eco-INSTITUT-Label
Test criteria: Painting and coating materials

(Status: December 2017)

A Basic requirements

- Full declaration of materials
- Minimisation requirements for substances with dangerous properties according to dangerous substances regulations.
- Compliance with limit values for harmful substances (refer to **C laboratory examinations**)
- Compliance with the provisions of the European (e.g. REACH Regulation (EC) No. 1907/2006 and Biocidal Products Regulation (EU) 528/2012) and German chemicals legislation
- Materials with the following classifications may not be used in the product:

Substances according to Regulation (EC) No. 1272/2008 Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B
Substances according to national law (TRGS 905): Category Carc. 1 and 2, Muta. 1 and 2, Repr. 1 and 2
Substances according to MAK lists lll1 and III2
Substances according to IARC groups 1 and 2A
Substances requiring official approval as per Appendix XIV of the REACH regulations
Substances of very high concern according to REACH Regulation (EC) No. 1907/2006, Article 59, paragraph 1 (SVHC, Candidate List)
POPs (Persistent Organic Pollutants) according to Regulation (EC) No 850/2004
Arsenic, lead, cadmium, mercury and compounds
Organic compounds of tin
Antimony trioxide
HFC
Organophosphates
Organic halogenated compounds
Pyrethroids
Phthalatic acid esters, Terephthalatic acid esters (apart from PET); DINCH
Substances with WGK 3 (German water hazard class 3)
Substances with the following classification (H-Statement or R-Statement):

Description		**H-Statement (CLP Regulation)**	**R-Statement (Regulation 67/548/EEC)**
Fatal	Fatal if swallowed.	H300	R28
	Fatal in contact with skin.	H310	R27
	Fatal if inhaled.	H330	R26
Toxic	Toxic if swallowed.	H301 (> 0.1 %)	R25 (> 0.1 %)
	Toxic in contact with skin.	H311 (> 0.1 %)	R24 (> 0.1 %)
	Toxic if inhaled.	H331 (> 0.1 %)	R23 (> 0.1 %)
Specific target organ toxicity	Cause damage to organs.	H370	R39
	May cause damage to organs.	H371	R68
	Causes damage to organs through prolonged or repeated exposure.	H372	R48
	May cause damage to organs through prolonged or repeated exposure.	H373	

Description		**H-Statement (CLP Regulation)**	**R-Statement (Regulation 67/548/EEC)**
Sensitization of respiratory tract	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	H334	R42
Carcinogenicity	May cause cancer.	H350	R45
	Suspected of causing cancer.	H351	R40
Mutagenicity	May cause genetic defects.	H340	R46
	Suspected of causing genetic defects.	H341	R68
Reproductive toxicity	May damage fertility or the unborn child.	H360	R60, R61
	Suspected of damaging fertility or the unborn child.	H361	R62, R63
	May cause harm to breast-fed children.	H362	---
Acute hazardous to water	Very toxic to aquatic life.	H400	R50
Chronically hazardous to water	Very toxic to aquatic life with long lasting effects.	H410	R50/53
	Toxic to aquatic life with long lasting effects.	H411 (> 1 %)	R51/R53 (> 1 %)
Hazardous to ozone layer	Hazardous to the ozone layer.	EUH 059	---

B Special requirements

- Photoinitiators are allowed.

