

## Restricted Substances List (RSL) für Textilien und deren Komponenten

Version 1.0 – 11.04.16

| Stoff   | Grenzwert  |
|---|--|
| Azofarbstoffe mit krebserzeugender Aminkomponente lt. Anhang A  | 20 mg/kg   |
| Allergisierende Dispersionsfarbstoffe lt. Anhang B  | n.n., keine beabsichtigte Verwendung   |
| Krebserzeugende Farbstoffe, lt. Anhang C  | n.n., keine beabsichtigte Verwendung   |
| Blei  | 3mg/kg   |
| Navy Blue<br>Blauer Azofarbstoff<br>CAS-Nr.: 118685-33-9  | n.n., keine beabsichtigte Verwendung   |
| Chrom VI, auch nach Alterung  | 3 mg/kg  |
| Freisetzbarer Nickel  | 0,5 micro g/cm <sup>2</sup> /Woche   |
| PAK lt. Anhang D1 (nur 8 gesetzlich, einige RSL haben bis zu 20) und D2                                       | In Summe 1 mg/kg für die gesetzlich geregelten (ab 27.12.2015) und in Summe 10 mg/kg für PAK laut Anhang D1 und D2 |
| Cadmium   | 100 mg/kg  |
| Zinnorganische Verbindungen lt. Anhang E  | Je 2 mg/kg f. Di-, 1 mg/kg für Tri- Verbindungen   |
| Phthalate lt. Anhang F  | Je 0,1 %   |
| Spinnlösemittel<br>DMF (Dimethylformamid)<br>CAS-Nr.: 68-12-2<br>DMAC (Dimethylacetamid)<br>CAS-Nr.: 127-19-5 | Je 0,1 %   |
| Alkylphenol Ethoxylate (APEO): NP, OP, NPE, OPE   | 100 ppm in Summe   |
| PFOA und PFOS   | PFOS 1 micro g/m <sup>2</sup><br>PFOA 0,1% (Norwegen auch 1 micro g/m <sup>2</sup> )                               |
| Formaldehyd   | 75 ppm   |

|   |  |
|---|--|
| Flammschutzmittel lt. Anhang G  | 50 mg/kg   |
| Biozide:<br>Dimethylfumarat<br>CAS-Nr.: 624-49-7<br>Pentachlorphenol (und Tetrachlorphenole)<br>CAS-Nr.: 87-86-5<br>Triclosan<br>CAS-NR.: 3380-34-5 | keine beabsichtigte Verwendung, kleiner Nachweisgrenze |
| Chlorierte Benzole und Toluole nach Anhang H  | 1 mg/kg  |

Annex A: List of carcinogenic Amines

| Substances   | CAS-No   |
|--|----------|
| Biphenyl-4-ylamin, 4-aminobiphenyl xenylamine                              | 92-67-1  |
| Benzidine  | 92-87-5  |
| 4-chloro-o-toluidine   | 95-69-2  |
| 2-naphtylamine   | 91-59-8  |
| o-aminoazotoluene, 4-amino-2',3-dimethylazobenzene 4-o-tolylazo otoluidine | 97-56-3  |
| 5-nitro-o-toluidine  | 99-55-8  |
| 4-chloroaniline  | 106-47-8 |
| 4-methoxy-m-phenylenediamine   | 615-05-4 |
| 4,4'-methylenedianiline 4,4'-diaminodiphenylmethane                        | 101-77-9 |
| 3,3'-dichlorobenzidine<br>3,3'-dichlorobiphenyl-4,4'-ylenediamine          | 91-94-1  |
| 3,3-dimethoxybenzidine o-dianisidine                                       | 119-90-4 |
| 3,3-dimethylbenzidine, 4,4'-bi-o-toluidine                                 | 19-93-7  |
| 4,4'-methylenedi-o-toluidine   | 838-88-0 |
| 6-methoxy-m-toluidine p-cresidine  | 20-71-8  |
| 4,4'-metylene-bis-(2-chloro-aniline) 2,2'-dichloro-4,4'-ethylenedianiline  | 101-14-4 |
| 4,4'-oxydianiline  | 101-80-4 |
| 4,4'-thiodianiline   | 139-65-1 |
| o-toluidine, 2-aminotoluene  | 95-53-4  |
| 4-methyl-m-phenylenediamine  | 95-80-7  |
| 2,4,5-trimethylaniline   | 137-17-7 |
| o-anisidine (2-methoxyanilin)  | 90-04-0  |
| 4-amino azobenzene   | 60-09-3  |
| 2,4-xylidine   | 95-68-1  |
| 2,6-xylidine   | 87-62-7  |

Annex B: List of allergic disperse dyes

| Substances                    | CAS-No                     |
|-------------------------------|----------------------------|
| C.I. Disperse Blue 1          | 2475-45-8                  |
| C.I. Disperse Blue 3          | 2475-46-9                  |
| C.I. Disperse Blue 7          | 3179-90-6                  |
| C.I. Disperse Blue 26         | 3860-63-7                  |
| C.I. Disperse Blue 35         | 12222-75-2                 |
| C.I. Disperse Blue 102        | 12222-97-8                 |
| C.I. Disperse Blue 106        | 12223-01-7                 |
| C.I. Disperse Blue 124        | 61951-51-7                 |
| C.I. Disperse Brown 1         | 23355-64-8                 |
| C.I. Disperse Orange 1        | 2581-69-3                  |
| C.I. Disperse Orange 3        | 730-40-5                   |
| C.I. Disperse Orange 11       | 82-28-0                    |
| C.I. Disperse Orange 37/59/76 | 12223-33-5 /<br>13301-61-6 |
| C.I. Disperse Orange 149      | 85136-74-9                 |
| C.I. Disperse Red 1           | 2872-52-8                  |
| C.I. Disperse Red 11          | 2872-48-2                  |
| C.I. Disperse Red 17          | 3179-89-3                  |
| C.I. Disperse Yellow 1        | 119-15-3                   |
| C.I. Disperse Yellow 3        | 2832-40-8                  |
| C.I. Disperse Yellow 9        | 6373-73-5                  |
| C.I. Disperse Yellow 23       | 6250-23-3                  |
| C.I. Disperse Yellow 39       | 12236-29-2                 |
| C.I. Disperse Yellow 49       | 54824-37-2                 |

