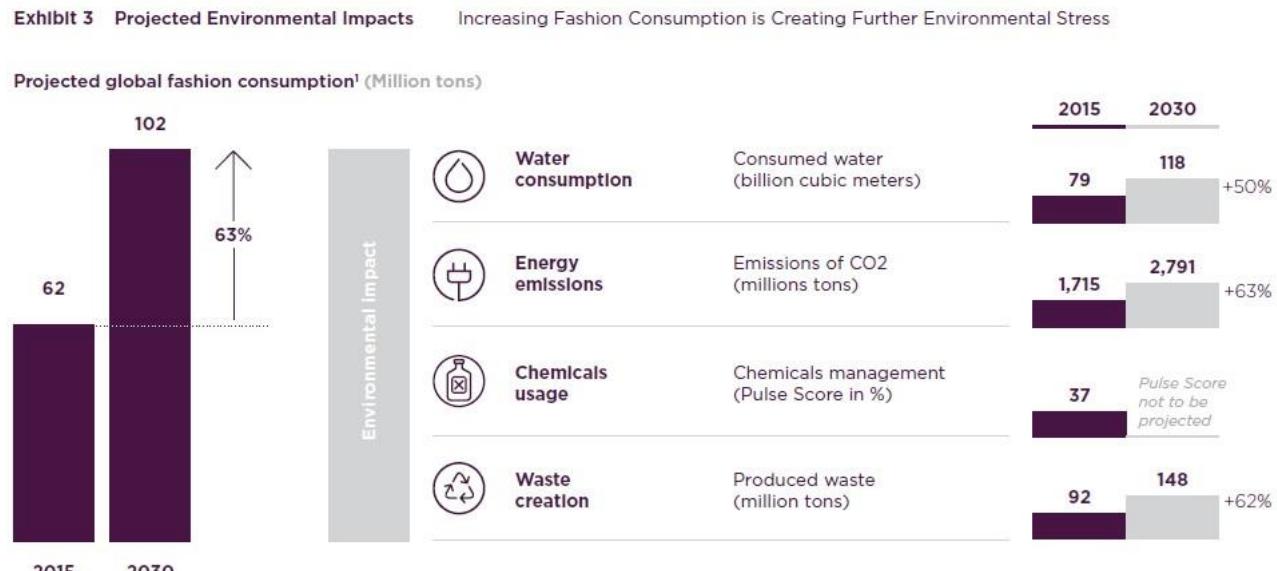
Biella – 12 luglio 2019



fashion industry

The fashion industry has a major opportunity to secure a prosperous future. The industry is facing a rapidly growing demand worldwide, and at the same time many companies are stepping up their work toward more environmentally and socially responsible practices. But this is not enough. To put fashion on a path to long-term prosperity financially, socially, and environmentally, much more must be done.

Pulse of the Fashion Industry Report 2018 - Global Fashion Agenda and The Boston Consulting Group



ENVIRONMENTAL PRESSURES PUT €110 BILLION VALUE AT STAKE



	Impact	Value at stake	Until 2030
Environmental	Water consumption	1 Reduced water consumption →	€32 billion
	Energy emissions	2 Reduced energy emissions →	€67 billion
	Chemical usage	3 Reduced occupational illnesses →	€7 billion
	Waste creation	4 Reduced amount of waste →	€4 billion
Social	Labor practices	5 Workers earning 120% min. wage ¹ →	€5 billion
	Health & safety	6 Reduced number of recorded injuries →	€32 billion
	Community & ext. eng.	7 Increased community spending →	€14 billion

source: Pulse of the Fashion Industry (2017) – Global Fashion Agenda



con chi opera Tessile e Salute

- ❖ **Istituzioni:** Referente Tecnico per il settore del fashion per i Ministero della Salute, Ministero dell'Ambiente, Ministero dello Sviluppo Economico e l'ICE
- ❖ **Consumatori:** collaborazione con le autorità di controllo, campagne di informazione e sensibilizzazione, supporto tecnico-scientifico
- ❖ **Aziende:** assistenza tecnica in ambito eco-tossicologico, certificazione della supply chain, valorizzazione della Sostenibilità aziendale e del manifatturiero Made in Italy



