| File No | SHEIN-QMS-BS-0107 | Name | Manufacturing Restricted Substances List (MRSL) | Version | B0 |
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# Manufacturing Restricted Substances List (MRSL)

## 【B0】

*This standard is executed in both Chinese and English and both versions of this standard shall have equal validity. In case of any discrepancy between the English version and the Chinese version, the Chinese version shall prevail.*

# Content

1. Background and Purpose ..... - 1 -
1.1 Background ..... - 1 -
1.2 Purpose ..... - 1 -
2. Scope ..... - 1 -
3. Terms and definitions ..... - 1 -
4. Requirements of MRSL ..... - 1 -
5. Instructions and content of MRSL ..... - 2 -
Table 1 Textile MRSL Risk Assessment Table ..... - 3 -
Table 2 Leather MRSL Risk Assessment Table ..... - 10 -
Table 3 Synthetic Materials - MRSL Risk Assessment Table ..... - 15 -
Table 4 Polymer (R&F&A) - MRSL Risk Assessment Table ..... - 17 -
Table 5 MRSL Limit Table ..... - 18 -
6. Recognized laboratory ..... - 34 -
7. Version change log ..... - 34 -

# 1. Background and Purpose

## 1.1 Background

SHEIN focuses on consumer safety, as well as protecting workers, local communities, and the environment from potential harmful chemicals. MRSL is a list of prohibited intentionally used chemical substances compiled by ZDHC, applied for chemical formulations such as dyes, additives, and finishing agents used in the textile, clothing, and footwear industries. It helps to protect workers, local communities, and the environment from potential harmful chemical substances. SHEIN agrees with ZDHC's MRSL list and refers to it to prepare the standard of *Manufacturing Restricted Substance List (MRSL)*, advocating for all suppliers to comply with this standard.

## 1.2 Purpose

In order to improve the quality management system and quality standard system of SHEIN Group, and to improve the restricted substance standards for chemical formulas used in the production process, we have formulated the *Manufacturing Restricted Substance List (MRSL)*.

In order to unify the relevant standards for chemical formulas processed in the textile, clothing, and footwear industries of SHEIN Group and reduce the operational risks of SHEIN Group's related products, this standard is specially formulated.

# 2. Scope

This standard applies to all chemical formulas used by textile, clothing, and footwear suppliers of various brands and channels in the production process under the self operated business model of SHEIN Group. Chemical formulas include but are not limited to solvents, cleaning agents, adhesives, paints, inks, cleaning agents, dyes, colorants, and additives, coatings, and finishing agents used in raw materials, production, wet treatment, and maintenance processes.

Note: This standard is in line with the requirements for finished products in the *SHEIN-QMS-BS-0100 SHEIN RSL Chemical Limited Substance Management Specification*. All formulas used in the production process must meet the requirements of this standard, and the finished product must also meet the requirements of *SHEIN-QMS-BS-0100 SHEIN RSL Chemical Limited Substance Management Specification*.

# 3. Terms and definitions

The following definitions apply to this standard:

**ZDHC:** Zero Discharge of Hazardous Chemicals, also known as Zero Discharge of Hazardous Chemicals, is committed to eliminating hazardous chemicals and implementing sustainable chemicals in the fields of leather, textiles, and synthetic materials.

**MRSL:** Manufacturing Restricted Substances List.

**Formula:** refers to the chemical formulas used in the textile, clothing, and footwear industries, including solvents, cleaning agents, adhesives, paints, inks, cleaning agents, dyes, colorants, additives, coatings, and finishing agents.

**Natural dyes:** Refers to dyes obtained from plants, animals, or mineral resources that are not artificially synthesized and have not undergone any chemical processing

**Polymer (R&F&A):** polymer (rubber, foam, adhesive)

**GC/MS:** Gas chromatography/mass spectrometry

**ICP:** Inductively Coupled Plasma

**LC/MS:** Liquid chromatography/mass spectrometry

**OES:** Direct Reading Spectrometer

**SDS:** Safety Data Sheet is a comprehensive explanatory document that includes 16 items such as chemical composition information, physical and chemical parameters, ignition and explosion performance, toxicity, environmental hazards, as well as safe use methods, storage conditions, leakage emergency response, and transportation regulatory requirements.

# 4. Requirements of MRSL

In order to better protect workers, local communities, and the environment from potential harmful chemical substances, we advocate and encourage suppliers to:

1) Intentional use of silica (CAS#14464-46-1) is prohibited in sandblasting processes, as silica dust can lead to kidney disease or chronic obstructive pulmonary disease. In addition, long-term inhalation of silica dust can also lead to fatal silicosis. OSHA (Occupational Health and Safety Administration of the United States) has

listed many silica alternatives that can be used for sandblasting materials, including alumina, baking soda, coal slag, copper slag, and corn cob particles. We encourage suppliers to actively use safer alternatives;
2) All chemical formulas used in the production process follow Table 1-4 and actively identify and analyze potential restricted substances;
3) Use the SDS safety data sheet to record and confirm that all formulations contain restricted substances that meet the limit requirements listed in Table 5;
4) If necessary, conduct testing to confirm that all formulas meet the limit requirements listed in Table 5;
5) When the supplier or formula has a certificate issued by ZDHC, it is deemed that the supplier or formula fully meets the requirements of this standard;
6) If there is a conflict between this standard and the latest version of ZDHC MRSL, the requirements of the latest version of ZDHC MRSL shall prevail.

# 5. Instructions and content of MRSL

MRSL consists of a total of 5 tables, among which Tables 1 to 4 are MRSL risk assessment tables, which are further divided into Table 1- Textile MRSL based on the type of material Risk Assessment Form, Table 2- Leather MRSL Risk Assessment Form, Table 3- Synthetic Material MRSL Risk Assessment Form, and Table 4- Polymer MRSL Risk Assessment Form.
Determine the potential risks of restricted substances based on different materials and chemical formulations used in different stages, and then use Table 5-MRSL find the corresponding limit values for the restricted substances in the limit table, and ultimately determine whether the formula meets the requirements of MRSL.
In Tables 1 to 4:
X indicates that the substance has a high risk and is recommended for testing;
(X) Indicates that there is a risk of this substance, and the supplier can test it as needed.
Note: If the formula is not listed in Tables 1 to 4, professional personnel from the accredited laboratory in Part 6 can assist in determining the potential risk of restricted substances and determine the applicable testing items.
In Table 5, the testing method is the preferred recommended testing method, while SHEIN acknowledges other effective internal tests from the accredited laboratory in Part 6.
The specific content of Tables 1 to 5 is as follows:

# Table 1 Textile MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Amines (Cleavable Restricted Aromatic from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1 | Auxiliaries and finishing agents for fibres and yarns | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.1.1 | Spinning solution additives | X | | | | | | X | | ( X ) | X | X | | | X | X | X | X | | | | | | | | | | |
| 1.1.2 | Spinning additives | X | | | | | | X | | ( X ) | X | X | | | X | X | X | X | | | | | | | | | | |
| 1.1.3 | Spinning bath additives | X | | | | | | X | | ( X ) | X | X | | | X | X | X | X | | | | | | | | | | |
| 1.1.4 | Preparation agents | X | | | | X | | | | ( X ) | X | | | | | X | | | | | | | | | X | | | |
| 1.1.5 | Lubricants | X | | | | | | | X | X | X | | | X | | X | | X | | X | | | | ( X ) | | | | |
| 1.1.6 | Coning oils, warping and twisting oils | X | | | | | | | X | X | X | X | | | | | | X | | | | | | ( X ) | | | | |
| 1.1.7 | Conditioning and stabilizing agents | X | | | | | | | | X | X | | | | | | | X | | | | | | ( X ) | X | | | |
| 1.1.8 | Other | | | | | | | | | | | | | | | | | | | | | | | ( X ) | | | | |
| 1.2 | Pretreatment agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.2.1 | Fibre protecting agents in pretreatment | | X | | X | X | | | | ( X ) | X | X | | | | | | X | | | | | | ( X ) | | | | |
| 1.2.2 | Kierboiling/Scouring auxiliares | X | X | | | | | | | X | X | X | | | | | | X | | | | | | | | | | |
| 1.2.3 | Bleaching auxiliaries | X | X | | | | | | | X | X | | | | | | | X | | | | | | | | | | |
| 1.2.4 | Mercerising and causticizing auxiliareis | X | X | | | | | | | X | X | | | | | | | X | | | | | | | | | | |
| 1.2.5 | Carbonizing assistants | | X | | | | | | | X | X | | | | | X | | X | | | | | | | | | | |
| 1.2.6 | Sizing agents and sizing additives | X | X | | | ( X ) | | | | ( X ) | X | | | | | | | | | | | | | ( X ) | | | | |
| 1.2.7 | Desizing agents | X | X | | | | | | | ( X ) | X | | | | | | | X | | | | | | | | | | |
| 1.2.8 | Hydrophilizing agents | X | X | | | | | | | ( X ) | X | | | | | | | | | | | | | | | | | |
| 1.2.9 | Enzymes | X | X | | | | | | | X | X | | | | | | | | | | | | | | | | | |
| 1.2.10 | Sequestering Agents | (X) | | | | | | | (X) | | | | | | X | | | | | | | | | | | | | (X) |
| 1.2.11 | Stabilizers | | X | | | | | | | X | X | X | | | | | | X | | | | | | (X) | | | | |
| 1.2.12 | Other pre-treatment auxiliaries | | X | | | | | | | | | | | | | | | | | | | | ~~X~~ | X | | | | |

