



# MANUAL OF CONFORMITY A.C.M. SRL

APRIL 2025

Monitoring input chemicals is key to prevent contamination of products/materials and waters/sludges. The Manufacturing Restricted Substances List (MRSL) specifies the list of substances that the suppliers and their supply chain shall monitor in production and that shall not be used in the manufacturing of, nor be present in, chemicals, waters/sludges, raw materials or products.

Suppliers are encouraged to adopt the ZDHC MRSL, where applicable and in its most updated version. In addition, suppliers are requested to follow the below points.

The MRSL is applicable to all tiers of the manufacturing processes involved in production of materials/products. Listed substances are to be monitored in chemicals, various input/output waters and sludges. For parameters, methods and minimum detection limits for water and sludges testing, please refer to the following MRSL table; for chemical formulations substances, methods and minimum detection limits, please refer to the A.C.M. srl PRSL. Please note that legal requirements for conventional parameters in the countries of production/manufacturing are mandatory; in case of conflict between the requirements set forth by the MRSL/PRSL and the requirements provided by the mandatory regulations/standards, the most restrictive requirements shall prevail.

Suppliers are encouraged to proactively develop an environmental and chemical management system, and are asked to control/test chemicals/waters/sludges and to maintain up-to-date, and give evidence of, their chemical inventories and related supporting documents (e.g. lots, Safety data sheets, etc.), including chemicals used for other purposes, such as for cleaning, maintenance, etc.

Chemical formulations to be tested must be selected considering chemicals composition, materials to be treated (for instance fabric, leather, plastics, etc.), type of use in the production process (auxiliary/colorant/finishing agents, etc.), documentation availability, frequency and amount of use in the supply chain, as well as peculiarities and refinement of specific intended effects. Specific chemicals can be sampled during audits/follow-ups or case studies as well. Depending on the kind of production, auditors are requested to sample suspect and/or the most used chemical products from the audited company.

A deep chemical formulations screening/testing is strongly recommended (at least seasonally). Traceability of lots is key.

Water tests aim at sampling and testing production incoming and untreated discharge waters, where appropriate (each additional sampling point is assessed on a case-by-case basis, e.g. sludges, additional sources of untreated water, etc.). Water/sludge samples are tested to check the presence of the involved chemical groups and additional substances/parameters, this kind of screening process helps identifying the use of these chemicals in the manufacturing processes and identifying possible contamination sources.

In case any monitored substance is found in chemical formulations/waters/sludges, suppliers must:

- verify these substances, and related quantities, do not compromise compliance with A.C.M. srl requirements set forth in the PRSL and any other mandatory requirements;
- clarify their source and apply corrective actions, improving, for instance, their chemical inventory, water input/output, substitute chemicals and materials, etc.

When any material/product fails to comply with A.C.M. srl PRSL, suppliers are requested to deepen and clarify the source of the problem, testing materials, chemicals/formulations and, where needed, waters/sludges and give evidence of the resolution and the implemented steps.

## REACH Regulation, SVHC (Substances of Very High Concern) and authorisation list

All suppliers must periodically consult the following web pages and comply with the most updated obligations set forth in the REACH Regulation (Reg. EC 1907/2006). Particularly, suppliers must comply with their obligation to notify A.C.M. srl if any SVHCs are present in concentrations higher than 0.1% by weight in supplied materials/products, if more restrictive requirements are set forth elsewhere in the A.C.M. srl PRSL/MRSL/requirements, those apply.

**SVHC:** <http://echa.europa.eu/web/guest/candidate-list-table>

**AUTHORISATION LIST:** <https://echa.europa.eu/authorisation-list>



### **Proposition 65 of the State of California (Prop 65)**

All suppliers must periodically consult the below web page and comply with the most updated requirements/obligations set forth in Prop 65 ("Safe Drinking Water and Toxic Enforcement Act of 1986"). In particular, suppliers must notify A.C.M. srl of the presence of substances regulated under Prop 65 in supplied materials/products.

**Proposition 65:** <https://oehha.ca.gov/proposition-65>

## Product Restricted Substances List (PRSL)

| Group of Substances<br>(Individual Substances are listed in Annex 1) | Limit<br>(mg/Kg)                                                                                                                                                         | Target Limit<br>(mg/Kg) | Test Method<br>(Always refer to the latest version of each method)                                      |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------|
| ALKYLPHENOLS (APs), ALKYLPHENOL ETHOXYLATES (APEOs)                  |                                                                                                                                                                          |                         |                                                                                                         |
| Alkylphenol Ethoxylates (APEOs), sum                                 | Do not use: 50;<br>100 (Recycled materials)                                                                                                                              | ND (1)                  | APEOs: ISO 18254-1; APs: ISO 21084;<br>GB/T 23322;<br>Leather: ISO 18218-1/2                            |
| Alkylphenols (APs), sum                                              | 5                                                                                                                                                                        | ND (1)                  |                                                                                                         |
| ASBESTOS FIBERS                                                      |                                                                                                                                                                          |                         |                                                                                                         |
| Asbestos fibers                                                      | ND                                                                                                                                                                       | ND                      | X-ray diffractometer/SEM                                                                                |
| BISPHENOLS                                                           |                                                                                                                                                                          |                         |                                                                                                         |
| Bisphenol A                                                          | ND (1)                                                                                                                                                                   | ND (1)                  | Solvent Extraction and analysis by LC-MS                                                                |
| Sum of BPS, BPB, BPF, BPAF                                           | Sum <100 ppm<br>(under investigation)                                                                                                                                    | ND (1)                  |                                                                                                         |
| CHLORINATED PHENOLS                                                  |                                                                                                                                                                          |                         |                                                                                                         |
| PCP, its salts and esters, TeCPs, TriCPs                             | 0,05                                                                                                                                                                     | ND                      | LFGB B 82.02-08; GB/T18414.1;<br>Leather: ISO 17070, GB/T 22808                                         |
| Other chlorophenols                                                  | 0,5                                                                                                                                                                      | ND                      |                                                                                                         |
| BIOCIDES                                                             |                                                                                                                                                                          |                         |                                                                                                         |
| Dimethylfumarate<br>(CAS 624-49-7)                                   | ND (0,1)                                                                                                                                                                 | ND (0,1)                | ISO/TS 16186, GB/T 26713, Textile EN 17130                                                              |
| Other Biocides                                                       | Only biocides authorized in Regulation (EU) No 528/2012<br>and subsequent amendments (unless more restrictive<br>requirements are seth forth elsewhere in this document) |                         | Solvent extraction and analysis by GC-MS / LC-MS                                                        |
| Dioxins and Furans                                                   |                                                                                                                                                                          |                         |                                                                                                         |
| Group 1                                                              | Sum: 1 µg/kg                                                                                                                                                             | ND                      | EPA 8290                                                                                                |
| Groups 1 & 2                                                         | Sum: 5 µg/kg                                                                                                                                                             |                         |                                                                                                         |
| Groups 1, 2 & 3                                                      | Sum: 100 µg/kg                                                                                                                                                           |                         |                                                                                                         |
| Group 4                                                              | Sum: 1 µg/kg                                                                                                                                                             |                         |                                                                                                         |
| Groups 4 & 5                                                         | Sum: 5 µg/kg                                                                                                                                                             |                         |                                                                                                         |
| DYES – AZO                                                           |                                                                                                                                                                          |                         |                                                                                                         |
| Azo                                                                  | ND (5)                                                                                                                                                                   | ND (5)                  | ISO 14362-1 and ISO 14362-3, GB/T 17592, GB/T<br>23344;<br>Leather: ISO 17234-1 ISO 17234-2, GB/T 19942 |
| DYES (CARCINOGENIC, ALLERGENIC, Others)                              |                                                                                                                                                                          |                         |                                                                                                         |
| Carcinogenic, Allergenic, Others                                     | ND (5)                                                                                                                                                                   | ND (5)                  | DIN 54231                                                                                               |
| FLAME RETARDANTS (Substances used as flame retardants, but not only) |                                                                                                                                                                          |                         |                                                                                                         |
| Flame Retardants (SCCP and MCCP<br>included)                         | ND (5)                                                                                                                                                                   | ND (5)                  | GB/T 24279                                                                                              |
| Short Chain Chlorinated Paraffins<br>(SCCP)                          | ND (50) Leather                                                                                                                                                          | ND (50) Leather         |                                                                                                         |
| SCCP + Medium Chain Chlorinated<br>Paraffins (MCCP)                  | Sum < 50                                                                                                                                                                 | ND                      |                                                                                                         |
| FLOURINATED GREENHOUSE GASES                                         |                                                                                                                                                                          |                         |                                                                                                         |
| Hydrofluorocarbons (HFC)                                             | ND                                                                                                                                                                       | ND                      | GC -MS/Headspace                                                                                        |
| Sulphur hexafluoride (SF6)                                           |                                                                                                                                                                          |                         |                                                                                                         |
| Perfluorocarbons (PFC)                                               |                                                                                                                                                                          |                         |                                                                                                         |
| FORMALDEHYDE                                                         |                                                                                                                                                                          |                         |                                                                                                         |
| Formaldehyde<br>(CAS 50-00-0)                                        | ND (16);<br>75 (Adults)                                                                                                                                                  | ND (16)                 | ISO 14184-1; Japanese law 112; GB/T 2912.1;<br>Leather: ISO 17226-1, GB/T 19941;<br>Wood: EN 717-3      |
| GLYCOLS AND GLYCOL ETHERS                                            |                                                                                                                                                                          |                         |                                                                                                         |
| Glycols and Glycol Ethers                                            | ND (5)                                                                                                                                                                   | ND (5)                  | Solvent Extraction and analysis by HPLC LC-MS                                                           |
| ISOCYANATES                                                          |                                                                                                                                                                          |                         |                                                                                                         |
| Isocyanates                                                          | ND (1)                                                                                                                                                                   | ND (1)                  | EN 13130-8                                                                                              |

