

Chemical Categories

Chemical Categories and Classification schemes

by

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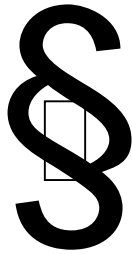
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Chemical Categories

Classifications by Law

- **German Chemikalienverbots Verordnung (Chemicals Act)**
- **§30 of the Food and Commodities Law (LFBG)**
- **Directive 76/769/EEC and amendments (restrictions on marketing and use of certain dangerous substances)**
 - **Japan Law 112**
 - **California Proposition 65**
- **Various national Laws on global base**

Chemical Categories

Other Classification Schemes

- Stockholm Convention on Persistent Organic Pollutants (POP's)

Targeting prevention and phase out of chemicals according to their inherent characteristics:

- persistent
- toxic
- bio-accumulative
- endocrine disrupting



Chemical Categories

“Consumer” Classification Schemes

- Oeko-tex 100 (www.okotex.com)

- TÜV Toxproof

- SG Label

- For Inks/Dyes: ETAD

(Ecological and Toxicological Association of
Dyes and Organic Pigments Manufacturers)

(www.etad.com)

- WFSGI RSL List



Chemical Categories

“External” Classification Schemes

- Retail
- NGO's
- EN 71
- ROHS

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"Tested for harmful substances": Natural, chemical fibres and blends A. Not in direct skin contact: ... articles which have only little skin contact (e.g. coats) B. Direct skin contact: ... articles which are mainly in direct skin contact (e.g. skirts, T-shirts) C. Babies/ children's wear: ... up to size 110 valid from 06 '01				
Parameter	Limit values	Test method	TEXTILE-PHYSICAL PARAMETER	
	not in direct skin contact A	direct skin contact B	babies / children's wear C	
1. Formaldehyde	300 mg/kg	75 mg/kg	20 mg/kg	1)
2. pH value	4.0 - 9.0	4.0 - 7.5	4.0 - 7.5	2)
3. Metals	extractable • arsenic As 1.0 mg/kg • antimony Sb 10.0 mg/kg • lead Pb 1.0 mg/kg • cadmium Cd 0.1 mg/kg • mercury Hg 0.02 mg/kg • copper Cu 80.0 mg/kg • chromium Cr total 2.0 mg/kg • chromium VI n.n. • cobalt Co 4.0 mg/kg • nickel Ni 4.0 mg/kg			3)
4. Pesticides	• DDT, DDD, DDE • Lindan (γ-HCH) • Aldrin • Dieldrin • Heptachlor/Heptachloroepoxide • α, β-γ-Hexachlorocyclohexane • 2,4-D • 2,4,5-T • Toxaphene • Carbaryl • Endrine • α, β-Endosulfan • Trifluralin • Hexachlorobenzene • Methoxychlor • Milbex			4)
Total concentration of pesticides (incl. PCB/TeCP)	below 1.0 mg/kg	below 1.0 mg/kg	below 0.5 mg/kg	
5. Phenols	0.5 mg/kg	0.5 mg/kg	0.05 mg/kg	5)
• 2,3,4-trichlorophenol • o-Phenylphenol	0.5 mg/kg 1.0 mg/kg	0.5 mg/kg 1.0 mg/kg	0.05 mg/kg 0.5 mg/kg	
6. Azo-dyes/stuff	No use of banned azo dyes/stuffs according to reference A. Additional o-aminodiphenylamine (CAS-no. 90-04-0)			6)
7. Chlorinated organic carrier	1 mg/kg			7)
8. Peroxide finish	none			
9. Flame retardant finish	none			
10. Phthalate in PVC	0.1 %			
11. Tin organic compounds	1.0 mg/kg	1.0 mg/kg	0.5 mg/kg	8)
• MHT • DBT • TDT	1.0 mg/kg 1.0 mg/kg 1.0 mg/kg	1.0 mg/kg 1.0 mg/kg 1.0 mg/kg	0.5 mg/kg 0.5 mg/kg 0.5 mg/kg	

In case of queries the test results of "hansecontrol" lab are decisive. Results of other institutes will not be accepted.

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Classifications in progress

- US EPA phase-out agreement for PFOA's (chemical for Teflon membrane materials)
- scope of Phthalates to be extended from kids and childcare products
 - Ban of PFOS in the EU

• REACH

Registration, Evaluation and Authorisation of Chemicals

Draft list of 16 SVHC's

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Chemical Categories of Concern

Chemical Categories where testing is recommended

- Heavy Metals e. g.

Cadmium (dyes and stabilizers => accumulating, bone and renal damage)

Chrome VI (tanning agent => carcinogenic, strong sensitizing)

Lead (dyes and stabilizers => accumulating, neurotoxic, damage of haematopoiesis)

Mercury (pesticides => accumulating, neurotoxic, renal damage)

Nickel (metal/alloy => strong allergenic, cancerogenic)



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Chemical Categories of Concern

Chemical Categories where testing is recommended

- Phenols e. g.

Pentachlorophenole PCP (fungicide, pesticide => hepato- and renal toxic, carcinogenic, contains dioxins)

Tetrachlorophenole TeCP (fungicide, pesticide => hepato- and renal toxic, carcinogenic, contains dioxins)

Ortho-Phenylphenole o-PP (preservative, pesticide => toxic)

Sum of Pesticides



Chemical Categories of Concern

Chemical Categories where testing is recommended

- Inks and Dyes e. g.

azo-amines

actual 24, all are carcinogenic

disperse dyes

sensitizing to skin



Chemical Categories of Concern

Chemical Categories where testing is recommended

- Chlorine Chemicals e. g.

Polychlorinated Biphenyls PCB (superseded lubricants => accumulating, mutagenic, teratogenic, some carcinogenic, immunocompromizing)

Chloro-organic carriers (hepatotoxic)

Short chained Chloroparaffines C10 to C13
(leather greasing, flame retardants => accumulating, toxic for aqueous life, environmental hazard)

Flame retardants (also brominated/Phosphor)
accumulating, toxic, environmental hazard



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Chemical Categories of Concern

Chemical Categories where testing is recommended

- **Formaldehyde** (preservative, textile auxiliaries => carcinogenic, sensitizing)
- **Phthalates** (polymer plasticizer => damage of the endocrine system)

- **Tin-organic Compounds**

Tributyltin TBT (antimicrobial agent, polymerisation => damage of the endocrine system, extreme toxic for aquatic life)

Dibutyltin DBT (polymers, cements, glues, lubricants => damage of the endocrine system, extreme toxic for aquatic life)

Monobutyltin MBT (polymers, cements, glues, lubricants => toxic for aquatic life)



Chemical Categories of Concern

Thank you for your kind interest and commitment

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Timberland  12