## Table 1 (Continued) Textile MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.3 | Textile auxiliaries for dyeing and printing | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.3.1 | Dyestuff solubilizing and hydrotropic agents | X | X | | | | | | | X | X | X | | | X | | | | | | | | | | | X | | |
| 1.3.2 | Dispersing agents and protective colloids | X | X | | | | | | | X | X | X | | | | X | | | | | | | | X | | X | | |
| 1.3.3 | Dyeing wetting agents, dearation agents | X | X | | | | | | X | X | X | X | | | | | | X | | | | | | X | | | | X |
| 1.3.4 | Levelling agents | X | | | (X) | | | | X | X | | | X | | | | | X | | | | | | | | | (X) | X |
| 1.3.5 | Carriers | X | X | X | X | | | | | X | X | X | | | X | X | | | (X) | | | | X | | | | | |
| 1.3.6 | Crease-preventing agents | X | X | | | | | | | X | X | | | | | | | | (X) | | | | | (X) | | | | |
| 1.3.7 | Dyestuffs protecting agents, boil down protecting agents | X | X | | | | | | | X | X | | | | | | | | | | | | | | | | | |
| 1.3.8 | Padding Auxiliaries | X | | | | | | | | X | X | | | | X | X | | X | | | | | | X | | | | |
| 1.3.8.1 | Anti-migration agents | X | | | | | | | | X | X | | | | | | | X | | | | | | X | | | | |
| 1.3.8.2 | Anti-frosting auxiliaries | X | | | | | | | | X | X | | | | | | | X | | | (X) | | | X | | | | |
| 1.3.8.3 | Products increasing wet pick-up | X | X | | | | | | X | X | X | X | | | | | | X | | | | | | X | | | | X |
| 1.3.9 | Fix accelarators for cotinuous dyeing and printing | X | | | | | | | | X | X | | (X) | | | | | | | | | X | | | | | | |
| 1.3.10 | Aftertreatment agents for fastness improvement | X | X | | | | | | | X | X | | | | | | | | | | | | | | (X) | | | |
| 1.3.11 | Bonding agent(binders) for pigment dyeing and printing | X | | | | | | | | X | X | X | X | | X | X | | X | | | | X | | (X) | | | | |
| 1.3.12 | Printing thickeners | X | | | | X | | | | X | X | X | X | | X | X | | X | | | | | | | | | | |
| 1.3.12.1 | Native printing thickeners | X | | | | X | | | | | | | | | (X) | (X) | | X | | | | | | | | | | |
| 1.3.12.2 | Sythetic printing thickeners | X | | | | | | | | X | X | X | X | (X) | X | X | | X | | | | | | | | | | |
| 1.3.13 | Emulsifiers for gasoline printing(white spirit for oil-water emulsion printing ) | X | | | | | | | | (X) | X | | | | | | | | | | | | | | (X) | | | |
| 1.3.14 | Agents to remove printing thickeners | X | | | | | | | | X | X | | | | | | | | | | | | | | | | | |
| 1.3.15 | Printing and edge adhesives | X | | | | | | | | X | X | X | X | | X | X | | X | | | | | | | | | | |
| 1.3.16 | Oxidizing agents | | | | | | | | | | X | | | | | | | X | | | | | | | (X) | | | |
| 1.3.17 | Reducing agents | | | | | | | | | | | | | | | | | X | | | | | | | | | X | |
| 1.3.18 | Discharging agents and discharging assistants | X | | | | | | | | (X) | X | | | | | | | X | | | | | | | | | | |
| 1.3.19 | Resistant agents | X | | | | | | | | (X) | X | | | | | | | | (X) | | | | | | | | | |
| 1.3.20 | Mordants | X | | | | | | | | | X | | | | | | | X | | | | | | | | | | |
| 1.3.21 | Brightening and stripping agents | X | | | | | X | X | | X | X | X | | | | | X | X | | | | | | | | | | |

# Table 1 (Continued) Textile MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.3 | Textile auxiliaries for dyeing and printing | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.3.22 | Fibre-protective agents in dyeing | X | | | | | | | | X | X | | | | | | | X | | | | | | (X) | | | | |
| 1.3.23 | pH-reguators, acid and alkali dispensers | X | | | X | | | | | | X | | | | | | | X | | | | | X | | | | | |
| 1.3.24 | Adhesives | X | | | | | | | | X | X | X | X | | X | X | | X | X | | | | | | | | | |
| 1.3.25 | Printing Pastes | X | | X | | X | | | | X | X | X | X | | X | X | X | X | X | X | X | | | | | | | |
| 1.3.25.1 | PVC based (Platisols) ready to use printing paste | X | | X | | | | | | (X) | X | X | X | | X | | | X | | | | | | (X) | | | | |
| 1.3.25.2 | Water based ready touse priting paste | X | X | | | | | | | (X) | | | | | X | | | X | | | | | | (X) | | | | |
| 1.3.25.3 | Other pigments ready to use printing paste | X | | X | | | | | | (X) | X | X | X | | X | X | X | X | (X) | | | | | | | | | |
| 1.3.25.4 | Silicone based printing paste | X | | | | | | | | (X) | X | X | X | | X | X | | X | | | | | | X | | | | |
| 1.3.25.5 | Foam printing paste | X | | | | | | | | (X) | X | X | X | | X | X | | X | X | | X | | | | | | | |
| 1.3.25.6 | Multi component printing paste | X | | X | | X | | | | X | X | X | X | | X | X | X | X | X | X | X | | | | | | | |
| 1.3.25.7 | Other printing pastes | X | | X | | X | | | | X | X | X | X | | X | X | X | X | X | X | X | | | | | | | |
| 1.3.26 | Softening agents/ Plasticisers for printing | X | | X | | | (X) | (X) | | X | X | X | X | | X | X | (X) | X | | X | | | | (X) | | | | |
| 1.3.27 | Agents to reduce or deepen shade | X | | | | X | (X) | (X) | | | X | X | X | | X | X | (X) | X | | | | | | X | | | | X |
| 1.3.28 | Anti-foaming agents for printing and coating | X | | | | | | | | X | | X | X | | X | X | | X | | | (X) | | | X | | | | |
| 1.3.29 | Printing ils | X | | | | | | | | X | | | X | | X | | | X | | | | | | (X) | | | | |
| 1.3.30 | Other dye auxiliaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.3.31 | Other printing auxiliaries | | | | | | | | | | | | | | | | | | | | | | | (X) | | | | |
| 1.3.32 | Printing oils | X | | | | | | | | X | | | X | | X | | | X | | | | | | (X) | | | | |
| 1.3.33 | Anti Back Staining Agent | X | | | | | | | | X | | | | | | | | X | | | | | | | | | | |
| 1.4 | Finishing assistants | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.1 | Optical brighteners (fluorescent brighteners) | X | | | | | (X) | (X) | | X | X | (X) | | | | | (X) | X | X | | | | | | | | | |
| 1.4.2 | Agents for the improvement of crease and shrink resistance | X | X | | | | | | | X | X | | | | | | | | (X) | | | | | (X) | | | | |
| 1.4.3 | Additives for non-creasing and non-shrinking finishes | X | | | | | | | | (X) | (X) | | | | | | | | (X) | | | | | (X) | | | | |

# Table 1 (Continued) Textile MRSL Risk Assessment Table

| | Chemical formulation type | APs& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | 2-(2-Aminoethylamino) ethanol (AEEA) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | Finishing assistants | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.4 | Catalysts for non-creasing and non-shrinking finishes | X | | | | | | | | (X) | (X) | | | | | | | X | | | | | | | | | | |
| 1.4.5 | Handle imparting agents | X | | | | | | | X | | | | | (X) | | | | | | | | | | X | | | | X |
| 1.4.6 | Weighting agents | X | | | | | | | | X | X | | | | | | | X | | | | | | | | | | |
| 1.4.7 | Filling and stiffening agents | X | | | | | | | | X | (X) | X | X | | X | | | X | | | | | | | | | | |
| 1.4.8 | Softening agents | X | X | | | | | | X | (X) | X | | | X | X | | | | | | | | | X | | | | X |
| 1.4.9 | Anti-electrostatic agent | X | | | | | | | | X | (X) | | | | | | | X | | X | | | X | | | | | |
| 1.4.10 | Water, stain, and oil repellents | X | | | | | | | | | X | | X | X | | X | | | | | | | | X | | | | X |
| 1.4.11 | Fluorine free water, stain and oil repellents | X | | | | | | | | | X | | X | | | X | | | | | | | | X | | | | X |
| 1.4.12 | C6 based water, stain and oil repellents | X | | | | | | | | | X | | X | X | | X | | | | | | | | X | | | | X |
| 1.4.13 | C4 based water, stain and oil repellents | X | | | | | | | | | X | | X | X | | X | | | | | | | | X | | | | X |
| 1.4.14 | Crosslinking agent for water repellents and coatings | X | | | | | | | | | X | | X | X | | | (X) | | | | | | | | | | | |
| 1.4.15 | C8 based water, stain and oil repellents(Not to be used) | X | | | | | | | | | X | | X | X | | | | | | | | | | | | | | |
| 1.4.16 | Soil release agents | X | | | | | | | | (X) | X | | X | X | | X | | | | | | | | X | | | | X |
| 1.4.17 | Soil Repellents | X | | | | | | | | | X | | X | X | | X | | | | | | | | X | | | | X |
| 1.4.18 | Felting Agents | X | | | | | | | | X | X | | | | | | | | | | | | | | | | | |
| 1.4.19 | Anti-felting agents | X | | | | | | | | X | X | | | | | | | | | | | | | | | | | |
| 1.4.20 | Conditioning agents | X | | | | | | | | (X) | X | | | | | | | | | | | | | | | | | |
| 1.4.21 | Lustering agents | X | | | | | | | | (X) | X | | | | | | | | | | | | | | | | | |
| 1.4.22 | Delusterig agents | | | | X | | | | | X | X | X | | | | X | X | X | | | | | | | | | | |
| 1.4.23 | Non-slip, ladder-proof and anti-snag agents | X | | | | | | | | X | X | | X | | X | X | | | | | | | | | | | | |
| 1.4.24 | Flame retardants | X | | X | | | | | X | X | X | (X) | X | | X | | | X | | | | (X) | X | X | X | | | |
| 1.4.25 | Anti-microbiotics | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 1.4.26 | Anti-microbiotics for Finishing | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 1.4.27 | Anti-microbiotics for Storage stability | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 1.4.28 | Anti-microbiotics for polymers | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 1.4.29 | Agents to protect textiles aginst damage caused by insects etc. | | X | | | X | | | | (X) | X | (X) | X | | | | | X | | | | | | | | | | |
| 1.4.30 | Agents and additives to promote bonding of fibres and threads | X | X | | | | | | | (X) | X | (X) | X | | X | X | | | | | | | | | | | | |

