



Footwear Chemical Fail Rate Analysis

Top 10 Chemicals by Quarter

July - September 2016

Lab: TÜV SÜD

Test Item	Material	Test Method	Requirement	Number of Tests	Fail Rate
1 pH value	Fabric	ISO 3071	4.0-7.5	2801	11.67%
2 PAHs	Plastic	ISO/TS 16190	Each PAH<0.2 mg/kg; Sum of 18 PAH<10 mg/kg	11007	8.58%
3 Chromium VI	Leather	ISO 17075	< 3.0 mg/kg	1841	7.71%
4 Formaldehyde	Leather	ISO 17226-1	< 20 mg/kg for kids < 75 mg/kg for skin contact < 150 mg/kg for non-skin contact	1591	4.59%
5 Nickel release	Metal	EN 12472+EN 1811	<0.5 µg/cm ² /week	311	3.54%
6 Phthalate	Plastic	CPSC-CH-C1001-09.3	Sum < 1000 mg/kg	15618	1.59%
7 Chlorinated Phenols	Fabric	ISO 17070	PCP, TeCP: Each < 0.05mg/kg, CP, DiCP, TriCP: Each <1.0mg/kg	7978	1.07%
8 Total Lead	Printing PU Metal	CPSC-CH-E1003-09.1 Coating; CPSC-CH-E1002-08.3 for Non-metal; CPSC-CH-E1001-08.3 for Metal	<100 mg/kg (Substrate); <90 mg/kg (Coating)	20623	0.87%
9 Short-Chain Chlorinated Paraffins (SCCP)	PU Plastic	ISO 18219	<1000 mg/kg	5051	0.87%
10 NPEO/OPEO	Fabric	ISO 18254	Each<100 mg/kg	15744	0.70%

Lab: SGS

Test Item	Material	Fail Rate*
1 PAH	Polymers	12.50%
2 CrVI with aging	Leather	6.94%
3 COC	Textiles	6.41%
4 APEO	Textiles and Leather	4.93%
5 Extractable Heavy Metals	Textiles and Leather	4.04%
6 Phthalate	Polymers	3.69%
7 pH	Textile and Leather	3.64%
8 CrVI without aging	Leather	3.13%
9 Ni release	Metal	2.58%
10 TeCP/PCP	Textiles and Leather	2.49%

* Sample Size is Large

For chemical definitions, requirements and jurisdictions, please refer to FDRA's Global Footwear Testing Guide.