Legend:

ND: not detectable; unless otherwise specified, the detection limit is that of the test method indicated.

PRSL: Product Restricted Substances List

ppm: mg/Kg

<sup>1</sup>In case of conflict between the requirements set forth by the PRSL and the requirements provided by mandatory regulations/standards, the most restrictive requirements shall prevail.



| Group of Substances<br>(Individual Substances are listed in Annex 1)    | Limit<br>(mg/Kg)                                                                                                                                     | Target Limit<br>(mg/Kg)                                       | Test Method<br>(Always refer to the latest version of each method)                                                                                                                                 |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HEAVY METALS - Total content                                            |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| Arsenic                                                                 | ND (1)                                                                                                                                               | ND (1)                                                        | CPSC-CH-E1002-08.3; CPSC-CH-E1001-08.3; CPSC-CH-E1003-09.1; Leather: CPSC-CH-E1002-08; QB/T 4340;<br>Cr (VI): If Cr is found with the above methods, test for Cr(VI) with ISO 17075 and GB/T 28019 |
| Cr (VI)                                                                 | ND                                                                                                                                                   | ND                                                            |                                                                                                                                                                                                    |
| Mercury and its compounds                                               | ND (0,5)                                                                                                                                             | ND (0,5)                                                      |                                                                                                                                                                                                    |
| Cadmium                                                                 | 40 <sup>3</sup> (Coatings and Total);<br>100 (glass/crystal in products for Adults)                                                                  | ND (10)                                                       |                                                                                                                                                                                                    |
| Lead <sup>2</sup>                                                       | 40 <sup>3</sup> (Coatings and Total);<br>100 (glass/crystal in products for Adults)                                                                  | ND (10)                                                       |                                                                                                                                                                                                    |
| HEAVY METALS - Extractable (not applicable to metal components)         |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| Antimony                                                                | < 30                                                                                                                                                 | ND (5)                                                        | EN 16711-2, if Cr > 0,5 mg/kg is found, test for Cr(VI) with ISO 17075-1; GB/T 17593.1; GB/T 17593.2; GB/T 17593.3; GB/T 17593.4; Leather: ISO 17072-1                                             |
| Arsenic                                                                 | < 0,2                                                                                                                                                | ND (0,02)                                                     |                                                                                                                                                                                                    |
| Lead                                                                    | < 0,2; < 0,8 (Adults)                                                                                                                                | ND (0,1)                                                      |                                                                                                                                                                                                    |
| Cadmium                                                                 | < 0,1                                                                                                                                                | ND (0,02)                                                     |                                                                                                                                                                                                    |
| Chromium <sup>4</sup>                                                   | < 1; < 2 (Adults )                                                                                                                                   | ND (0,1)                                                      |                                                                                                                                                                                                    |
| Cr(VI)                                                                  | < 0,5 (Leather excluded)                                                                                                                             | ND (0,5)                                                      |                                                                                                                                                                                                    |
| Cobalt                                                                  | < 1; < 4,0 (Adults)                                                                                                                                  | ND (0,1)                                                      |                                                                                                                                                                                                    |
| Copper                                                                  | < 25; < 50 (Adults)                                                                                                                                  | ND (5)                                                        |                                                                                                                                                                                                    |
| Mercury and its compounds                                               | < 0,02; < 0,05 (Leather)                                                                                                                             | ND (0,02)                                                     |                                                                                                                                                                                                    |
| Nickel                                                                  | < 0,5; < 1 (Adults)                                                                                                                                  | ND (0,1)                                                      |                                                                                                                                                                                                    |
| Zinc                                                                    | < 50                                                                                                                                                 | ND (5)                                                        |                                                                                                                                                                                                    |
| Cr (VI) leather                                                         | ND (< 3)                                                                                                                                             | ND (< 3)                                                      | ISO 17075-2 and ISO 10195 (A1 or A2)                                                                                                                                                               |
| MIGRATION OF CERTAIN ELEMENTS                                           |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| Antimony (Sb)                                                           | 60                                                                                                                                                   | ND                                                            | ISO 8124-3                                                                                                                                                                                         |
| Arsenic (As)                                                            | 25                                                                                                                                                   |                                                               |                                                                                                                                                                                                    |
| Barium (Ba)                                                             | 1000                                                                                                                                                 |                                                               |                                                                                                                                                                                                    |
| Cadmium (Cd)                                                            | 75                                                                                                                                                   |                                                               |                                                                                                                                                                                                    |
| Chromium (Cr)                                                           | 60                                                                                                                                                   |                                                               |                                                                                                                                                                                                    |
| Lead (Pb)                                                               | 90                                                                                                                                                   |                                                               |                                                                                                                                                                                                    |
| Mercury (Hg)                                                            | 60                                                                                                                                                   |                                                               |                                                                                                                                                                                                    |
| Selenium (Se)                                                           | 100                                                                                                                                                  |                                                               |                                                                                                                                                                                                    |
| MICROBIOLOGICAL ACTIVITY                                                |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| Microbiological activity                                                | None                                                                                                                                                 | None                                                          | EN 1884                                                                                                                                                                                            |
| NICKEL RELEASE                                                          |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| Nickel release                                                          | < 0,28 µg/cm²/week<br>(skin contact);<br><0.11 µg/cm²/week<br>(body piercing jewelry or other objects inserted into pierced parts of the human body) | ND                                                            | EN 1811 + EN 12472                                                                                                                                                                                 |
| N-NITROSAMINE                                                           |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| N-Nitrosamine                                                           | 0,5                                                                                                                                                  | 0,5                                                           | Rubber and plastics: GB/T 24153                                                                                                                                                                    |
| ORGANOTIN COMPOUNDS                                                     |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| TBT, TPhT                                                               | ND (0,1)                                                                                                                                             | ND (0,1)                                                      | ISO/TS 16179                                                                                                                                                                                       |
| Others, sum                                                             | 0,5; 1 (Adults)                                                                                                                                      | ND (0,1)                                                      |                                                                                                                                                                                                    |
| PESTICIDES                                                              |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| Pesticides                                                              | ND (0,1 each), Sum: <1                                                                                                                               |                                                               | EPA 8081 + EPA 8141 + EPA 8151                                                                                                                                                                     |
| PFAS, PFCs (Perfluorinated-Polyfluorinated Chemicals) on each component |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |
| PFOS, PFOA and their related substances                                 | Do not use:<br>ND (1 µg/m² & 25 ppb)                                                                                                                 | Do not use:<br>ND (1 µg/m² & 25 ppb)                          | EN 17681-1 and -2; Leather: ISO 23702-1                                                                                                                                                            |
| C9-C14 Perfluorocarboxylic acids (PFCAs), PFHxS, PFHxA and their salts  | Do not use:<br>ND (25 ppb sum & 1 µg/m² & 10 µg/m² (FTOHs))                                                                                          | Do not use:<br>ND (25 ppb sum & 1 µg/m² & 10 µg/m² (FTOHs))   |                                                                                                                                                                                                    |
| PFCAs, PFHxS, PFHxA <sup>5</sup> related substances                     | Do not use:<br>ND (0,26 ppm sum & 1 µg/m² & 10 µg/m² (FTOHs))                                                                                        | Do not use:<br>ND (0,26 ppm sum & 1 µg/m2 & 10 µg/m² (FTOHs)) |                                                                                                                                                                                                    |
| Other PFAS/PFCs <sup>5</sup>                                            | Do not use:<br>ND (1 µg/m²;<br>10 µg/m² (FTOHs))                                                                                                     | Do not use:<br>ND (1 µg/m²;<br>10 µg/m² (FTOHs))              |                                                                                                                                                                                                    |
| Total Fluorine                                                          | Do not use: ND (50)                                                                                                                                  | Do not use: ND (50)                                           |                                                                                                                                                                                                    |
| ASTM D7359, EN 17813, or equivalent methods                             |                                                                                                                                                      |                                                               |                                                                                                                                                                                                    |