Annex C: List of carcinogenic dyes

| Substances             | CAS-No     |
|------------------------|------------|
| C.I. Acid Red 26       | 3761-53-3  |
| C.I. Basic Red 9       | 569-61-9   |
| C.I. Direct Black 38   | 1937-37-7  |
| C.I. Direct Blue 6     | 2602-46-2  |
| C.I. Direct Red 28     | 573-58-0   |
| C.I. Basic Violet 14   | 632-99-5   |
| C.I. Pigment Red 104   | 12656-85-8 |
| C.I. Pigment Yellow 34 | 1344-37-2  |

Annex D1: List of the PAH regulated by law (REACH annex XVII)

| Substances            | CAS-No   |
|-----------------------|----------|
| Benzo[a]pyren         | 50-32-8  |
| Benzo[e]pyren         | 192-97-2 |
| Benzo[a]anthracen     | 56-55-3  |
| Chrysen               | 218-01-9 |
| Benzo[b]fluoranthen   | 205-99-2 |
| Benzo[j]fluoranthen   | 205-82-3 |
| Benzo[k]fluoranthen   | 207-08-9 |
| Dibenzo[a,h]anthracen | 53-70-3  |

Annex D2: List of additional restricted PAH

| Substances            | CAS-No   |
|-----------------------|----------|
| Anthracene            | 120-12-7 |
| Pyrene                | 129-00-0 |
| Benzo[ghi]perylene    | 191-24-2 |
| Ideno[1,2,3-cd]pyrene | 193-39-5 |
| Fluoranthene          | 206-44-0 |
| Acenaphthylene        | 208-96-8 |
| Acenaphthene          | 83-32-9  |
| Phenanthrene          | 85-01-8  |
| Fluorene              | 86-73-7  |
| Naphthalene           | 91-20-3  |

Annex E: List of tin organic components

| Substances    | CAS-No     |
|---------------|------------|
| Dibutylzinn   | 14488-53-0 |
| Diocetylzinn  | 15231-44-4 |
| Tributylzinn  | 56573-85-4 |
| Triphenylzinn | 668-34-8   |

Annex F: List of the Phthalates

| Substances  | CAS-No      |
|---|-------------|
| Di-iso-butyl phthalate (DIBP)                                       | 84-69-5     |
| Di-iso-nonyl phthalate (DINP)                                       | 28553-12-0  |
| Di-(2-ethyl-hexyl) phthalate (DEHP)                                 | 117-81-7    |
| Di-n-octyl phthalate (DNOP)   | 117-84-0    |
| Di-iso-decyl phthalate (DIDP)                                       | 26761-40-0  |
| Butyl-benzyl phthalate (BBP)  | 85-68-7     |
| Di-butyl phthalate (DBP)  | 84-74-2     |
| Di (C7-C11 alkyl) phthalate<br>Linear and branched (DHNUP)          | 68515-42-4  |
| Di-(C6-C8 alkyl) phthalate<br>Branched (DIHP)                       | 71888-89-6  |
| Bis-(2-methoxy-ethyl) phthalate (BMEP)                              | 117-82-8    |
| Di-n-hexyl phthalate (DHP)  | 84-75-3     |
| 1,2-Benzenedicarboxylic acid,<br>dipentylester, branched and linear | 84777-06-0  |
| Di-iso-pentyl phthalate (DIPP)                                      | 605-50-5    |
| N-pentyl-iso-pentyl phthalate (PIPP)                                | 776297-69-9 |
| Di-pentyl phthalate (DPP)   | 131-18-0    |

Annex G: List of flame retardants

| Substances   | CAS-No                   |
|--|--------------------------|
| Tris-(2,3-dibromopropyl)-phosphate                   | 126-72-7                 |
| Tris(aziridinyl)-phosphineoxide                      | 545-55-1                 |
| Polybromobiphenyls                                   | 59536-65-1               |
| Bis(2,3-dibromopropylether) of<br>tetrabrombisphenol | 21850-44-2               |
| Bis(2,3-dibromopropyl)phosphate                      | 5412-25-9                |
| Octabromdiphenyl Ether                               | 32536-52-0               |
| Pentabromdiphenyl Ether                              | 32534-81-9               |
| Decabromdiphenyl Ether                               | 1163-19-5                |
| Hexabromocyclododecane                               | 25637-99-4               |
| Tris-(2-chloroethyl)-phosphate                       | 115-96-8                 |
| Boric Acid   | 10043-35-3<br>11113-50-1 |
| short chain chlorinated paraffins                    | 85535-84-8               |

Annex H: List of chlorinated Benzenes and Toluenes

| Substances          | CAS-No |
|---------------------|--------|
| Dichlorobenzenes    |        |
| Trichlorobenzenes   |        |
| Tetrachlorobenzenes |        |
| Pentachlorobenzenes |        |
| Hexachlorobenzene   |        |
| Chlorotoluenes      |        |
| Dichlorotoluenes    |        |
| Trichlorotoluenes   |        |
| Tetrachlorotoluenes |        |
| Pentachlorotoluene  |        |