



Footwear Chemical Fail Rate Analysis

Top 10 Chemicals by Quarter

Fourth Quarter 2018 (October - December)

Lab: TÜV SÜD					
Test Item	Material	Test Method	Requirement	Number of Tests	Fail Rate
Dimethylformamide(DMFA)	Coated Textile	ISO 16189	Skin Contact:<50mg/kg Without Skin Contact:300 mg/kg	586	23.55%
Chromium VI - wet test	Leather	ISO 17075-1:2017 BVL B 82.02-11	< 3.0 mg/kg	519	16.76%
Acetophenone & 2-Phenyl-2-Propanol	EVA	Extraction in Methanol, GC-MS or Headspace method	<50 mg/kg (extraction method) or <10 mg/kg (Headspace method)	463	9.72%
pH	Leather Textile	ISO 4045 ISO 3071	Leather:3.5 - 9.0 Textile:4.0-7.5	4181	5.60%
Chlorinated Phenols	Textile Leather	ISO 17070	PCP, TeCP <0.5mg/kg, CP, DiCP, TriCP <2.0mg/kg	7576	3.47%
Nickel Release	Metal	EN12472& EN 1811	< 0.5 ug/cm2/week	479	2.71%
Phthalates	Plastics Coating	CPSC-CH-C1001-09.4 ISO/TS 16181	<1000 mg/kg	10091	2.08%
SCCP	Plastics Textile Leather	ISO 18219	<1000 mg/kg	2423	2.06%
NP,OP,NPEO,OPEO	Textile Leather	ISO 18254-1 ISO 18218-1	Each<100 mg/kg	4724	1.97%
Total Arsenic & Cadmium Content	Coating Plastics Metal	Acid digestion, Microwave digestion	Arsenic < 50 mg/kg; Cadmium < 100 mg/kg	2743	1.53%

Lab: SGS	
Test Item	Fail Rate*
1 PAH	2.09%
2 CrVI with aging	7.64%
3 APEO	3.98%
4 Phthalate	2.92%
5 Ni release	3.13%
6 Lead	3.48%
7 COC	6.32%
8 TeCP/PCP	3.57%
9 CrVI without aging	1.69%
10 Extractable Heavy Metals	2.58%

*Sample Size is Large

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