# Table 1 (Continued) Textile MRSL Risk Assessment Table

| | Chemical formulation type | APs& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Amines (Cleavable Restricted Aromatic from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | Finishing assistants | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.31 | Coating agents as well as according additives | X | X | | X | | | | (X) | X | X | X | X | X | X | X | | X | (X) | | | | X | | | | | |
| 1.4.32 | Laminating agents as well as according additives | X | X | | | | | | (X) | (X) | X | (X) | X | X | X | | | X | | | | | | | | | | |
| 1.4.33 | UV Protection | | X | | | X | | | | (X) | | (X) | | | | | | | (X) | | | | | | | | | X |
| 1.4.34 | Coating agents and additives | X | X | | X | | | | (X) | X | X | X | X | X | X | X | | X | (X) | | | | X | | | | | |
| 1.4.35 | PU resin for solvent coating | X | | | | X | | | (X) | | X | X | | | X | X | | X | (X) | | | | X | | | | | |
| 1.4.36 | Silicone resin for solvent Coating | | | | | | | | | | | | | | | | | | | | | | | X | | | | |
| 1.4.37 | Polymer based coating dispersions; water-based | X | X | | | | | | (X) | (X) | | (X) | X | | X | | | X | | | | | | | | | | |
| 1.4.38 | Crosslinker for solvent coating | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.39 | Accelerator for solvent coating | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.40 | Other finishing auxiliaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.41 | Finishing | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.42 | Storage Stability | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4.43 | Fragrance Finish/ Microencapsulated Fragrance Finish | X | | | | | | | | X | X | X | | | | | | | | | | | | | | | | |
| 1.4.44 | Anti Pilling Agents | X | | | | | | | | X | | | | | | | | X | | | | | | | | | | |
| 1.5 | Technical auxiliaries for multipurpose use in the textile industry | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.5.1 | Wetting agents | X | X | | | | | | X | X | X | X | | | | | | X | | | | | | X | | | | X |
| 1.5.2 | Anti-foaming agents (foam inhibitors) | X | | | | | | | | X | | X | X | | | X | | X | | | (X) | | | X | | | | |
| 1.5.3 | Detergents, dispersing and emulsifying agents | X | X | | | | | | | X | X | X | | | | X | | | | | | | | X | | X | | |
| 1.5.4 | Spotting agents | X | X | | | | | | | X | X | (X) | | | | | | | | | | | | | | | | |
| 1.5.5 | Chelating agents | X | X | | | | | | | X | X | (X) | | | | | | X | | | | | | | | | | |
| 1.5.6 | Stabilizers | X | X | | | | | | | (X) | | (X) | | | | | | | | | | | | | | | | |
| 1.6 | Other Auxiliaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.6.1 | Dry Cleaning Detergents | X | | | X | | | | | X | X | X | | | | | | | | | | | | | | | | |
| 1.6.1.1 | Drycleaning auxiliaries | X | | | X | | | | | X | X | X | | | | | | | | | | | | | | | | |
| 1.6.2 | Prespotting Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.6.3 | Defoaming Agents for solvent application | X | | | | | | | | X | X | X | X | X | | X | | X | | | (X) | | | X | | | | |
| 1.6.4 | Resin Permanent | X | | | | | | | X | (X) | | | X | | X | X | | X | | | (X) | | | | | | | |
| 1.6.5 | Resin Thermoplastic | X | | | | | | | X | (X) | | | X | | X | X | | X | | | (X) | | | | | | | |

# Table 1 (Continued) Textile MRSL Risk Assessment Table

| | Chemical formulation type | APs& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.6 | Other Auxiliaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.6.6 | Resin Thermosensible | X | | | | | | | X | X | X | | X | | X | X | | X | | | (X) | | | | | | | |
| 1.6.7 | Soaping | X | | | | | | | | X | X | | | | | | | | | | | | | | | | | |
| 1.6.8 | Other Auxiliaries | X | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | | | | | |
| 1.6.9 | Down and Feather agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.6.10 | Garment treatment agents | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.7 | Dyes and pigments | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.7.1 | Pigments | X | | | X | X | | | | | | (X) | (X) | | | X | X | X | X | | | | | | | | (X) | |
| 1.7.2 | Pigment dyes and pigment preparations | X | | | X | X | | | | | | (X) | (X) | | | X | X | X | X | | | | | | | | (X) | |
| 1.7.3 | Pigment printing pastes | X | | | X | X | | | | | | (X) | (X) | | | X | X | X | X | | | | | (X) | | | (X) | |
| 1.7.4 | Pigment inks | X | | | X | X | | | | | | (X) | (X) | | | X | X | X | X | | | | | (X) | | | (X) | |
| 1.7.5 | Reactive dye | X | | | | X | | (X) | | | | | X | | X | (X) | X | X | X | | | | | | | X | X | X |
| 1.7.6 | Reactive dye for cellulosics | X | | | | X | | (X) | | | | | X | | X | (X) | X | X | X | | | | | | | X | X | X |
| 1.7.7 | Reactive dye for polyamide | X | | | | X | | (X) | | | | | X | | (X) | (X) | X | X | X | | | | | | | X | | X |
| 1.7.8 | Reactive dye for wool | X | | | | X | | (X) | | | | | X | | (X) | (X) | X | X | X | | | | | | | X | | X |
| 1.7.9 | Reactive Inks | X | | | | X | | (X) | | | | | X | | (X) | (X) | X | X | X | | | | | | | X | | X |
| 1.7.10 | Mordant dye | X | | | X | X | | X | | | | | | | | | X | X | X | | | | | | | X | | |
| 1.7.11 | Direct dye | X | | | (X) | X | | | | | | | (X) | | X | | X | | X | | | | | | | | X | X |
| 1.7.12 | Disperse dye | X | | | X | X | X | X | (X) | | | X | | | | X | X | X | X | | | | | | | X | | |
| 1.7.13 | Disperse inks | X | | | X | X | X | X | (X) | | | X | | | (X) | X | X | X | X | | | | | | | X | | |
| 1.7.14 | Basic dye (cationic dye) | X | | | X | (X) | | X | | X | X | | | | | X | X | X | X | | | | | | | X | | |
| 1.7.15 | Acid dye | X | | | (X) | X | | | | | | | (X) | | X | | X | X | X | | | | | | | | X | X |
| 1.7.16 | Acid Inks | X | | | (X) | X | | | | | | | (X) | | X | | X | X | X | | | | | | | | X | X |
| 1.7.17 | Metal complex dyes(for WO/PA) | X | | | X | X | (X) | X | | | | | | | | | X | | X | | | | | | | X | | |
| 1.7.18 | Metal complex dyes 1:1 | X | | | (X) | X | | X | | | | | X | | (X) | | X | | X | | | | | | | | X | X |
| 1.7.19 | Metal complex dyes 2:1 | X | | | X | X | | X | | | | | | | | | X | | X | | | | | | | X | | |
| 1.7.20 | Metal complex inks | X | | | X | X | | X | | | | | X | | (X) | | X | | X | | | | | | | X | | |
| 1.7.21 | Vat dye | X | | | X | | | X | | | | | | | | X | X | X | X | | | | | | | X | | |
| 1.7.22 | Vat inks | X | | | X | | | X | | | | | | | | X | X | X | X | | | | | | | X | | |

## Table 1 (Continued) Textile MRSL Risk Assessment Table

| | Chemical formulation type | APs& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.7 | Dyes and pigments | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.7.23 | Sulphur dyes | X | | | (X) | (X) | | | | | | | | | X | | X | | X | | | | | | | | X | X |
| 1.7.24 | Dye Mixtures: Metal complex and disperse dye | X | | | X | X | X | X | (X) | | | X | X | | (X) | X | X | X | X | | | | | | | X | X | X |
| 1.7.25 | Dye mixtures: Metal complex, acid ad reactive dye | X | | | (X) | X | | X | | | | | X | | X | (X) | X | X | X | | | | | | | X | X | X |
| 1.7.26 | Dye mixtures: Disperse and acid dye | X | | | X | X | X | X | (X) | | | X | (X) | | X | X | X | X | X | | | | | | | X | X | X |
| 1.7.27 | Natural dyes | X | | | | | | X | | | | | | | | | X | X | X | | | | | | | | | |
| 1.7.28 | Solvent dyes | | | | X | (X) | | (X) | (X) | | | | X | | X | | X | | X | | | | | | | | X | |
| 1.7.29 | Azoic dyes | X | | | X | | | | | | | | | | | | X | X | X | | | | | | | | | |
| 1.7.30 | Indigo Dyes | X | | | | (X) | | | | | | | | | | | | X | X | | | | | | | | | |
| 1.8 | Ancillaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.8.1 | Cleaning/Maintenance Products | No specific guidance-Test depends on the product type | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.8.2 | Other Ancillares | No specific guidance-Test depends on the product type | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.9 | Base Chemicals | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.9.1 | Acids | X | | | (X) | (X) | | | | X | | | | (X) | X | | | (X) | | | | | | | X | | | X |
| 1.9.2 | Salts | | | | (X) | (X) | | | | X | | | | | X | | | | | | | | | | (X) | | | |
| 1.9.3 | Based | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 1.10 | Screen Printing Ancillaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.10.1 | Photo Emulsion | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.10.2 | Sensitiser | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.10.3 | Screen Stripper/Remover | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.10.4 | De-greaser | X | | | | | | | | (X) | | | | | | | | | | | | | | (X) | | | | |