| Group of Substances<br>(Individual Substances are listed in Annex 1) | Limit<br>(mg/Kg)                                                                                                     | Target Limit<br>(mg/Kg)                                                                                              | Test Method<br>(Always refer to the latest version of each method)                          |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| pH                                                                   |                                                                                                                      |                                                                                                                      |                                                                                             |
| pH                                                                   | Skin contact: 4,0-7,5<br>No skin contact: 4,0-9,0;<br><br>Leather: 3,5-7,5<br>Skin with hair: 3,8-6,5<br>(ΔpH < 0,7) | Skin contact: 4,0-7,5<br>No skin contact: 4,0-9,0;<br><br>Leather: 3,5-7,5<br>Skin with hair: 3,8-6,5<br>(ΔpH < 0,7) | ISO 3071; GB/T 7573;<br>Leather: ISO 4045, QB/T 2724<br>Skin with hair: ISO 4045, QB/T 1277 |
| PHTHALATES                                                           |                                                                                                                      |                                                                                                                      |                                                                                             |
| Phthalates (Group 1)                                                 | 25 each                                                                                                              | DIDP and DINP: ND (10),<br>Others: ND (5)                                                                            | CPSC-CH-C1001-09.4                                                                          |
| Other Phthalates, sum                                                | 250                                                                                                                  |                                                                                                                      |                                                                                             |
| POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)                              |                                                                                                                      |                                                                                                                      |                                                                                             |
| Naphthalene                                                          | <1;<br><2 (Adults)                                                                                                   | ND (0,2)                                                                                                             | AfPS GS 2019:01 PAK                                                                         |
| Group 1                                                              | 0,5 each and <1 sum;<br>1 each and <5 sum<br>(Adults)                                                                |                                                                                                                      |                                                                                             |
| Group 2, sum                                                         | < 1;<br>< 2 (Adults)                                                                                                 |                                                                                                                      |                                                                                             |
| Group 1 + Group 2 + Group 3                                          | Sum <1;<br>Sum <5 (Adults)                                                                                           |                                                                                                                      |                                                                                             |
| QUINOLINE                                                            |                                                                                                                      |                                                                                                                      |                                                                                             |
| Quinoline<br>(CAS 91-22-5)                                           | 25                                                                                                                   | ND (2)                                                                                                               | DIN 54231                                                                                   |
| SOLVENTS                                                             |                                                                                                                      |                                                                                                                      |                                                                                             |
| Chlorinated Benzenes and Toluenes,<br>sum                            | 1                                                                                                                    | ND (0,5)                                                                                                             | EN 17137                                                                                    |
| Chlorinated Solvents, sum                                            | 50                                                                                                                   | ND (0,5)                                                                                                             | HS-GC-MS                                                                                    |
| N,N-dimethylacetamide (DMAc)                                         | 300; 500 (Adults)                                                                                                    | 300; 500 (Adults)                                                                                                    | ISO 16189                                                                                   |
| N,N-dimethylformamide (DMF)                                          | 50; 200 (Adults)                                                                                                     | 50; 200 (Adults)                                                                                                     |                                                                                             |
| N-methyl-2-pyrrolidone (NMP)                                         | 100; 500 (Adults)                                                                                                    | 100; 500 (Adults)                                                                                                    |                                                                                             |
| Vinyl chloride monomer                                               |                                                                                                                      |                                                                                                                      |                                                                                             |
| Vinyl chloride monomer                                               | ND (1)                                                                                                               | ND (1)                                                                                                               | GB/T 4615                                                                                   |
| VOC                                                                  |                                                                                                                      |                                                                                                                      |                                                                                             |
| Benzene                                                              | 5                                                                                                                    | ND (1)                                                                                                               | Screening GC/MS headspace after 45 min at 120°C                                             |
| Other VOC                                                            | 250                                                                                                                  | ND (5)                                                                                                               |                                                                                             |
| Volatile matter                                                      |                                                                                                                      |                                                                                                                      |                                                                                             |
| Volatile matter                                                      | 20 g/m²                                                                                                              | 20 g/m²                                                                                                              | GB 21550                                                                                    |
|                                                                      |                                                                                                                      |                                                                                                                      |                                                                                             |

