Regulations on Harmful Substances in Textiles and Leather Products

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1. Prohibited azo dyes

Azo dyes are synthetic dyes with a specific chemical composition and form the largest dyestuff class. Characteristic are the so called azo bridges (nitrogen double bonds). Azo dyes are used worldwide for colouring of textiles, leather, wax, straw, wood, paper and other things.

Some of these azo dyes can release toxic or carcinogenic amines and their use is therefore prohibited in Germany and other countries.

In Regulation (EC) 1907/2006 (so called REACh regulation), Annex XVII since June 1, 2009 (according to the amending Regulation (EC) No 552/2009 of 22 June 2009) restrictions on certain substances are regulated. Thus, the policy has been repealed and replaced 76/796/EWG and 2002/61/EC.

Under point 43 the restrictions on azo dyes are listed:

Azo dyes which by reductive separation of one or more azo groups, could release one or more aromatic amines (see page 4, table 1) in the finished product or in dyed parts of the finished product, are not allowed to be used.

The limit for the detectable concentrations of the individual amines (tested according to the official test methods DIN EN 14362-1:2012-04 and DIN EN 14362-3:2010-05 for textiles and DIN EN ISO 17234-1:2010-06 and DIN EN ISO 17234-2:2011-06 - for leather) is 30 ppm per amine. Textiles with levels of> 30 ppm (mg / kg) publicly listed amine may not be used.

The EU-wide regulation applies to all products made of textiles and leather, which come into direct contact with the skin or the oral cavity for a prolonged period of time, but not those made of any other materials.

Affected are articles such as:

- Clothing, bed sheets, towels, hairpieces, wigs, hats, diapers and other toiletries, sleeping bags
- Shoes, gloves, watch straps, handbags, purses and wallets, brief cases, chair covers, money bags worn around the neck pouches
- Textile and leather toys and also toys with textile or leather clothing
- Yarns and fabrics for consumer use

The said textile and leather articles may not be placed on the market if they do not meet the requirements.
5 Formaldehyde

According to Annex 9 (referring to §10 Paragraph 3) of the Commodity Ordinance from 1998 (last revised 13.12.2011) textiles containing more than 0.15 per cent (=1500 mg/kg) of free formaldehyde, which when used as intended will come into contact with the skin, must be marked with the following lab: "Contains formaldehyde; to avoid sensitive or allergic skin reactions, it is recommended that the garment should be washed before first wear").

5.1 Test methods

According to the TOXPROOF® criteria (05/2010) from TÜV Rheinland for textiles, as well as delivery conditions for the trading companies, a limit has been set for formaldehyde of 300 mg/kg for outerwear, 75 mg/kg for clothing with direct skin contact and 20 mg/kg for baby clothing (test method DIN EN ISO 14181-1: 2011-12). For leather products the SG® criteria (schadstoffgeprüft = tested for harmful substances) require 150 mg/kg and 50 mg/kg for toddlers and infants (Textile: § 64 LFGB, B 82.02-1: 1985-06 / leather: DIN EN ISO 17226-1: 2008-08, or DIN EN ISO 17226-2: 2009-09)

5.2 Sources of / reasons for contaminations

- Preservatives e.g. for colourants, adhesives and other auxiliaries
- Reaction components in resins, for example for nonwovens or equipment such as cotton, wood/paper fibre materials
- Tanning additives

5.3 Critical components

- Baby clothing with coloured pigment prints, particularly in combination with binders, that contain formaldehyde as preservative or binders (frequently exceed the limits of 20 mg/kg)
- Textiles with special finishes like „iron-free“, or „wrinkle-free“, e.g. men's shirts
- Fibre materials in stabilizing components e.g. nonwoven inserts, insoles

5.4 Health risks

Formaldehyde is a colourless, pungent smelling gas that is found very often in nature and is also used very often in the industry.

The harmful effect of Formaldehyde depends on its concentration. An incorrect use of Formaldehyde may cause allergies and skin, eye and respiratory irritations. Formaldehyde may also have carcinogenic effects. Construction products show the highest risk of harmful exposure, whereas textiles show nearly no harmful potential.
17 Dimethylfumarate (DMFU)

Pursuant to Directive 2001/95/EC producers are obliged to place only safe consumer products on the market.

The Commission Decision 2009/251/EC dated 17th March 2009 commits all Member States to ensure that products containing biocide dimethylfumarate are prohibited from being placed or made available on the market.

This Commission Decision was enacted by reason that furniture and footwear available on the market in several Member States have been identified as the cause of damage to the health of consumers in France, Poland, Finland, Sweden and the UK.

The health damage was caused by the chemical dimethylfumarate (DMFU), a biocide preventing moulds that may deteriorate leather furniture or footwear during storage or transport in a humid climate.


Therefore dimethylfumarate may not be used in products or parts in concentrations of about 0.1 mg / kg. At levels above 0.1 mg / kg the products may not be put on the market. (Accordance with Section 61, (EC) No 1907/2006)

17.1 Health Risks

Strong allergic skin reactions can be triggered by dimethylfumarate.

These were confirmed by independent skin tests. In particular in the years 2008 / 2009 there were many cases of very bad allergies with severe skin damage caused from shoes and chairs (made of leather).

17.2 Regulations on Dimethylfumarate

<table>
<thead>
<tr>
<th>Country</th>
<th>Legal regulation</th>
<th>Limit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>Regulation (EC) No 1907/2006, Annex XVII, Section 61</td>
<td>0.1 mg/kg*</td>
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* Detection limit of the test method 0.05 mg/kg
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