# Table 2 Leather MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | from Azo-colourants) Amines (Cleavable Restricted Aromatic | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Production-Leather | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.1 | Acids | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.1.a | Acids_Hydroxy-carboxylic acids(Deliming agents) | X | | | (X) | (X) | | | | X | | | | (X) | X | | | (X) | | | | | | | | X | | | X |
| 2.1.b | Acids_Mineral acids | X | | | (X) | (X) | | | | X | | | | (X) | X | | | (X) | | | | | | | | X | | | X |
| 2.1.c | Acids_Organic acids | X | | | (X) | (X) | | | | X | | | | (X) | X | | | (X) | | | | | | | | | | | X |
| 2.1.d | Acids_Blend of organic and inorganic acids | X | | | (X) | (X) | | | | X | | | | (X) | X | | | (X) | | | | | | | | X | | | X |
| 2.2 | Auxiliaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.a | Antifoam/slip agents | X | | | | | | | | X | | X | X | | | X | | X | | | (X) | | | X | | | | |
| 2.2.b | Levelling agent | X | | | (X) | | | | X | X | | | X | | | | | X | | | | | | | | | (X) | X |
| 2.2.c | Defoamer | X | | | | | | | | X | | X | X | | | X | | X | | | (X) | | | X | | | | (X) |
| 2.2.d | Foam stabilizer | X | | | | | | | | | | | (X) | | | | | | | | | | | X | | | | |
| 2.2.e | Penetrator | X | | | | | | | | | | | | | | | | | | | | | | X | | | | |
| 2.2.f | Rheology Modifier | X | | | | | | | | | | | (X) | | | | | | | | | | | | | | | |
| 2.2.g | Water and effluent treatment chemicals | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3 | Bases | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.a | Bases_Ammonia or Amino- | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.b | Bases_Calcium formate | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.c | Bases_Lime(calcium hydroxide) | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.d | Bases_Magnesium oxide | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.e | Bases_ Sodium acetate trihydrate | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.f | Bases_ Sodium bicarbonate | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.g | Bases_ Sodium carbonate | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.h | Bases_ Sodium formate | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.i | Bases_ Sodium hydroxide | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |
| 2.3.j | Bases_ Blends | | | | (X) | (X) | | | | X | | | | | X | | | (X) | | | | | | | | | | |

## Table 2 (continued) Leather MRSL Risk Assessment Table

| | Chemical formulation type | AP& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | from Azo-colourants) Amines (Cleavable Restricted Aromatic | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.4 | Beamhouse Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.4.a | Bating and other enzymes(Proteins) | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.4.b | Bleaching or dehairing agent | X | X | | | | | | | X | X | | | | | | | X | | | | | | | X | | | |
| 2.4.c | Sequestering agents | (X) | | | | | | | (X) | | | | | | X | | | | | | | | | | | | | (X) |
| 2.4.d | Soaking Agents | X | | | | | | | | (X) | | | | | | | | | | | | | | | | | | |
| 2.5 | Degreasing Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.5.a | Degreasing agents_anionic e.g.Alkyl-Benzene Sulfonates | X | | | | | | | | (X) | | | | | | | | | | | | | | (X) | | | | |
| 2.5.b | Degreasing agents_non-ionic, other Alkyl-polyglycol Ethers(APEO-free) | X | | | | | | | | (X) | | | | | | | | | | | | | | (X) | | | | |
| 2.5.c | Degreasing agents_non-ionic Ethoxylated fatty alcohol(APEO-free) | X | | | | | | | | (X) | | | | | | | | | | | | | | (X) | | | | |
| 2.5.d | Degreasing agents_cationic amphoteric e.g.Ethoxylated fatty amines | X | | | | | | | | (X) | | | | | | | | | | | | | | (X) | | | | |
| 2.5.e | Degreasing agents_non-ionic and anionic, APEO containing | X | | | | | | | | (X) | | | | | | | | | | | | | | (X) | | | | |
| 2.6 | Dyeing Auxiliaries | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.6.a | Penetration, Levelling, Build up and Fixing Dyeing Auxiliaries | | | | | | | | | | | | | | | (X) | | | | | | | | | | X | | |

## Table 2 (continued) Leather MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.7 | Dyestuffs& Pigments | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.7.a | Dyestuff(aqueous based)_Acid azodyes | X | | | (X) | X | | | | | | | X | | X | | X | X | X | | | | | | | | X | X |
| 2.7.b | Dyestuff(aqueous based)_Basic azodyes | X | | | X | X | | X | | X | X | | | | | X | X | X | X | | | | | | | X | | |
| 2.7.c | Dyestuff(aqueous based)_Direct dyes | X | | | (X) | X | | | | | | | (X) | | X | | X | | X | | | | | | | | X | X |
| 2.7.d | Dyestuff(aqueous based)_metal complex dyes | X | | | (X) | X | | X | | | | | | | (X) | | X | | X | | | | | | | X | | |
| 2.7.e | Dyestuff(aqueous based)_Reactive dyes | X | | | | X | | (X) | | | | | X | | X | (X) | X | X | X | | | | | | | X | X | X |
| 2.7.f | Dyestuff(aqueous based)_Sulfur dyes | X | | | (X) | (X) | | | | | | | | | X | | X | | X | | | | | | | | X | X |
| 2.7.g | Dyestuff(Solvent Based for finishing)_Azodyes or Azo, metal complex dyes or Anthraquinones | X | | | X | (X) | | (X) | (X) | | | | X | | (X) | | X | | X | | | | | | | X | X | |
| 2.7.h | Pigments_Inorganic picments(iron oxide) | | | | | | | | | | | | | | | | | (X) | X | | | | | | | X | | |
| 2.7.i | Pigments_Inorganic pigments(titanium dioxide) | | | | (X) | | | | | | | | | | | | | (X) | X | | | | | | | X | | |
| 2.7.j | Pigments_Organic and metal complex pigments | X | | | | X | | | | | | (X) | (X) | | X | X | X | X | X | | | | | | | | (X) | |
| 2.8 | Fatliquors and oils | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.8.a | Fatliquors and oils_Natural fatliquors | X | X | X | | | | | (X) | X | X | | | | X | | | | | | | | | | | | | |
| 2.8.b | Fatliquors and oils_Synthetic fatliquors | X | X | X | | | | | (X) | X | X | | X | | X | | | X | | | | | | (X) | | | | |
| 2.8.c | Polymeric Softeners | X | X | X | | | | | X | (X) | X | | | X | X | | | | | | | | | X | | | | X |
| 2.8.d | Siloxanes/ Silicones(Waterproofing) | | X | | | | | | (X) | | | | | (X) | | | | | | | | | | X | | | | |

## Table 2 (continued) Leather MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | 2-(2-Aminoethylamino) ethanol (AEEA) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Perboric Acid, Sodium Salt | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.9 | Finishing Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.9.a | Protein Binders | X | X | | | | | | | (X) | | | | | | | | | | | | | | | | | | X |
| 2.9.b | Crosslinkers(finishing) | | | | | | | | | (X) | | | | | | | | | | | | | | | | | | |
| 2.9.c | Flame retardant agents | X | | X | | | | | X | X | X | (X) | X | | X | | | X | | | | (X) | X | X | X | | | |
| 2.9.d | Halide Compounds | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| 2.9.e | Handle modifiers | X | | | | | | | X | | | | | (X) | | | | | | | | | | X | | | | X |
| 2.9.f | Acrylic polymers(base coat, top coat, ect.) | | | | | | | | | (X) | | | | (X) | X | | | | | | | | | | | | | |
| 2.9.g | Cellulose Derivatives(base coat, top coat ect.) | X | | | | | | | | (X) | | | | | X | | | | | | | | | | | | | X |
| 2.9.h | Polyurethane dispersions (base coat, top coat ect.) | | | | | | | | | (X) | | ~~X~~ | X | (X) | X | | (X) | | | | | | | | | | | X |
| 2.9.i | Matting agents_Inorganic | | | | | | | | | (X) | | | | | | | | | | | | | | X | | | | |
| 2.9.j | Matting agents_Organic | | | | | | | | | (X) | | | | | | | | | | | | | | X | | | | X |
| 2.9.k | Resins | X | | | | | | | | (X) | | | (X) | | X | X | (X) | | | | | | | X | | | | X |
| 2.9.l | Waxes | X | X | | | | | | | (X) | | | | | X | | | | | | | | | X | | | | X |
| 2.9.m | Stucco | X | | | | | | | | | | | (X) | | X | | | | | | | | | | | | | |
| 2.9.n | Patent leather | | | | | | | | | (X) | | | (X) | | | | (X) | | | | | | | X | | | | X |
| 2.9.o | Transfer coating | | | | | | | | | (X) | | | (X) | | | | (X) | | | | | | | X | | | | X |
| 2.9.p | Finishing Fillers_Inorganic fillers | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.9.q | Finishing Fillers_Organic fillers | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.9.r | Compounds | X | | | | | | | | (X) | | | (X) | (X) | X | | | | | | | | | X | | | | X |
| 2.9.s | Anti Soil& repellent Finish | X | | | | | | | | ~~X~~ | X | ~~X~~ | X | X | | X | | | | | | | | X | | | | X |