# MRSL Manufacturing Restricted Substances List

| Groups of Substances<br>(individual substances are listed in Annex 1) | Reporting Limits |                | Test Methods <sup>2</sup>                                                 |                                                      |
|-----------------------------------------------------------------------|------------------|----------------|---------------------------------------------------------------------------|------------------------------------------------------|
|                                                                       | Water (µg/L)     | Sludge (mg/Kg) | Water                                                                     | Sludge                                               |
| ALKYLPHENOLS (APs), ALKYLPHENOL ETHOXYLATES (APEOs)                   |                  |                |                                                                           |                                                      |
| Alkylphenol Ethoxylates (APEOs), sum                                  | 1                | 0.2            | ASTM D7065                                                                | ASTM D5369, EPA 3540C, ASTM D7065; ISO 18254-1       |
| Alkylphenols (APs), sum                                               |                  |                |                                                                           |                                                      |
| CHLORINATED PHENOLS                                                   |                  |                |                                                                           |                                                      |
| Chlorinated phenols                                                   | 0.5              | 0.025          | EPA 8270D                                                                 | ASTM D5369, EPA 3540C, EPA 8270D, ISO 14154          |
| DYSE -AZO                                                             |                  |                |                                                                           |                                                      |
| Azo                                                                   | 0.1              | 0.1            | DIN 38407-16, EN 14362-1/3 (modified)                                     | DIN 38407-16, EN 14362-1/3 (modified)                |
| DYES (CARCINOGENIC, ALLERGENIC, Others)                               |                  |                |                                                                           |                                                      |
| Carcinogenic, allergenic, others                                      | 0.1              | 0.1            | EP 3510C + EPA 8321B:2007 (ref. DIN 54231)                                | ISO 16373                                            |
| FLAME RETARDANTS                                                      |                  |                |                                                                           |                                                      |
| PBBs, PBDEs, TEPA, TCEP                                               | 0.05             | 0.25           | EPA 527, EPA 8321B                                                        | ASTM D5369, EPA 3540C, EPA 527, EPA 8321B, ISO 22032 |
| Other flame retardants                                                | 0.5              |                |                                                                           |                                                      |
| SSCPs, MCCPs                                                          | 0.4              | 0.03           | ISO/PRF 12010                                                             | ASTM D5369, EPA 3540C, ISO/PRF 12010                 |
| HEAVY METALS                                                          |                  |                |                                                                           |                                                      |
| Antimony                                                              | 1                | 1              | EPA 3051A, EPA 6020A, EPA 3050B                                           | EPA 3051A, EPA 6020A, EPA 3050B                      |
| Arsenic                                                               | 1                | 1              |                                                                           |                                                      |
| Cadmium                                                               | 0.1              | 1              |                                                                           |                                                      |
| Chromium                                                              | 1                | 1              |                                                                           |                                                      |
| Cobalt                                                                | 1                | 1              |                                                                           |                                                      |
| Copper                                                                | 1                | 1              |                                                                           |                                                      |
| Lead                                                                  | 1                | 1              |                                                                           |                                                      |
| Manganese                                                             | 1                | 1              |                                                                           |                                                      |
| Mercury                                                               | 0.05             | 0.02           |                                                                           |                                                      |
| Nickel                                                                | 1                | 1              |                                                                           |                                                      |
| Zinc                                                                  | 1                | 4              |                                                                           |                                                      |
| CN <sup>-</sup>                                                       | 4                | 1              |                                                                           |                                                      |
| Chromium (VI)                                                         | 1                | 1              | EPA 7196A                                                                 | EPA 3050B                                            |
| ORGANOTIN COMPOUNDS                                                   |                  |                |                                                                           |                                                      |
| Organotin compounds                                                   | 0.01             | 0.01           | EN ISO 17353:2005                                                         | ASTM D5369, EPA 3540C, ISO 23161                     |
| PESTICIDES                                                            |                  |                |                                                                           |                                                      |
| Pesticides                                                            | 1                | -              | EPA 3510C + EPA 8270D + EPA 8180, 8141 and 8151; CNR IRSA 5060 MAN. 29/03 | -                                                    |
| PFAS, PFCs (PERFLUORINATED-POLYFLUORINATED COMPOUNDS)                 |                  |                |                                                                           |                                                      |
| PFOSA, N-Me-FOSA, N-Et-FOSA, N-Me-FOSA alcohol, N-Et-FOSA alcohol     | 0.1              | 0.01           | ISO 25101                                                                 | ASTM D5369, EPA 3540C, DIN 38407-42                  |
| All Other PFAS/PFCs                                                   | 0.01             | 0.001          |                                                                           |                                                      |
| PHTHALATES                                                            |                  |                |                                                                           |                                                      |
| Phthalates                                                            | 1                | 0.2            | EPA 8270                                                                  | ASTM D5369, EPA 3540C, EPA 8270D                     |
| POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)                               |                  |                |                                                                           |                                                      |
| Polycyclic aromatic hydrocarbons (PAHs)                               | 1                | 0.2            | EPA 8270, DIN 38407-39                                                    | EPA 3540/3541 EPA 3650, EPA 8270                     |
| SOLVENTS                                                              |                  |                |                                                                           |                                                      |
| Chlorinated benzenes                                                  | 0.02             | 0.1            | EPA 8260B, EPA 8270D                                                      | ASTM D5369, EPA 3540C, EPA 8260B, EPA 8270D          |
| Chlorinated solvents                                                  | 1                | 0.3            | EPA 8260B                                                                 | EPA 5021, EPA 8021B, EPA 8260B                       |

## Annex 1 - Substances List

| ALKYLPHENOLS (AP <sub>s</sub> ) AND ALKYLPHENOL ETHOXYLATES (APEO <sub>s</sub> ) |                                                                     |                                           |                                                                     |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------|
| CAS No.                                                                          | Substance                                                           | CAS No.                                   | Substance                                                           |
| 11066-49-2; 25154-52-3;<br>84852-15-3; 104-40-5;<br>Various                      | Nonylphenol (NP), mixed isomers                                     | 140-66-9; 1806-26-4; 27193-28-8; Various  | Octylphenol (OP), mixed isomers                                     |
| 9016-45-9; 26027-38-3;<br>37205-87-1; 68412-54-4;<br>127087-87-0; Various        | Nonylphenol ethoxylates <sub>[1-18]</sub> (NPEO <sub>[1-18]</sub> ) | 9002-93-1; 9036-19-5; 68987-90-6; Various | Octylphenol ethoxylates <sub>[1-18]</sub> (OPEO <sub>[1-18]</sub> ) |

| ASBESTOS   |               |                         |             |
|------------|---------------|-------------------------|-------------|
| CAS No.    | Substance     | CAS No.                 | Substance   |
| 77536-66-4 | Actinolite    | 12001-29-5; 132207-32-0 | Chrysotile  |
| 12172-73-5 | Amosite       | 12001-28-4              | Crocidolite |
| 77536-67-5 | Anthophyllite | 77536-68-6              | Tremolite   |

| Bisphenols |                     |          |                   |
|------------|---------------------|----------|-------------------|
| CAS No.    | Substance           | CAS No.  | Substance         |
| 80-05-7    | Bisphenol-A (BPA)   | 620-92-8 | Bisphenol F (BPF) |
| 1478-61-1  | Bisphenol AF (BPAF) | 80-09-1  | Bisphenol-S (BPS) |
| 77-40-7    | Bisphenol-B (BPB)   | -        | -                 |