Tessile e Salute Reports

**Our expertise and knowledge of, Regulations, Norms, eco-toxicology,
technical and scientific aspects of the textile industry world**

unique studies do in Europe,

- Chemical substances and their methods of use in the Italian textile supply chain
- Sodium dichromate use and sustainability in the textile sector
- Chemical substances in textile products and allergic reaction
- Comparative analysis of the eco-toxicologic standards between Europe and the United States in the textile, clothing, leather and footwear sector



Tessile e Salute Reports

Commissioned by
European Commission – DG Enterprise

Report study on
**“Chemical substances in textile products
and allergic reactions”**

October 2012

**Approximately 8% of dermatological diseases
are due from textile garments**

In 100 % the toxic clothing was imported from the non-EU market

textile supply chain



Chemical issues

Raw materials:	Fibre production:	Yarn spinning:	Fabric manufacturing:	Wet treatment:	Drying /finishing:	Garment making:	Transport:
Pesticides	Solvents	Spinning oils		Detergents	Airemissions		Biocides
Fertilisers	Carbon disulfide		Needle oils	Lubricants		Stain removal	Containergas
Crude oil	Surfactants		Sizing agents	Stabilizers	Prints	Spray bleaching	Fuel combustion
Fracking agents	Monomers			Bleach		Finishing agents	
	Catalysts			Dyestuff			
				Salts			
				Softeners			
				Finishing agents*			
				Water emissions			
				COD			



supply chain sustainability

the goal about chemical formulation:

- ✓ **Which chemical formulation are used**
- ✓ **Where chemical formulation are used**
- ✓ **How chemical formulation are used**

examples

- Tessitura: bozzime non degradabili, anche microplastiche;
- Candeggio: composti alogenati (cloro);
- Tintura: metalli pesanti; ammine aromatiche cancerogene;
- Finissaggio: lubrificanti, tensioattivi, resine.



Associazione Tessile e Salute

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Tessile e Salute certificate

Having regard to the fact that

(Company)..... through (its owner).....

- Has submitted the relevant application together with the declaration it commits itself to fulfil all conditions and requirements;
- Has fulfilled all necessary requirements and has provided all the necessary documents including:
 - 1) traceability: specification of all processing phases and of the place where they have been carried out;
 - 2) knowledge of all chemical substances: presentation of the safety sheets of all the chemical substances used in the different processing phases;
 - 3) data updating: willingness to immediately notify any change that could occur;
 - 4) continuous improvement: willingness to accept and implement all new technical / scientific indications coming from the "Associazione Tessile e Salute";
 - 5) study and solution of new problems: willingness, in the case a textile, clothing or footwear product subject to the declaration "It participates in the Textile and Health Project" is found through appropriate researches to have caused any pathologies, to jointly tackle the problem in order to precisely define and solve it;
 - 6) sampling and tests: willingness to carry out sampling and testing activities.

The 'Associazione Tessile e Salute'

DECLARATES THAT

The product
Produced by:

FAC SIMILE

FULFILS ALL REQUIREMENTS SET BY 'TESSILE E SALUTE'
and
PARTICIPATES IN THE TEXTILE AND HEALTH PROJECT
funded by the
MINISTRY OF HEALTH
and aimed at protecting the health of people, guaranteeing to the end consumers
the safety and the transparency of the textile-clothing products.

Certificate n°

Biella.....

The Director
Mauro Rossetti

The President
Franco Piumi



Associazione Tessile e Salute

Questo articolo soddisfa tutti i requisiti del
PROGETTO TESSILE E SALUTE
sostenuto dal
MINISTERO DELLA SALUTE ITALIANO
certificato n°.