## Table 2 (continued) Leather MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes and Chlorobenzenes | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.10 | Preserving Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.10.a | Bactericides for preservation during leather manufacture | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 2.10.b | Fungicides for preservation during leather manufacture | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 2.10.c | Biocides for transport/ article protection | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 2.10.d | Sanitizers | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 2.11 | Salts | | | | (X) | (X) | | | | X | | | | | X | | | | | | | | | | (X) | | | |
| 2.12 | Solvents | X | | | X | (X) | | | | (X) | X | (X) | | | X | | | | | | | | | X | | | | |
| 2.12.a | Solvents_Degreasing solvent | X | | | (X) | (X) | | | | (X) | X | (X) | | | X | | | | | | | | | X | | | | |
| 2.12.b | Solvents_Finishing solvent | X | | | (X) | (X) | | | | (X) | X | (X) | | | X | | | | | | | | | X | | | | |
| 2.13 | Tanning and Retanning agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.13.a | Tanning Auxiliaries | X | | | | | | | | (X) | | | | (X) | | (X) | | X | | | | | | | | | | |
| 2.13.b | Mineral tanning agents | | | | | | | | | | | | | (X) | | (X) | | X | | | | | | | | | | |
| 2.13.c | Mineral/ synthetic tanning agent blends | | | | | | | | | | | | | (X) | | (X) | | X | | | | | | | | | | |
| 2.13.d | Synthetic organic tanning agents | | | | | | | | | | | (X) | | (X) | | (X) | | X | | | | | | | | | | |
| 2.13.e | Vegetable tannins | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| 2.13.f | Reactive organic tanning agents | | | | | | | | | (X) | | | | | | | | X | | | | | | | | | | |
| 2.13.g | Resin tanning agents | | | | | | | | | | | | | | X | (X) | | X | | | | | | | | | | |
| 2.13.h | Polymeric retanning agent | | | | | | | | | (X) | | | | | X | | | X | | | | | | | | | | |
| 2.13.i | Retanning Fillers_Inorganic fillers | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.13.j | Retanning Fillers_Organic fillers | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Table 3 Synthetic Materials - MRSL Risk Assessment Table

| | Chemical formulation type | APE& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Production-Artificial Leather& Synthetic Leather | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | Resin | X | | | | | | | X | | | | X | | X | X | | X | (X) | | | | | | | | | |
| 3.1.a | Polyurethane resin | X | | | | | | | X | | | | X | | X | X | | X | (X) | | | | | | | | | |
| 3.1.a.i | Waterborne polyurethane resin | | | | | | | | | | | | X | | X | X | | | (X) | | | | | | | | | |
| 3.1.a.ii | Solventborne polyurethane resin | X | | | | | | | X | | X | X | X | | X | X | | X | (X) | | | | | | | | | |
| 3.1.a.iii | Solvent-free polyurethane resin | X | | | | | | | X | | | | X | | X | X | | X | (X) | | | | | | | | | |
| 3.1.a.iv | Others | X | | | | | | | X | | | | X | | X | X | | X | (X) | | | | | | | | | |
| 3.1.b | Polyvinyl chloride resin | X | | | | | | | X | | X | X | X | | X | X | | X | | | | | | | | | | |
| 3.1.c | Polyolefin resin | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.d | Polyamide resin | | | | | | | | | | | | | | | | | | (X) | | | | | | | | | |
| 3.1.e | Poly(ethyleneterephthalate) resin | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.f | Polyethylene resin | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.g | Thermoplastic polyurethane(TPU) | | | | | | | | | | | | | | | | | | (X) | | | | | | | | | |
| 3.1.h | Polyacrylates | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.i | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.2 | Colorant | X | | | X | X | X | X | | | | | | | | | X | X | X | | | | | | | | | |
| 3.2.a | Dyestuff | X | | | X | X | X | X | | | | | | | | X | X | X | X | | | | | | | | | |
| 3.2.b | Organic pigment | X | | | (X) | X | | X | | | | | (X) | | X | X | X | X | X | | | | | | | | | |
| 3.2.c | Inorganic pigment | X | | | (X) | X | | | | | | | | | X | | | X | | | | | | | | | | |
| 3.2.d | Others | X | | | X | X | X | X | | | | | (X) | | X | X | X | X | X | | | | | | | | | |
| 3.3 | Filler | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| 3.4 | Plasticizer | X | | | | | | | X | | | | X | | X | X | | X | | | (X) | | | | | | | |
| 3.5 | Heat stabilizer | | | | | | | | | | | | | | | | | | | | (X) | | | | | | | |

## Table 3 (continued) Risk assessment table for synthetic materials MRSL

| | Chemical formulation type | APs& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | ethanol (AEEA) 2-(2-Aminoethylamino) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Salt Perboric Acid, Sodium | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Production-Artificial Leather& Synthetic Leather | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6 | Lubricant | X | | | | | | | X | X | X | | | X | | X | | X | | X | | | | (X) | | | | |
| 3.6.a | Silicones | | X | | | | | | (X) | | | | | (X) | | | | | | | | | | X | | | | |
| 3.6.b | Waxes | X | X | | | | | | | (X) | | | | | X | | | | | | | | | X | | | | X |
| 3.6.c | Others | X | X | | | | | | X | X | X | | | X | X | X | | X | | X | | | | X | | | | X |
| 3.7 | Foaming agent | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| 3.7.a | Physical foaming agent | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| 3.7.b | Chemical foaming agent | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| 3.7.c | Defoaming agent | X | | | | | | | | X | | X | X | | | X | | X | | | (X) | | | X | | | | |
| 3.8 | Solvent | X | | | X | (X) | | | | (X) | X | (X) | | | X | | | | | | | | | X | | | | |
| 3.9 | Surfactant | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.10 | Flame retardant | X | | X | | | | | X | X | X | (X) | X | | X | | | X | | | | (X) | X | X | X | | | |
| 3.11 | Antioxidant | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.12 | Light stabilizer | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13 | Antistatic agent | X | | | | | | | | X | (X) | | | | | | | X | | X | | | X | | | | | |
| 3.14 | Anti-mildew agent | | X | | | X | | | | | X | | X | | | | | X | | | | | | | | | | |
| 3.15 | Finishing agent | | | | | | | | | | | | | | | | | | (X) | | | | | | | | | |
| 3.15.a | Waterborne finishing agent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.15.b | Solventborne finishing agent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.15.c | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.16 | Anti-hydrolyses agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.17 | Thickeners | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.18 | Crosslinkers | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.19 | Dulling agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.20 | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Table 4 Polymer (R&F&A) - MRSL Risk Assessment Table