| CHLOROPHENOLS                 |                                  |            |                               |
|-------------------------------|----------------------------------|------------|-------------------------------|
| TETRA AND PENTA CHLOROPHENOLS |                                  |            |                               |
| CAS No.                       | Substance                        | CAS No.    | Substance                     |
| 4901-51-3                     | 2,3,4,5-tetrachlorophenol (TeCP) | 87-86-5    | Pentachlorophenol (PCP)       |
| 58-90-2                       | 2,3,4,6-tetrachlorophenol (TeCP) | 25167-83-3 | Tetrachlorophenol (TeCP)      |
| 935-95-5                      | 2,3,5,6-tetrachlorophenol (TeCP) | -          | -                             |
| OTHER CHLOROPHENOLS           |                                  |            |                               |
| CAS No.                       | Substance                        | CAS No.    | Substance                     |
| 95-57-8                       | 2-chlorophenol                   | 87-65-0    | 2,6-dichlorophenol            |
| 15950-66-0                    | 2,3,4-trichlorophenol (TriCP)    | 609-19-8   | 3,4,5-trichlorophenol (TriCP) |
| 933-78-8                      | 2,3,5-trichlorophenol (TriCP)    | 95-77-2    | 3,4-dichlorophenol            |
| 933-75-5                      | 2,3,6-trichlorophenol (TriCP)    | 591-35-5   | 3,5-dichlorophenol            |
| 576-24-9                      | 2,3-dichlorophenol               | 108-43-0   | 3-chlorophenol                |
| 95-95-4                       | 2,4,5-trichlorophenol (TriCP)    | 106-48-9   | 4-chlorophenol                |
| 88-06-2                       | 2,4,6-trichlorophenol (TriCP)    | 25167-82-2 | Trichlorophenol (TriCP)       |
| 120-83-2                      | 2,4-dichlorophenol               | 3380-34-5  | Triclosan                     |
| 583-78-8                      | 2,5-dichlorophenol               | -          | -                             |

| DIOXINS AND FURANS |                                            |            |                                            |
|--------------------|--------------------------------------------|------------|--------------------------------------------|
| Group 1            |                                            |            |                                            |
| CAS No.            | Substance                                  | CAS No.    | Substance                                  |
| 40321-76-4         | 1,2,3,7,8-Pentachloro-dibenzo-p-dioxin     | 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran            |
| 57117-31-4         | 2,3,4,7,8-Pentachlorodibenzofuran          | 1746-01-6  | 2,3,7,8-Tetrachlorodibenzo-p-dioxin        |
| Group 2            |                                            |            |                                            |
| CAS No.            | Substance                                  | CAS No.    | Substance                                  |
| 70648-26-9         | 1,2,3,4,7,8-Hexachlorodibenzofuran         | 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran         |
| 39227-28-6         | 1,2,3,4,7,8-Hexachloro-dibenzo-p-dioxin    | 19408-74-3 | 1,2,3,7,8,9-Hexachloro-dibenzo-p-dioxin    |
| 57117-44-9         | 1,2,3,6,7,8-Hexachlorodibenzofuran         | 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran          |
| 57653-85-7         | 1,2,3,6,7,8-Hexachloro-dibenzo-p-dioxin    | 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran         |
| Group 3            |                                            |            |                                            |
| CAS No.            | CAS No.                                    | CAS No.    | CAS No.                                    |
| 39001-02-0         | 1,2,3,4,6,7,8,9-Octachlorodibenzofuran     | 35822-46-9 | 1,2,3,4,6,7,8-Heptachloro-dibenzo-p-dioxin |
| 3268-87-9          | 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin | 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran      |
| 67562-39-4         | 1,2,3,4,6,7,8-Heptachlorodibenzofuran      | -          | -                                          |
| Group 4            |                                            |            |                                            |
| CAS No.            | Substance                                  | CAS No.    | Substance                                  |



|             |                                       |            |                                    |
|-------------|---------------------------------------|------------|------------------------------------|
| 109333-34-8 | 1,2,3,7,8-Pentabromo-dibenzo-p-dioxin | 67933-57-7 | 2,3,7,8-Tetrabromodibenzofuran     |
| 131166-92-2 | 2,3,4,7,8-Pentabromodibenzofuran      | 50585-41-6 | 2,3,7,8-Tetrabromodibenzo-p-dioxin |



| Group 5     |                                        |             |                                        |
|-------------|----------------------------------------|-------------|----------------------------------------|
| CAS No.     | CAS No.                                | CAS No.     | CAS No.                                |
| 110999-44-5 | 1,2,3,4,7,8-Hexabromo-dibenzo-p-dioxin | 110999-46-7 | 1,2,3,7,8,9-Hexabromo-dibenzo-p-dioxin |
| 110999-45-6 | 1,2,3,6,7,8-Hexabromo-dibenzo-p-dioxin | 107555-93-1 | 1,2,3,7,8-Pentabromodibenzofuran       |

| DYES – AZO (FORMING RESTRICTED AMINES) |                                       |            |                                                                        |
|----------------------------------------|---------------------------------------|------------|------------------------------------------------------------------------|
| CAS No.                                | Substance                             | CAS No.    | Substance                                                              |
| 137-17-7                               | 2,4,5-trimethylaniline                | 60-09-3    | 4-aminoazobenzene                                                      |
| 21436-97-5                             | 2,4,5-trimethylaniline hydrochloride  | 92-67-1    | 4-aminodiphenyl                                                        |
| 95-68-1                                | 2,4-xylidine                          | 106-47-8   | 4-chloroaniline                                                        |
| 87-62-7                                | 2,6-xylidine                          | 95-69-2    | 4-chloro-o-toluidine                                                   |
| 91-59-8                                | 2-naphthylamine                       | 3165-93-3  | 4-chloro-o-toluidinium chloride                                        |
| 553-00-4                               | 2-Naphthylammoniumacetate             | 39156-41-7 | 4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate |
| 91-94-1                                | 3,3'-dichlorobenzidine                | 615-05-4   | 4-methoxy-m-phenylenediamine                                           |
| 119-90-4                               | 3,3'-dimethoxybenzidine               | 95-80-7    | 4-methyl-m-phenylenediamine                                            |
| 119-93-7                               | 3,3'-dimethylbenzidine                | 99-55-8    | 5-nitro-o-toluidine                                                    |
| 101-14-4                               | 4,4'-methylene-bis-(2-chloro-aniline) | 120-71-8   | 6-methoxy-m-toluidine                                                  |
| 101-77-9                               | 4,4'-methylenedianiline               | 92-87-5    | Benzidine                                                              |
| 838-88-0                               | 4,4'-methylenedi-o-toluidine          | 97-56-3    | o-aminoazotoluene                                                      |
| 101-80-4                               | 4,4'-oxydianiline                     | 90-04-0    | o-anisidine                                                            |
| 139-65-1                               | 4,4'-thiodianiline                    | 95-53-4    | o-toluidine                                                            |