Associazione Tessile e Salute

Dieser Artikel entspricht allen Vorgaben des vom
italienischen Gesundheitsministerium geförderten
PROJEKTS "TESSILE E SALUTE"
(TEXTILIEN UND GESUNDHEIT)
Zertifikat Nr.



Associazione Tessile e Salute

producto satisface todos los requisitos del
PROYECTO TEXTIL Y SALUD
sostenido por el
MINISTERIO DE SANIDAD ITALIANO
certificado no.



the italian initiative

SUSTAINABILITY JOINT COMMISSION

- CNMI Camera Nazionale della Moda Italiana
- SMI Sistema Moda Italia
- Associazione Tessile e Salute (technical coordinator)

CNMI SUSTAINABILITY COMMISSION

- Camera Nazionale della Moda Italiana
- Associazione Tessile e Salute (technical coordinator)
- Gucci (Commission President)
- Gianni Versace
- Giorgio Armani
- Prada
- Valentino



Guidelines for clothing (april 2016)

SYSTEM NETWORK

Working team:

Camera Nazionale della Moda Italiana

Gucci

Giorgio Armani

Prada

Valentino Fashion Group

Versace

Associazione Tessile e Salute

Collaborations:

SMI Sistema Moda Italia

Contributors:

Federchimica

UNIC Unione Nazionale Industria Conciaria

called to cooperate:

Brand, Manifatture tessili, Aziende chimiche,

Aziende conciarie, Istituzioni, Laboratori



Camera Nazionale della Moda Italiana



SUSTAINABLE FASHION

Linee Guida sui requisiti eco-tossicologici per gli articoli di abbigliamento, pelletteria, calzature ed accessori.

In collaborazione con





national Guidelines for clothing

Families of chemicals	Limit in the Articles			Analytical method (always refer to the latest version)	DL detection limit	Notes			
	Proactive		Advanced						
	Child (*)	Adult							
Agrochemicals (plant protection products)	≤ 0,2 mg/kg Sum: ≤ 1 mg/kg	≤ 0,2 mg/kg Sum: ≤ 1 mg/kg	N.D.	EPA 8081; EPA 8151; EPA 8141	0,2 mg/kg	(**)			
Alkylphenols Ethoxylated alkylphenols	Sum: ≤ 100 mg/kg	Sum: ≤ 100 mg/kg	N.D.	NP, OP: ISO 18857-1 NPEO, OPEO: Textile ISO/FDIS 18254; Leather ISO DIS 18218-1	1 mg/kg				
Carcinogenic aromatic amines	≤ 20 mg/kg Textile ≤ 30 mg/kg Leather	≤ 20 mg/kg Textile ≤ 30 mg/kg Leather	≤ 5 mg/kg	Textile: ISO/DIS 14362-1 e -3 per 4-amminoazobenzene; GB/T 17592.1; GB/T 23344. Leather: ISO 17234-1 e 2; GB 20400; GB/T 19942.	5 mg/kg	The leather DL will be subject to specific studies and in-depth analysis.			
Biocides - Dimethylfumarate	N.D.	N.D.	N.D.	ISO TS 16186	0,1 mg/kg				
Biocides - others	Only biocidal products authorized in the EU Reg. 528/2012 and subsequent amendments			Solvent Extraction GC- MS / LC-MS-MS					
Benzenes and chlorinated toluenes - chlorobenzenes	Sum: ≤ 1 mg/kg	Sum: ≤ 1 mg/kg	N.D.	DIN 54232	0,5 mg/kg				
Chlorophenols - chlorinated phenols	Textile ≤ 0,05 mg/kg Leather ≤ 0,5 mg/kg	Textile ≤ 0,05 mg/kg Leather ≤ 0,5 mg/kg	N.D.	Textile LFGB B 82.02.8 Leather EN-ISO 17070	0,05 mg/kg	The leather DL will be subject to specific studies and in-depth analysis.			
Vinyl chloride - monomer	≤ 5 mg/kg	≤ 5 mg/kg	N.D.	GB/T 4615	5 mg/kg				
Allergenic dyes	≤ 50 mg/kg	≤ 50 mg/kg	N.D.	DIN 54231	5 mg/kg				