| | Chemical formulation type | AP& APEO | Biocides Anti-microbials and | Chlorinated Paraffins | Chlorotoluenes Chlorobenzenes and | Chlorophenols | Disperse Dyes Dyes-Allerhenic | Equivalent Concern Dyes-Carcinogenic or | Flame Retardants | Glycols / Glycol Ethers | Halogenated Solvents | Organic Solvents | Organotin Compounds | PFAS | Phthalates | PAHs | Restricted Aromatic Amines (Cleavable from Azo-colourants) | Total Heavy Matals | (Free) Aniline | 2-(2-Aminoethylamino) ethanol (AEEA) | ADCA | BPA | Borate, zinc salt | Cyclic Siloxanes | Perboric Acid, Sodium Salt | Quinoline | Thiourea | UV Absorbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.1 | Rubber | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.1 | Polymer | | | | | | | | | | | X | X | | X | X | | X | | | (X) | | | (X) | | | | |
| 4.1.2 | Blowing Agent | | | | | | | | | | | | | | | | | | X | | X | | | | | | | |
| 4.1.3 | Filler | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| 4.1.4 | Pigment | X | | | X | X | | | | | | | (X) | | X | X | X | X | X | | | | | | | | | |
| 4.1.5 | Dyestuff | X | | | X | X | X | X | | | | | | | | X | X | X | X | | | | | | | | | |
| 4.1.6 | Activators/ Accelerators | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.7 | Coupling Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.8 | Homogenizing Agent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.9 | Processing Aid | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.10 | Antistatic/ Plasticizer | X | | | | | | | | X | (X) | | | | | | | X | | X | (X) | | X | | | | | |
| 4.1.11 | Crosslinking Agent/ Vulcanizing Agent | | | | | | | | | | | | | | | | | | (X) | | | | | | | | | |
| 4.1.12 | Antioxidant | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.13 | UV stabilizer | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.1.14 | Curing Agent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.2 | Foam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.2.1 | Polymer | | | | | | | | | | | X | X | | X | X | | X | | | (X) | | | (X) | | | | |
| 4.2.2 | Blowing Agent | | | | | | | | | | | | | | | | | | X | | X | | | | | | | |
| 4.2.3 | Filler | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| 4.2.4 | Pigment | X | | | X | X | | | | | | | (X) | | X | X | X | X | X | | | | | | | | | |
| 4.2.5 | Dyestuff | X | | | X | X | X | X | | | | | | | | X | X | X | X | | | | | | | | | |
| 4.2.6 | Activators/ Accelerators | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.2.7 | Coupling Agents | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.2.8 | Processing Aid | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.2.9 | Crosslinking Agent | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.2.10 | PBPDs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.3 | Adhesives | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.3.1 | Hotmelt | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.3.2 | Polymer | | | | | | | | | | | X | X | | X | X | | X | | | (X) | | | (X) | | | | |
| 4.3.3 | Hardeners | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.3.4 | Carriers(W/B or S/B) | | | | | | | | | | | | | | | | | | (X) | | | | | | | | | |
| 4.3.5 | Catalyst | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## Table 5 MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **AP& APEOs** | | | | |
| Nonylphenol(NP), mixed isomers | 104-40-5 | ISO 21084 | Sum=100mg/kg | No intentional use |
| | 11066-49-2 | | | |
| | 25154-52-3 | | | |
| | 84852-15-3 | | | |
| Nonylphenol ethoxylates (NPEO) | 9016-45-9 | ISO 18254 | Sum=250mg/kg | No intentional use |
| | 26027-38-3 | | | |
| | 37205-87-1 | | | |
| | 68412-54-4 | | | |
| | 127087-87-0 | | | |
| Octylphenol (OP), mixed isomers | 140-66-9 | ISO 21084 | Sum=100mg/kg | No intentional use |
| | 1806-26-4 | | | |
| | 27193-28-8 | | | |
| Octylphenol ethoxylates (OPEO) | 9002-93-1 | ISO 18254 | Sum=250mg/kg | No intentional use |
| | 9036-19-5 | | | |
| | 68987-90-6 | | | |
| **Anti-microbials and Biocides** | | | | |
| Dimethylfumarate (DMFu) | 624-49-7 | ISO 16186 | 10 mg/kg | No intentional use |
| O-Phenylphenol (+salts) | 90-43-7 | ISO 22992-1(Textile)<br>EN 17134<br>ISO 13365-1(Leather) | Textile: 5000 mg/kg<br>Leather: - | Textile: No intentional use<br>Leather: Use is permitted for chemical preservation for transportation and storage of raw hides and tanned semi-finished products (wet-white, wet-blue). Chemical preservation of coated or uncoated finished leather shall not be permitted. |
| Permethrin | 52645-53-1 | Solvent extraction,<br>LC MS<br>GC MS | 250 mg/kg | No intentional use |
| Triclosan | 3380-34-5 | Solvent extraction,<br>LC MS, DAD<br>ISO 22992-2 | 250 mg/kg | No intentional use |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Chlorinated Paraffins** | | | | |
| Short-chain Chlorinated Paraffins (SCCPs) (C10-C13) | 85535-84-8 | ISO 22818 | 250 mg/kg | No intentional use |
| Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17) | 85535-85-9 | ISO 22818 | 250 mg/kg | No intentional use |
| **Chlorobenzenes and Chlorotoluenes** | | | | |
| 1,2-Dichlorobenzene | 95-50-1 | EN 17137 | 500 mg/kg | No intentional use |
| Other isomers of mono-,di-, tri-, tetra-, penta- and hexa-Chlorobenzene and mono-, di-, tri-, tetra- and penta-chlorotoluene | Multiple, including<br>108-90-7<br>541-73-1<br>106-46-7<br>87-61-6<br>120-82-1<br>108-70-3<br>634-66-2<br>634-90-2<br>95-94-3<br>608-93-5<br>118-74-1<br>95-49-8<br>108-41-8<br>106-43-4<br>32768-54-0<br>95-73-8<br>19398-61-9<br>118-69-4<br>95-75-0<br>25186-47-4<br>7359-72-0<br>2077-46-5<br>6639-30-1<br>23749-65-7<br>21472-86-6<br>1006-32-2<br>875-40-1<br>1006-31-1<br>877-11-2 | EN 17137 | Sum= 200 mg/kg<br>Tetrachlorotoluene: 10 mg/kg<br>Trichlorotoluene: 10 mg/kg | No intentional use |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Chlorophenols** | | | | |
| 2-Chlorophenol | 95-57-8 | GC-MS<br>DIN 50009 or<br>EN ISO 17070 | Sum= 50 mg/kg | No intentional use |
| 3-Chlorophenol | 108-43-0 | | | |
| 4-Chlorophenol | 106-48-9 | | | |
| 2,3-Dichlorophenol | 576-24-9 | | | |
| 2,4-Dichlorophenol | 120-83-2 | | | |
| 2,5-Dichlorophenol | 583-78-8 | | | |
| 2,6-Dichlorophenol | 87-65-0 | | | |
| 3,4-Dichlorophenol | 95-77-2 | | | |
| 3,5-Dichlorophenol | 591-35-5 | | | |
| 2,3,4-Trichlorophenol | 15950-66-0 | | | |
| 2,3,5-Trichlorophenol | 933-78-8 | | | |
| 2,3,6-Trichlorophenol | 933-75-5 | | | |
| 2,4,5-Trichlorophenol | 95-95-4 | | | |
| 2,4,6-Trichlorophenol | 88-06-2 | | | |
| 3,4,5-Trichlorophenol | 609-19-8 | | | |
| 2,3,4,5-Tetrachlorophenol | 4901-51-3 | GC-MS<br>DIN 50009 or<br>EN ISO 17070 | Sum= 15 mg/kg | No intentional use |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | | | |
| 2,3,5,6-Tetrachlorophenol | 935-95-5 | | | |
| Pentachlorophenol PCP) | 87-86-5 | GC-MS<br>DIN 50009 or<br>EN ISO 17070 | 5 mg/kg | No intentional use |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Dyes-Allergenic Disperse Dyes** | | | | |
| C.I. Disperse Blue 7 | 3179-90-6 | DIN 54231 | 250mg/kg each | No intentional use |
| C.I. Disperse Blue 26 | 3860-63-7 | | | |
| C.I. Disperse Blue 35 | 12222-75-2<br>56524-77-7 | | | |
| 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 37/59/76 | 13301-61-6 | | | |
| 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 39 | 12236-29-2 | | | |
| C.I.Disperse yellow 49 | 54824-37-2 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Dyes-Carcinogenic or Equivalent Concern** | | | | |
| C.I.Acid Red 26 | 3761-53-3 | DIN 54231 | 250mg/kg each | No intentional use |
| C.I.Acid Violet 49 | 1694-09-3 | | | |
| C.I.Basic Blue 26 (with Michler's Ketone >0.1%) | 2580-56-5 | | | |
| C.I.Basic Green 4 (Malachite Green Chloride) | 569-64-2 | | | |
| C.I.Basic Green 4 (Malachite Green Oxalate) | 2437-29-8 | | | |
| C.I.Basic Green 4 (Malachite Green) | 10309-95-2 | | | |
| C.I.Basic Green 4 leuco base | 129-73-7 | | | |
| C.I.Basic Red 9 | 569-61-9 | | | |
| C.I.Basic Violet 14 | 632-99-5 | | | |
| C.I.Basic Violet 3 (with Michler's Ketone >0.1%) | 548-62-9 | | | |
| 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.Disperse Blue 1 | 2475-45-8 | | | |
| C.I.Disperse Blue 3 | 2475-46-9 | | | |
| C.I.Disperse Orange 11 | 82-28-0 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Flame Retardants** | | | | |
| 2,2-Bis(bromomenthyl)-1,3-propanediol(BBMP) | 3296-90-0 | Solvent extraction, GC-MS and/or LC-MS or Methanol extraction, ICP | 250mg/kg each | No intentional use |
| Bis(2,3-dibromopropyl)phosphate(BDBPP) | 5412-25-9 | | | |
| Boric acid | 10043-35-3,11113-50-1 | | | |
| Decabromobiphenyl(DecaBB) | 13654-09-6 | | | |
| Decabromodiphenyl ether(DecaBDE) | 1163-19-5 | | | |
| Diboron trioxide | 1303-86-2 | | | |
| Dibromobiphenyls(DiBB) | Multiple | | | |
| Disodium octaborate | 12008-41-2 | | | |
| Disodium tetraborate, ahydrous | 1303-96-4,1330-43-4 | | | |
| Heptabromodiphenyl ether(HeptaBDE) | 68928-80-3 | | | |
| Hexabromocyclodecane(HBCDD) | 3194-55-6 | | | |
| Hexabromodiphenyl ether(HexaBDE) | 36483-60-0 | | | |
| Monobromobiphenyls(MonoBB) | Multiple | | | |
| Monobromodiphenyl ether(MonoBDEs) | Multiple | | | |
| Nonabromobiphenyls(NonaBB) | Multiple | | | |
| Nonabromodiphenyl ether(NonaBDE) | 63936-56-1 | | | |
| Octabromobiphenyls (OctaBB) | Multiple | | | |
| Octabromodiphenyl ether(OctaBDE) | 32536-52-0 | | | |
| Pentabromodiphenyl ether(PentaBDE) | 32534-81-9 | | | |
| Tetraboron disodium heptaoxide, hydrate | 12267-73-1 | | | |
| Tetrbromobisphenol A(TBBPA) | 79-94-7 | | | |
| Tetrabromobisphenol A bis(2,3-dibromopropyl ether) | 21850-44-2 | | | |
| Tetrabromodiphenyl ether(TetraBDE) | 40088-47-9 | | | |
| Tri-o-cresyl phosphate | 78-30-8 | | | |
| Tribromodiphenyl ethers(TriBDEs) | Multiple | | | |
| Trimethyl phophate | 512-56-1 | | | |
| Tris(1-aziridinyl) phosphine oxide(TEPA) | 545-55-1 | | | |
| Tris(1,3-dichloro-isopropyl) phosphate(TDCP) | 13674-87-8 | | | |
| Tris(2-chloro-1-methylethyl) phosphate(TCPP) | 13674-84-5 | | | |
| Tris(2-chloroethyl) phosphate(TCEP) | 115-96-8 | | | |
| Tris(2,3,-dibromopropyl) phosphate(TRIS) | 126-72-7 | | | |
| Trixylyl phosphate(TXP) | 25155-23-1 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Glycols/ Glycol Ethers** | | | | |
| 2-Ethoxyethanol | 110-80-5 | LC-MS, GC-MS | 50mg/kg each | No intentional use |
| 2-Ethoxyethyl acetate | 111-15-9 | | | |
| 2-Methoxyethanol | 109-86-4 | | | |
| 2-Methoxyethyl acetate | 110-49-6 | | | |
| 2-Methoxypropanol | 1589-47-5 | LC-MS, GC-MS | Leather: -<br>Others: 50mg/kg | Leather: -<br>Others: No intentional use |
| 2-Methoxypropyl acetate | 70657-70-4 | LC-MS, GC-MS | Leather: 50mg/kg;<br>Finishing formulations: 1000mg/kg<br>Others: 50mg/kg | No intentional use |
| Bis(2-methoxyethyl) ether | 111-96-6 | LC-MS, GC-MS | 50mg/kg each | No intentional use |
| Ethylene glycol dimethyl ether | 110-71-4 | | | |
| Triethylne glycol dimethyl ether | 112-49-2 | | | |
| **Halogenated Solvents** | | | | |
| 1,2-Dichloroethane | 107-06-2 | GC- MS | 5 mg/kg | No intentional use |
| Benzyl chloride | 100-44-7 | GC-MS with confirmatory LC-MS in the event of a positive detection | 50 mg/kg<br>Dyes: 100 mg/kg | No intentional use |
| Methylene chloride | 75-09-2 | GC- MS | 5 mg/kg | No intentional use |
| Tetrachloroethylene | 127-18-4 | GC- MS | 5 mg/kg | No intentional use |
| Trichloroethylene | 79-01-6 | GC- MS | 40 mg/kg | No intentional use |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Organic Solvents** | | | | |
| Benzene | 71-43-2 | GC-MS | 50 mg/kg | No intentional use |
| Cresol(all isomers)<br>o-Cresol<br>m-Cresol<br>p-Cresol | 1319-77-3<br>95-48-7<br>108-39-4<br>106-44-5 | GC-MS | 500 mg/kg | No intentional use |
| N,N-dimethylacetamide(DMAC) | 127-19-5 | GC-MS | 1000 mg/kg | No intentional use |
| N,N-Dimethylformamide(DMFa) | 68-12-2 | GC-MS, ISO/TS 16189 | 1000 mg/kg | No intentional use |
| N-Ethyl-2 pyrrolidone(NEP) | 2687-91-4 | GC-MS | 1000 mg/kg | No intentional use |
| N-Methyl-2-Pyrrolidone(NMP) | 872-50-4 | GC-MS, ISO 19070 (GC-MS) | 1000 mg/kg | No intentional use |
| Toluene | 108-88-3 | GC-MS | 500 mg/kg | No intentional use |
| Xylene(all isomers)<br>o-Xylene<br>m-Xylene<br>p-Xylene | 1330-20-7<br>95-47-6<br>108-38-3<br>106-42-3 | GC-MS | 500 mg/kg | No intentional use |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Organotin Compounds** | | | | |
| Dibutyltin(DBT) | Multiple, including<br>683-18-1 | Solvent extraction, GC-MS,<br>ISO TS 16179,<br>ISO 22744-1 | Polyurethane based thickeners: 100 mg/kg<br>Others: 20 mg/kg | No intentional use |
| Dipropyltin compounds<br>(DPT) | Multiple, including<br>867-36-7 | Solvent extraction, GC MS，ISO TS 16179 | 5 mg/kg each | No intentional use |
| Mono- and tri- butyltin<br>derivatives | Multiple, including<br>1118-46-3<br>1461-22-9 | | | |
| Mono-, di- and tri<br>methyltin derivatives | Multiple, including<br>993-16-8<br>753-73-1<br>1066-45-1 | | | |
| Mono-, di- and tri<br>octyltin derivatives | Multiple, including<br>3091-25-6<br>3542-36-7<br>2587-76-0 | | | |
| Mono-, di- and tri<br>phenyltin derivatives | Multiple, including<br>1124-19-2<br>1135-99-5<br>639-58-7 | | | |
| Tetrabutyltin<br>compounds (TeBT) | Multiple, including<br>1461-25-2 | Solvent extraction, GC MS，ISO TS 16179 | 1 mg/kg each | No intentional use |
| Tetraethyltin<br>compounds (TeET) | Multiple, including<br>597-64-8 | | | |
| Tetraoctyltin<br>compounds (TeOT) | Multiple, including<br>3590-84-9 | | | |
| Tricyclohexyltin<br>(TCyHT) | Multiple, including<br>3091-32-5 | | | |
| Tripropyltin<br>Compounds (TPT) | Multiple, including<br>2279-76-7 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Perfluorinated and Polyfluorinated Chemicals (PFAS)** | | | | |
| Perfluorobutane sulfonic acid (PFBS) | 375-73-5 | LC-MS or GC-MS | 1000 µg/kg | No intentional use |
| Perfluorohexane sulfonic acid (PFHxS) | 355-46-4 | | 1000 µg/kg | |
| Perfluorooctane sulfonic acid (PFOS) and related susbstances | Multiple, including 1763-23-1 | | Sum= 2000 µg/kg | |
| Perfluorodecane sulfonic acid (PFDS) | 335-77-3 | | 1000 µg/kg | |
| Perfluorobutanoic acid (PFBA) | 375-22-4 | | 1000 µg/kg | |
| Perfluorohexanoic acid (PFHxA) and related substances | Multiple, including 307-24-4 | | PFHxA=25 µg/kg<br>PFHxA-related substances=1000 µg/kg | |
| Perfluorooctanoic acid (PFOA) and related substances | Multiple, including 335-67-1 | | PFOA=25 µg/kg<br>PFOA-related substances=1000 µg/kg | |
| Perfluorodecanoic acid (PFDA) | 335-76-2 | | 1000 µg/kg | |
| 4:2 Fluorotelomer alcohols (4:2 FTOH) | 2043-47-2 | | 1000 µg/kg | |
| 6:2 Fluorotelomer alcohols (6:2 FTOH) | 647-42-7 | | 1000 µg/kg | |
| 8:2 Fluorotelomer alcohols (8:2 FTOH) | 678-39-7 | | 1000 µg/kg | |
| 10:2 Fluorotelomer alcohols (10:2 FTOH) | 865-86-1 | | 1000 µg/kg | |