| DYES – DISPERSE, CARCINOGENIC, OTHERS |                                                         |                                                              |                                         |
|---------------------------------------|---------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------|
| CAS No.                               | Substance                                               | CAS No.                                                      | Substance                               |
| 561-41-1                              | 4,4' bis(dimethylamino)-4''-(methylamino)trityl alcohol | 13301-61-6                                                   | Disperse Orange 37/59/76                |
| 3761-53-3                             | Acid Red 26                                             | 85136-74-9                                                   | Disperse Orange 149                     |
| 1694-09-3                             | Acid Violet 49                                          | 2872-52-8                                                    | Disperse Red 1                          |
| 6459-94-5                             | Acid Red 114                                            | 2872-48-2                                                    | Disperse Red 11                         |
| 2580-56-5                             | Basic Blue 26                                           | 3179-89-3                                                    | Disperse Red 17                         |
| 569-64-2; 2437-29-8; 10309-95-2       | Basic Green 4                                           | 61968-47-6                                                   | Disperse Red 151                        |
| 569-61-9                              | Basic Red 9                                             | 119-15-3                                                     | Disperse Yellow 1                       |
| 8004-87-3                             | Basic Violet 1                                          | 2832-40-8                                                    | Disperse Yellow 3                       |
| 548-62-9                              | Basic Violet 3                                          | 6300-37-4                                                    | Disperse Yellow 7                       |
| 632-99-5                              | Basic Violet 14                                         | 6373-73-5                                                    | Disperse Yellow 9                       |
| 1937-37-7                             | Direct Black 38                                         | 6250-23-3                                                    | Disperse Yellow 23                      |
| 2602-46-2                             | Direct Blue 6                                           | 12236-29-2                                                   | Disperse Yellow 39                      |
| 2429-74-5                             | Direct Blue 15                                          | 54824-37-2                                                   | Disperse Yellow 49                      |
| 28407-37-6                            | Direct Blue 218                                         | 54077-16-6                                                   | Disperse Yellow 56                      |
| 16071-86-6                            | Direct Brown 95                                         | 18015-76-4                                                   | Malachite Green oxalate                 |
| 573-58-0                              | Direct Red 28                                           | 68083-41-0                                                   | Malachite Green phosphomolybdate        |
| 2475-45-8                             | Disperse Blue 1                                         | 61725-50-6                                                   | Malachite Green phosphotungstomolybdate |
| 2475-46-9                             | Disperse Blue 3                                         | Navy Blue (EC number 405-665-4; Index Number: 611-070-00-2): |                                         |
| 3179-90-6                             | Disperse Blue 7                                         | 118685-33-9                                                  | Component 1: C39H23ClCrN7O12S`2Na       |
| 3860-63-7                             | Disperse Blue 26                                        | Not Allocated                                                | Component 2: C46H30CrN10O20S2`3Na       |
| 12222-75-2                            | Disperse Blue 35                                        | 12223-33-5                                                   | Orange Disperse                         |
| 12222-97-8                            | Disperse Blue 102                                       | 12656-85-8                                                   | Pigment Red 104                         |
| 12223-01-7                            | Disperse Blue 106                                       | 1344-37-2                                                    | Pigment Yellow 34                       |
| 61951-51-7                            | Disperse Blue 124                                       | 91-22-5                                                      | Quinoline                               |
| 23355-64-8                            | Disperse Brown 1                                        | 6786-83-0                                                    | Solvent Blue 4                          |
| 56524-77-7                            | Disperse Dark Blue 35                                   | 60-09-3                                                      | Solvent Yellow 1                        |
| 2581-69-3                             | Disperse Orange 1                                       | 60-11-7                                                      | Solvent Yellow 2                        |
| 730-40-5                              | Disperse Orange 3                                       | 97-56-3                                                      | Solvent Yellow 3                        |
| 82-28-0                               | Disperse Orange 11                                      | 842-07-9                                                     | Solvent Yellow 14                       |



| FLAME RETARDANTS      |                                                                            |            |                                                   |
|-----------------------|----------------------------------------------------------------------------|------------|---------------------------------------------------|
| CAS No.               | Substance                                                                  | CAS No.    | Substance                                         |
| 21850-44-2            | 1,1'-(isopropylidene)bis[3,5-dibromo-4-(2,3-ibromopropoxy)benzene] (BDBPT) | 85535-85-9 | MCCP (Medium chain Chlorinated Paraffins C14-C17) |
| 3296-90-0             | 2,2-bis(bromomethyl)-1,3-propanediol (BBMP)                                | 2052-07-5  | Monobromobiphenyl                                 |
| 183658-27-7           | 2-Ethylhexyl 2,3,4,5-Tetrabromothate (TBB)                                 | 32536-52-0 | Octabromodiphenyl ether (OctaBDE)                 |
| 134237-50-6           | alpha-hexabromocyclododecane                                               | 63936-56-1 | Pentabromo(tetrabromophenoxy)benzene (NonaBDE)    |
| 134237-51-7           | beta-hexabromocyclododecane                                                | 32534-81-9 | Pentabromodiphenyl ether (PentaBDE)               |
| 5412-25-9             | Bis(2,3-dibromopropyl)phosphate (BBP)                                      | 59536-65-1 | Polybromobiphenyls (PBB)                          |
| 26040-51-7            | Bis(2-ethylhexyl) tetrabromophthalate (TBPH)                               | 85535-84-8 | SCCP (Short Chain Chlorinated Paraffins C10-C13)  |
| 1163-19-5             | Decabromodiphenyl ether (DecaBDE)                                          | 79-94-7    | Tetrabromobisphenol A (TBBPA)                     |
| 84852-53-9            | Decabromodiphenylethane                                                    | 78-30-8    | Tri-o-tolyl phosphate (o-TCP)                     |
| 2051-24-3             | Decachlorobiphenyl                                                         | 13674-87-8 | Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)     |
| 68928-80-3            | Diphenyl ether, heptabromo derivative (HeptaBDE)                           | 13674-87-8 | Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)    |
| 36483-60-0            | Diphenyl ether, hexabromo derivative (HexaBDE)                             | 545-55-1   | Tris(1-aziridinyl)phosphine oxide (TEPA)          |
| 40088-47-9            | Diphenyl ether, tetrabromo derivative (TetraBDE)                           | 126-72-7   | Tris(2,3-dibromopropyl)phosphate (TRIS) (TDBPP)   |
| 134237-52-8           | gamma-hexabromocyclododecane                                               | 13674-84-5 | Tris(2-chloro-1-methylethyl) phosphate (TCPP)     |
| 60044-26-0            | Hexabromobiphenyl                                                          | 115-96-8   | Tris(2-chloroethyl)phosphate (TCEP)               |
| 25637-99-4; 3194-55-6 | Hexabromocyclododecane 1,2,5,6,9,10-and main diastereoisomers (HBCDD)      | 25155-23-1 | Trixylyl phosphate                                |
| 3194-55-6             | Hexabromocyclododecane (HBCDD)                                             | -          | -                                                 |

| FLUORINATED GREENHOUSE GASES |                               |             |                           |
|------------------------------|-------------------------------|-------------|---------------------------|
| Perfluorocarbons (PFC)       |                               |             |                           |
| CAS No.                      | Substance                     | CAS No.     | Substance                 |
| 355-25-9                     | Perfluorobutane - C4F10       | 75-73-0     | Perfluoromethane - CF4    |
| 115-25-3                     | Perfluorocyclobutane - c-C4F8 | 678-26-2    | Perfluoropentane - C5F12  |
| 76-16-4                      | Perfluoroethane - C2F6        | 76-19-7     | Perfluoropropane - C3F8   |
| 355-42-0                     | Perfluorohexane - C6F14       | -           | -                         |
| Sulphur hexafluoride (SF6)   |                               |             |                           |
| 2551-62-4                    | Sulfur hexafluoride - SF6     | -           | -                         |
| Hydrofluorocarbons (HFC)     |                               |             |                           |
| 354-33-6                     | HFC-125 - C2HF5               | 431-63-0    | HFC-236ea - CHF2CHF3      |
| 359-35-3                     | HFC-134 - C2H2F4              | 690-39-1    | HFC-236fa - C3H2F6        |
| 811-97-2                     | HFC-134a - CH2FCF3            | 679-86-7    | HFC-245ca - C3H3F5        |
| 430-66-0                     | HFC-143 - C2H3F3              | 460-73-1    | HFC-245fa - CHF2CH2CF3    |
| 420-46-2                     | HFC-143a - C2H3F3             | 75-10-5     | HFC-32 - CH2F2            |
| 75-37-6                      | HFC-152a - C2H4F2             | 406-58-6    | HFC-365mfc - CF3CH2CF2CH3 |
| 431-89-0                     | HFC-227ea - C3HF7             | 593-53-3    | HFC-41 - CH3F             |
| 75-46-7                      | HFC-23 - CHF3                 | 138495-42-8 | HFC-43-10mee - C5H2F10    |
| 677-56-5                     | HFC-236cb - CH2FCF2CF3        | -           | -                         |