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ARPA Agenzia Regionale Protezione Ambiente

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Aziende conciarie, Istituzioni, Laboratori

Guidelines for chemicals (march 2018)

Camera Nazionale della Moda Italiana



LINEE GUIDA

SUI REQUISITI ECO-TOSSICOLOGICI PER LE MISCELE CHIMICHE
E GLI SCARICHI INDUSTRIALI DELLE AZIENDE MANIFATTURIERE

IN COLLABORAZIONE CON



CON IL PATROCINO DI



© Camera Nazionale della Moda Italiana. Proibita la totale o parziale riproduzione in qualsiasi forma, tramite qualsiasi strumento e con qualsiasi mezzo.



Guidelines for chemicals

Chemical substance families	Proactive	Advanced	Analytical methods	DL detection limits	Notes	Reference standards
Phytosanitary products)	See note	n.a.	<p>-PREPARATIONS: extraction of sample in 1:1 hexane:acetone mixture</p> <p>-INSTRUMENTAL MEASUREMENT: GC-MS/MS</p>	0.2 mg/kg	No intentional use; only contamination from raw materials of vegetable origin is contemplated. Where their presence is presumed, chemical companies must declare the fact.	EPA 8081B - Organochloride pesticides by gas chromatography EPA 8141B - Organophosphorus compounds by gas chromatography EPA 8270D - Semivolatile organic compounds by gas chromatography
Alkylphenols Alkylphenol ethoxylates	100 mg/kg 300 mg/kg for colourants	1 mg/kg	<p>Alkylphenol ethoxylates:</p> <p>- PREPARATIONS: extraction of sample in methanol.</p> <p>-INSTRUMENTAL MEASUREMENT: LC-MS or LC-MS/MS</p> <p>Alchylphenols: - PREPARATIONS: - Liquids: solubilization of</p>	1 mg/kg		ISO 18218-2 Leather -- Leather -- Determination of ethoxylated alkylphenols, Indirect method (section 6.2) . ISO 18218-1 Leather - - Determination of ethoxylated alkylphenols, Direct method (section 7,1). ISO 18857-1 Water quality - determination

Guidelines MRSL /wastewaters

Families of chemical substances	Individual parameters	Units of measure	Discharge limits - proactive		Discharge limits - advanced		ANALYTICAL METHOD	DL	NOTES
			Surface water	Sewerage	Surface water	Sewerage			
Basic chemicals	TSS Total Suspended Solids	mg/l	50	160	30	100	ISO 11923, USEPA 160.2, APHA 2540D	1,0 mg/l	
	BOD5	mg/l	30	200	15	100	UNI EN ISO 1899-1:2001; APHA 2012 5210D, ISO 5815-1,-2 , EN 1899-1, USEPA 405.1	5,0 mg/l	
	COD	mg/l	120	400	80	300	CNR ISRA 5130 MAN. 29/03; ISO 15705.2002 , ISO 6060. USEPA 410.4, APHA 5220D	5,0 mg/l	
	N - NH4	mg/l	10	24	9	22	CNR - IRSA MET. 3030 MAN. 29/03; EPA 350.1 1993; UNICHIM 2363: 09, ISO 11732.ISO 7150. EN ISO 11732, APHA 4500 NH ₃ -N	0.5 mg/l	
	N - NO2	mg/l	0.48	0.48	0.44	0.44	CNR - IRSA MET. 4020 MAN. 29/03	0.02 mg/l	
	N- NO3	mg/l	16	24	14	22	CNR - IRSA MET. 4020 MAN. 29/03	1,0 mg/l	



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