| Table 5 (Continued) MRSL Limit Table | | | | |
|---|---|---|---|---|
| **Substance** | **CASNO** | **Test Method** | **Requirement** | **Supplier Guidance** |
| **Phthalates – including all other esters of ortho-phthalic acid** | | | | |
| 1,2-Benzenedicarboxylic acid, di C6-8-branched and linear alkyl esters, C7-rich (DIHP) | 71888-89-6 | GC-MS<br>ISO 14389 | Sum=250 mg/kg | No intentional use |
| 1,2-Benzenedicarboxylic acid, di C7-11-branched and linear alkyl esters (DHNUP) | 68515-42-4 | | | |
| 1,2-Benzenedicarboxyli c acid, dihexyl ester, branched and linear | 68515-50-4 | | | |
| 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear | 84777-06-0 | | | |
| Benzyl butyl phthalate (BBP) | 85-68-7 | | | |
| Bis (2-methoxyethyl) phthalate (DMEP) | 117-82-8 | | | |
| Di (ethylhexyl) phthalate (DEHP) | 117-81-7 | | | |
| Di-iso-butyl phthalate (DIBP) | 84-69-5 | | | |
| Di-iso-decyl phthalate (DIDP) | 26761-40-0 | | | |
| Di-iso-nonyl phthalate (DINP) | 28553-12-0 | | | |
| Di-iso-octyl phthalate (DIOP) | 27554-26-3 | | | |
| Di-iso-pentyl phthalates (DIPP) | 605-50-5 | | | |
| Di-n-hexyl phthalate (DnHP) | 84-75-3 | | | |
| Di-n-octyl phthalate (DNOP) | 117-84-0 | | | |
| Di-n-pentyl phthalate (DnPP) | 131-18-0 | | | |
| Di-n-propyl phthalate (DPRP) | 131-16-8 | | | |
| Dibutyl phthalate (DBP) | 84-74-2 | | | |
| Dicyclohexyl phthalate (DCHP) | 84-61-7 | | | |
| Diethyl phthalate (DEP) | 84-66-2 | | | |
| Diisohexyl phthalate | 71850-09-4 | | | |
| Dinonyl phthalate (DNP) | 84-76-4 | | | |
| Dinonyl phthalate (DNP) | 776297-69-9 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Polycyclic Aromatic Hydrocarbons (PAHs)** | | | | |
| Benzo[a]pyrene (BaP) | 50-32-8 | GC-MS<br>AfPS GS 2019 | 20 mg/kg | No intentional use |
| Naphthalene [3] | 91-20-3 | | Leather: 200 mg/kg<br>Others: Sum (3) = 200 mg/kg | |
| Acenaphthene [3,4] | 83-32-9 | | Leather: Sum (4) = 200 mg/kg<br>Others: Sum (3) = 200 mg/kg | |
| Acenaphthylene [3,4] | 208-96-8 | | | |
| Anthracene [3,4] | 120-12-7 | | | |
| Benzo[a]anthracene [3,4] | 56-55-3 | | | |
| Benzo[b]fluoranthene[3,4] | 205-99-2 | | | |
| Benzo[e]pyrene [3,4] | 192-97-2 | | | |
| Benzo[ghi]perylene [3,4] | 191-24-2 | | | |
| Benzo[j]fluoranthene[3,4] | 205-82-3 | | | |
| Benzo[k]fluoranthene[3,4] | 207-08-9 | | | |
| Chrysene [3,4] | 218-01-9 | | | |
| Dibenz[a,h]anthracene[3,4] | 53-70-3 | | | |
| Fluoranthene [3,4] | 206-44-0 | | | |
| Fluorene [3,4] | 86-73-7 | | | |
| Indeno[1,2,3-cd]pyrene [3,4] | 193-39-5 | | | |
| Phenanthrene [3,4] | 85-01-8 | | | |
| Pyrene [3,4] | 129-00-0 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Restricted Aromatic Amines (Cleavable from Azo-colourants)** | | | | |
| 2-Naphthylamine | 91-59-8 | ISO 14362 | 150 mg/kg each | No intentional use |
| 2,4-Xylidine | 95-68-1 | | | |
| 2,4,5-Trimethylaniline | 137-17-7 | | | |
| 2,6-Xylidine | 87-62-7 | | | |
| 3,3'-Dichlorobenzidine | 91-94-1 | | | |
| 3,3'-Dimethoxylbenzidine | 119-90-4 | | | |
| 3,3'-Dimethylbenzidine | 119-93-7 | | | |
| 4-Aminoazobenzene | 60-09-3 | | | |
| 4-Aminobiphenyl | 92-67-1 | | | |
| 4-Chloro-o-toluidine | 95-69-2 | | | |
| 4-Chloroaniline | 106-47-8 | | | |
| 2,4-Diaminoanisol | 615-05-4 | | | |
| 2,4-Toluenediamine | 95-80-7 | | | |
| 4,4'-Methylene-bis-(2-chloroaniline) | 101-14-4 | | | |
| 4,4'-Methylenedi-otoluidine | 838-88-0 | | | |
| 4,4'-Diaminodiphenylmethane | 101-77-9 | | | |
| 4,4'-Oxydianiline | 101-80-4 | | | |
| 4,4'-Thiodianiline | 139-65-1 | | | |
| 2-Amino-4-nitrotuluene | 99-55-8 | | | |
| Benzidine | 92-87-5 | | | |
| p-Cresidine | 120-71-8 | | | |
| o-Aminoazotoluene | 97-56-3 | | | |
| o-Anisidine | 90-04-0 | | | |
| o-Toluidine | 95-53-4 | | | |
| Salt of 2-Naphthylammonium acetate | 553-00-4 | | | |
| Salt of 2,4,5-trimethylaniline hydrochloride | 21436-97-5 | | | |
| Salt of 4-chloro-o-toluidinium chloride | 3165-93-3 | | | |
| Salt of 4-methoxy-mphenylene diammonium sulphate | 39156-41-7 | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Total Heavy Metal** | | | | |
| Antimony (Sb) | 7440-36-0 | Acid digestion, ICP/AAS | Dye 50 mg/kg<br>Pigment 250 mg/kg | No intentional use |
| Arsenic (As) | 7440-38-2 | Acid digestion, ICP/AAS | 50 mg/kg | No intentional use |
| Barium (Ba) | 7440-39-3 | Acid digestion, ICP/AAS | Dye&Pigment 100 mg/kg | No intentional use |
| Cadmium (Cd) | 7440-43-9 | Acid digestion, ICP/AAS | Pigment 50 mg/kg<br>Others: 20 mg/kg | No intentional use |
| Chromium (Cr) | 7440-47-3 | Acid digestion, ICP/AAS | Dye&Pigment 100 mg/kg | No intentional use |
| Chromium (VI) | 18540-29-9 | HPLC / DAD Ion chromatography (IC) with UV detection | 10 mg/kg | No intentional use |
| Cobalt (Co) | 7440-48-4 | Acid digestion, ICP/AAS | Dye 500 mg/kg | No intentional use |
| Copper (Cu) | 7440-50-8 | Acid digestion, ICP/AAS | Dye 250 mg/kg | No intentional use |
| Lead (Pb) | 7439-92-1 | Acid digestion, ICP/AAS | 100 mg/kg | No intentional use |
| Mercury (Hg) | 7439-97-6 | Acid digestion, ICP/AAS | Pigment 25 mg/kg<br>Others: 4 mg/kg | No intentional use |
| Nickel (Ni) | 7440-02-0 | Acid digestion, ICP/AAS | Dye 250 mg/kg | No intentional use |
| Selenium (Se) | 7782-49-2 | Acid digestion, ICP/AAS | Dye 20 mg/kg<br>Pigment 100 mg/kg | No intentional use |
| Silver (Ag) | 7440-22-4 | Acid digestion, ICP/AAS | Dye 100 mg/kg | No intentional use |
| Tin (Sn) | 7440-31-5 | Acid digestion, ICP/AAS | Dye 250 mg/kg | No intentional use |
| **(Free) Aniline** | | | | |
| (Free) Aniline | 62-53-3 | Indigo - Reductive method (ISO 14362)<br>Other - Non-reductive<br>(ISO 14362 without reductive step) | Indigo Dye 2000 mg/kg<br>Other Dye 500 mg/kg | No intentional use |
| Note | Used in the manufacture of Indigo and some azo dyes. Residues from manufacturing can remain in the formulation. For all dyes other than indigo, it is important that non-reductive methods are used so that only the free aniline is analysed rather than that which could be formed by the cleavage of a dye molecule. For indigo, aniline can be tied up in insoluble clusters of dye and so a reductive method that fully solubilises the dye and liberates free aniline is used. The levels of aniline in indigo must be achieved by removal of the aniline and not by dilution, with a minimum indigo content of 30% being required. | | | |
| **2- (2-Aminoethylamino) ethanol (AEEA)** | | | | |
| 2- (2-Aminoethylamino) ethanol (AEEA) | 111-41-1 | Solvent extraction,LC MS/MS or GC-MS<br>(Substance is not stable in aqueous matrices or solutions) | 100 mg/kg | No intentional use |
| Note | AEEA is used in chelating agents, surfactants and fabric softeners. | | | |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **ADCA** | | | | |
| Diazene-1,2-dicarboxamide [C,C`-azodi (formamide) ] (ADCA) | 123-77-3 | LC/MS, LC/DAD | 1000 mg/kg | No intentional use |
| **Bisphenol A (BPA)** | | | | |
| Bisphenol A (BPA) | 80-05-7 | Solvent extraction,LC MS/MS、GC MS | Textile& Leather: 100 mg/kg<br>Polymers(R,F,A): - | Textile& Leather: No intentional use<br>Polymers(R,F,A): No restriction |
| Note | Bisphenol A (BPA) is a precursor chemical used along with other chemicals to create some plastics and resins. It is commonly used to harden plastics. | | | |
| **Borate, zinc salt** | | | | |
| Borate, zinc salt | 1332-07-6 | Acid digestion, ICP | 1000 mg/kg | No intentional use |
| Note | Borate, zinc salt can be used as a flame retardant as well as in paints, pigments and adhesives. | | | |
| **Cyclic siloxane** | | | | |
| D4 (Octamethylcyclotetrasiloxane) | 556-67-2 | TEGEWA method, Choroform extraction, GC/MS | 1000 mg/kg | No intentional use |
| D5 (Decamethylcyclopentasiloxane) | 541-02-6 | | | |
| D6 (Dodecamethylcyclohexasiloxane) | 540-97-6 | | | |
| Note | Cyclic siloxane can be present as contaminants in the formulations that contain silicone, such as softeners. | | | |
| **Perboric acid, sodium salt** | | | | |
| Perboric acid, sodium salt | Multiple, including<br>11138-47-9<br>15120-21-5<br>7632-04-04<br>16940-66-2<br>13517-20-9<br>125022-34-6<br>90568-23-3 | Methanol extraction, ICP | 1000 mg/kg | No intentional use |