| GLYCOLS and GLYCOL ETHERS |                                |            |                          |
|---------------------------|--------------------------------|------------|--------------------------|
| CAS No.                   | Substance                      | CAS No.    | Substance                |
| 112-49-2                  | 1,2-bis(2-methoxyethoxy)ethane | 109-86-4   | 2-methoxyethanol         |
| 110-71-4                  | 1,2-dimethoxyethane            | 110-49-6   | 2-methoxyethylacetate    |
| 110-80-5                  | 2-ethoxyethanol                | 70657-70-4 | 2-methoxypropylacetate   |
| 111-15-9                  | 2-ethoxyethylacetate           | 111-96-6   | Bis(2-methoxyethyl)ether |



| ISOCYANATES |                                                                   |            |                                      |
|-------------|-------------------------------------------------------------------|------------|--------------------------------------|
| CAS No.     | Substance                                                         | CAS No.    | Substance                            |
| 2536-05-02  | 2,2'-methylenediphenyl diisocyanate                               | 822-06-0   | Hexamethylene diisocyanate           |
| 9016-87-9   | 4,4'-diphenylmethanediisocyanate, isomere, homologue and mixtures | 26447-40-5 | Methylenediphenyl diisocyanate       |
| 5124-30-1   | 4,4'-methylenedicyclohexyl diisocyanate                           | 5873-54-1  | Methylenediphenyl diisocyanate (MDI) |
| 101-68-8    | 4,4'-methylenediphenyl diisocyanate                               | -          | -                                    |

| N-NITROSAMINE |                        |          |                           |
|---------------|------------------------|----------|---------------------------|
| CAS No.       | Substance              | CAS No.  | Substance                 |
| 924-16-3      | N-nitrosodibutylamine  | 612-64-6 | N-nitroso-N-ethylaniline  |
| 55-18-5       | N-nitrosodiethylamine  | 614-00-6 | N-nitroso-N-methylaniline |
| 62-75-9       | N-nitrosodimethylamine | 100-75-4 | N-nitrosopiperidine       |
| 621-64-7      | N-nitrosodipropylamine | 930-55-2 | N-nitrosopyrrolidine      |
| 59-89-2       | N-nitrosomorpholine    | -        | -                         |

| ORGANOTIN COMPOUNDS |                                  |                        |                       |
|---------------------|----------------------------------|------------------------|-----------------------|
| CAS No.             | Substance                        | CAS No.                | Substance             |
| 56-35-9             | Bis(tributyltin) oxide           | 2406-68-0              | Monophenyl-tin        |
| 2273-43-0           | Butylhydroxyoxostannane (MBT)    | 1461-25-2              | Tetrabutyl-tin (TeBT) |
| 1002-53-5           | Dibutyl stannane (DBT)           | 597-64-8               | Tetraethyl-tin (TeET) |
| 683-18-1            | Dibutyltin dichloride            | 56573-85-4; 36643-28-4 | Tributyl-tin (TBT)    |
| 75113-37-0          | Dibutyltin hydrogen borate (DBB) | 6056-50-4              | Tricyclohexyl-tin     |
| 23120-99-2; Various | Dimethyl-tin                     | 17272-57-0; Various    | Trimethyl-tin         |
| 15231-44-4          | Dioctyl-tin                      | 250252-89-2            | Trioctyl-tin (TriOT)  |
| 1011-95-6           | Diphenyl-tin                     | 668-34-8               | Triphenyl-tin (TPhT)  |
| 2406-60-2           | Dipropyl-tin                     | 761-44-4; Various      | Tripropyl-tin (TPT)   |
| 15231-57-9          | Monooctyl-tin (MOT)              | -                      | -                     |