C Laboratory examinations

Painting and coating materials		
Test parameter	**Limit value**	**Test method**
Emission test		
TVOC (total volatile organic compounds)	≤ 3000 µg/m³ (3 days after test chamber loading) ≤ 300 µg/m³ (28 days after test chamber loading)	DIN EN 16516, DIN ISO 16000-6, DIN EN ISO 16000-9 Test chamber conditions: cf. testing manual
VOC (incl. VVOC and SVOC) with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B; TRGS 905: K1, K2, M1, M2, R1, R2; IARC: Group 1 and 2A; DFG (MAK list): Categories III1, III2	≤ 1 µg/m³ (3 days after test chamber loading)	
VOC (sum) without NIK	≤ 100 µg/m³ (28 days after test chamber loading)	
VOC (individual values):		
Sum of bicyclic terpenes	≤ 200 µg/m³ (28 days after test chamber loading)	
Sum of sensitising materials with the following categorisations: DFG (MAK list): Category IV, TRGS 907	≤ 100 µg/m³ (28 days after test chamber loading)	
Sum of VOC (incl. VVOC and SVOC) with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2; TRGS 905: K3; IARC: Group 2B; DFG (MAK list): Category III3	≤ 50 µg/m³ (28 days after test chamber loading)	
Sum C9 – C14 Alkanes / Isoalkanes	≤ 200 µg/m³ (28 days after test chamber loading)	
Sum C4 – C11 Aldehydes, acyclic, aliphatic	≤ 100 µg/m³ (28 days after test chamber loading)	
Sum C6 – C15 Alkyl benzenes	≤ 100 µg/m³ (28 days after test chamber loading)	
Sum Cresols	≤ 5 µg/m³ (28 days after test chamber loading)	
VOC (individual substances):		
Styrene	≤ 10 µg/m³ (28 days after test chamber loading)	
Methylisothiazolinone (MIT)	≤ 1 µg/m³ (28 days after test chamber loading)	
Benzisothiazolinon (BIT)	≤ 5 µg/m³ (28 Tage nach Prüfkammerbeladung)	
Octylisothiazolinon (OIT)	≤ 1 µg/m³ (28 Tage nach Prüfkammerbeladung)	
Benzaldehyde	≤ 20 µg/m³ (28 days after test chamber loading)	
2-Ethyl-1-hexanol, Ethylene glycol mono-butyl ether, 2-Hexoxyethanol, Methyl-isobutylketone (Limit value per single substance)	≤ 100 µg/m³ (28 days after test chamber loading)	
2-Butoxyethylacetate	≤ 200 µg/m³ (28 days after test chamber loading)	
Glycol ethers with insufficient data* (Limit value per single substance)	0.005 ppm (28 days after test chamber loading)	
Propan-1,2-diol	≤ 60 µg/m³ (28 Tage nach Prüfkammerbeladung)	
TSVOC (total semi-volatile organic compounds)	≤ 100 µg/m³ (28 days after test chamber loading)	
R value	≤ 1.0 (28 days after test chamber loading)	
Formaldehyde	≤ 24 µg/m³ (28 days after test chamber loading)	following DIN EN 717-1, DIN ISO 16000-3
Acetaldehyde	≤ 24 µg/m³ (28 days after test chamber loading)	
Odour	≤ Grade 3 (24 hours after loading of desiccator)	following VDA 270; 23°C

* cf. Announcement of the Ad-hoc Working Group on Indoor Guidelines of the Indoor Air Hygiene Committee and of the Supreme State Health Authorities: Richtwerte für Glykolether und Glykolester in der Innenraumluft, Bundesgesundheitsblatt, February 2013, Volume 56, Issue 2, pp 286-320
An exceedance of this limit value will not yet result automatically in a refusal.

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Test parameter	Limit value	Test method
Content analysis		
AOX (adsorbable organic halogenated compounds)	≤ 1.0 mg/kg	DIN EN ISO 9562
EOX (extractable organic halogenated compounds)	≤ 2.0 mg/kg	following DIN 38414-S17
Heavy metals		Total disintegration, analysis ICP/MS
Arsenic (As)	≤ 5.0 mg/kg	
Cadmium (Cd)	≤ 0.5 mg/kg	
Chrome total (Cr)	≤ 20.0 mg/kg	
Mercury (Hg)	≤ 0.2 mg/kg	
Nickel (Ni)	≤ 20.0 mg/kg	
Lead (Pb)	≤ 20.0 mg/kg	
Tin (Sn)	≤ 5.0 mg/kg	
Organotin compounds (limit value per single substance) TBT, DBT, TeBT, MBT, MOT, DOT, TcyT, TPhT	≤ 0.05 mg/kg	Extraction, analysis following DIN EN ISO 17353
Phthalates (sum) DMP, DEP, DPP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DNPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP	≤ 100 mg/kg	following DIN EN 15777
Terephthalate DEHT	≤ 100 mg/kg	following DIN EN 15777
Diisononyl cyclohexane-1,2-dicarboxylate, DINCH	≤ 100 mg/kg	following DIN EN 15777
Isothiazolinones (limit value per single substance) BIT, CIT, MIT	≤ 0.1 mg/kg (CIT) ≤ 10 mg/kg (BIT, MIT)	Extraction, HPLC-MS/MS