## Table 5 (Continued) MRSL Limit Table

| Substance | CASNO | Test Method | Requirement | Supplier Guidance |
|---|---|---|---|---|
| **Quinoline** | | | | |
| Quinoline | 91-22-5 | DIN 54231, LC-MS | 1000 mg/kg | No intentional use |
| Note | Contaminant in dispersing agents in disperse dyes. | | | |
| **Thiourea** | | | | |
| Thiourea | 62-56-6 | Solvent extraction,LC MS/MS，LC-DAD MS | 1000 mg/kg | No intentional use |
| Note | In several formulations, thiourea is used to improve solubility. It can be used as a cross-linker. | | | |
| **UV Absorbers** | | | | |
| 2-Benzotriazol-2-yl-4,6- di-tert-butylphenol (UV-320) | 3846-71-7 | Solvent extraction,LC-MS/MS，GC-MS | 1000 mg/kg | No intentional use |
| 2,4-Di-tert-butyl-6- (5-chlorobenzotriazole-2-yl ) phenol (UV-327) | 3864-99-1 | | | |
| 2- (2Hbenzotriazol-2-yl) -4,6-ditertpentylphenol (UV-328) | 25973-55-1 | | | |
| 2- (2Hbenzotriazol-2-yl) -4- (tert-butyl) -6- (secbutyl) phenol (UV-350) | 36437-37-3 | | | |

# 6. Recognized laboratory

SHEIN recognizes laboratories recognized by ZDHC, and we recommend contacting the following third-party laboratories with close cooperation with SHEIN (in no particular order) for MRSL related testing and verification:

| Lab Name | Lab Address | Contact Person | Phone |
|---|---|---|---|
| Intertek Guangzhou | Room 601, No. 8, Bao Ying East Road, Huangp | Twinkle Zhang | 13760750068 |
| BV Guangzhou | Block B, Merrill Plaza, No. 183, Dongchong Section, Shi Nan Road, Nansha District, Guangzhou City, Guangdong Province, China | Kelvin Yuan | 18022362100 |
| BV Shanghai | 168 Guanghua Road, Zhuanqiao Town, Minhang District, Shanghai | Will Yin | 15316763081 |
| TÜV SÜD Xiamen | Unit 401, No. 93 Huli Industrial Park, Meixi Road, Tong'an District, Xiamen City, Fujian Province | Luca Chen | 18675840326 |
| SGS Guangzhou | 3/F, No. 198 Kezhu Road, Science City, Economic and Technological Development Zone, Tianhe District, Guangzhou | Ada Zheng | 15818124759 |

# 7. Version change log

| Version | Scope | Modification |
|---|---|---|
| B0 | All | Initial Version |