| PFAS, PFCs (PERFLUORINATED AND POLYFLUORINATED Chemicals) <sup>2</sup> |                                                                                                                                             |             |                                                                                 |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------|
| PFOS and Related Substances                                            |                                                                                                                                             |             |                                                                                 |
| CAS No.                                                                | Substance                                                                                                                                   | CAS No.     | Substance                                                                       |
| 1763-23-1; Various                                                     | Perfluorooctanesulfonic acid (PFOS)                                                                                                         | 4151-50-2   | N-Ethyl-Perfluorooctanesulfonamide (N-Et-FOSA)                                  |
| 2795-39-3                                                              | Perfluorooctanesulfonic acid, potassium salt (PFOS-K)                                                                                       | 31506-32-8  | Heptadecafluoro-N-methyloctanesulphonamide (N-Me-FOSA)                          |
| 29457-72-5                                                             | Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)                                                                                        | 1691-99-2   | N-Ethyl-Perfluorooctanesulfonamidoethanol (N-Et-FOSE)                           |
| 29081-56-9                                                             | Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH <sub>4</sub> )                                                                         | 24448-09-7  | N-Methyl-Perfluorooctanesulfonamidoethanol (N-Me-FOSE)                          |
| 70225-14-8                                                             | Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) <sub>2</sub> )                                                                   | 307-35-7    | Perfluoro-1-octanesulfonyl fluoride (POSF)                                      |
| 56773-42-3                                                             | Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )                                | 754-91-6    | Perfluorooctane sulfonamide (PFOSA)                                             |
| 251099-16-8                                                            | Didecyldimethyl ammonium perfluorooctane sulfonate (PFOS-N(C <sub>10</sub> H <sub>21</sub> ) <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub> ) | -           | -                                                                               |
| PFOA and Its Salts                                                     |                                                                                                                                             |             |                                                                                 |
| CAS No.                                                                | Substance                                                                                                                                   | CAS No.     | Substance                                                                       |
| 335-67-1                                                               | Perfluorooctanoic acid (PFOA)                                                                                                               | 335-93-3    | Silver perfluorooctanoate (PFOA-Ag)                                             |
| 335-95-5                                                               | Sodium perfluorooctanoate (PFOA-Na)                                                                                                         | 335-66-0    | Perfluorooctanoyl fluoride (PFOA-F)                                             |
| 2395-00-8                                                              | Potassium perfluorooctanoate (PFOA-K)                                                                                                       | 3825-26-1   | Ammonium pentadecafluorooctanoate (APFO)                                        |
| PFOA-Related Substances <sup>1</sup>                                   |                                                                                                                                             |             |                                                                                 |
| CAS No.                                                                | Substance                                                                                                                                   | CAS No.     | Substance                                                                       |
| 39108-34-4                                                             | 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)                                                                                          | 2043-53-0   | 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-Heptadecafluoro-10-iododecane                 |
| 376-27-2                                                               | Methyl perfluorooctanoate (Me-PFOA)                                                                                                         | 678-41-1    | 8:2 fluorotelomer phosphate diester                                             |
| 3108-24-5                                                              | Ethyl perfluorooctanoate (Et-PFOA)                                                                                                          | 57678-03-2  | 8:2 Fluorotelomer phosphate monoester                                           |
| 27905-45-9                                                             | 1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)                                                                                               | 70887-84-2  | 8:2 Fluorotelomer unsaturated carboxylic acid                                   |
| 1996-88-9                                                              | 1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)                                                                                          | 3102-79-2   | Dichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)methylsilane |
| 27854-31-5                                                             | 2H,2H-Perfluorodecanoic acid (H <sub>2</sub> PFDA)                                                                                          | 101947-16-4 | Trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane      |
| PFHxS and Its Salts                                                    |                                                                                                                                             |             |                                                                                 |
| CAS No.                                                                | Substance                                                                                                                                   | CAS No.     | Substance                                                                       |
| 355-46-4; Various                                                      | Perfluorohexane Sulfonic acid (PFHxS), and salts                                                                                            | 68259-08-5  | Perfluorohexane Sulfonic acid, ammonium salt (PFHxS-NH <sub>4</sub> )           |
| 3871-99-6                                                              | Perfluorohexane Sulfonic acid, potassium salt (PFHxS-K)                                                                                     | 82382-12-5  | Perfluorohexane Sulfonic acid, sodium salt (PFHxS-Na)                           |
| 55120-77-9                                                             | Perfluorohexane Sulfonic acid, lithium salt (PFHxS-Li)                                                                                      | -           | -                                                                               |
| PFHxS-Related Substances                                               |                                                                                                                                             |             |                                                                                 |
| CAS No.                                                                | Substance                                                                                                                                   | CAS No.     | Substance                                                                       |
| 68259-15-4                                                             | N-Methylperfluoro-1-hexanesulfonamide (N-Me-FHxSA)                                                                                          | 41997-13-1  | Perfluorohexane sulfonamide (PFHxSA)                                            |
| C9 – C14 PFCAs and Their Salts                                         |                                                                                                                                             |             |                                                                                 |
| CAS No.                                                                | Substance                                                                                                                                   | CAS No.     | Substance                                                                       |
| 375-95-1                                                               | Perfluorononanoic Acid (PFNA, C9-PFCA)                                                                                                      | 72629-94-8  | Perfluorotridecanoic Acid (PFTrDA, C13-PFCA)                                    |
| 335-76-2; Various                                                      | Perfluorodecanoic Acid (PFDA, C10-PFCA) and salts                                                                                           | 376-06-7    | Perfluorotetradecanoic Acid (PFTeDA, C14-PFCA)                                  |
| 2058-94-8                                                              | Perfluoroundecanoic Acid (PFUnA, C11-PFCA)                                                                                                  | 172155-07-6 | Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)                               |
| 307-55-1                                                               | Perfluorododecanoic Acid (PFDoA, C12-PFCA)                                                                                                  | -           | -                                                                               |

| C9 – C14 PFCAs-Related Substances        |                                                                      |             |                                                                             |
|------------------------------------------|----------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------|
| CAS No.                                  | Substance                                                            | CAS No.     | Substance                                                                   |
| 17741-60-5                               | 1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA)                     | 39239-77-5  | 1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)                            |
| 2144-54-9                                | 1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)                | 120226-60-0 | 1H,1H,2H,2H-Perfluorododecanesulphonic acid (10:2 FTS)                      |
| 865-86-1                                 | 1H,1H,2H,2H-Perfluorododecanol (10:2 FTOH)                           | 2043-54-1   | 1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI)                              |
| 34598-33-9                               | 2H,2H,3H,3H-Perfluoroundecanoic acid (H4PFUnA)                       | 30046-31-2  | 1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)                           |
| 678-39-7                                 | Perfluorooctylethanol 8:2 (8:2 FTOH)                                 | -           | -                                                                           |
| PFHxA, Its Salts, and Related Substances |                                                                      |             |                                                                             |
| CAS No.                                  | Substance                                                            | CAS No.     | Substance                                                                   |
| 307-24-4                                 | Perfluorohexanoic Acid (PFHxA, C6-PFCA)                              | 17527-29-6  | 1H,1H,2H,2H-Perfluorooctylacrylat (6:2 FTA)                                 |
| 27619-97-2                               | 1H,1H,2H,2H-Perfluorooctanesulfonic acid (1H,1H,2H,2H-PFOS, 6:2 FTS) | 2144-53-8   | 1H,1H,2H,2H Perfluorooctyl methacrylate (6:2 FTMA)                          |
| 647-42-7                                 | 1H,1H,2H,2H-Perfluorooctanol (6:2 FTOH)                              | 21615-47-4  | Azane,2,2,3,3,4,4,5,5,6,6,6-undecafluorohexanoic acid (determined as PFHxA) |
| Other PFAS/PFCs                          |                                                                      |             |                                                                             |
| CAS No.                                  | Substance                                                            | CAS No.     | Substance                                                                   |
| 757124-72-4                              | 1H,1H,2H,2H Perfluorohexanesulphonic acid                            | 375-85-9    | Perfluoroheptanoic acid (PFHpA)                                             |
| 2043-47-2                                | 1H,1H,2H,2H-Perfluorohexane-1-ol (4:2 FTOH)                          | 4149-60-4   | Perfluorononaoate Ammonium-salt                                             |
| 1546-95-8                                | 7H-Dodecafluoroheptanoic acid (HPFHpA)                               | 21049-39-8  | Perfluorononaoate Na-salt                                                   |
| 67906-42-7                               | Ammonium henicosafuorodecanesulphonate (PFDS-NH <sub>4</sub> )       | 2706-90-3   | Perfluoropentanoic acid (PFPeA)                                             |
| 335-77-3                                 | Henicosafuorodecanesulphonic acid (PFDS)                             | 2806-16-8   | Potassium henicosafuorodecanesulphonate (PFDS-K)                            |
| 31506-32-8                               | Heptadecafluoro-N-methyloctanesulphonamide (N-Me-FOSA)               | 33496-48-9  | Pentadecafluorooctanoicanhydride                                            |
| 29420-49-3                               | Perfluorobutanesulfonate K-salt (PFBS-K)                             | 507-63-1    | Perfluorooctyl iodide                                                       |
| 375-73-5; Various                        | Perfluorobutanesulfonic acid (PFBS) and salts                        | 27619-93-8  | Sodium 1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4:2 FTS)                    |
| 375-22-4                                 | Perfluorobutanoic acid (PFBA)                                        | 40143-78-0  | Perfluorooctyl phosphonic acid (C8-PFPA)                                    |
| 2806-15-7                                | Perfluorodecanesulfonate Na-salt (PFDS-Na)                           | 62037-80-3  | Ammonium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate (PFMO)        |
| 68555-66-8                               | Perfluoroheptanesulfonate Na-salt (PFHpS-Na)                         | 13252-13-6  | 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid (PFPrOPrA)         |
| 375-92-8; Various                        | Perfluoroheptanesulfonic acid (PFHpS) and salts                      | -           | -                                                                           |



| PESTICIDES            |                                                                                    |            |                                                                                                                   |
|-----------------------|------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------|
| CAS No.               | Substance                                                                          | CAS No.    | Substance                                                                                                         |
| 93-72-1               | 2-(2,4,5-trichlorophenoxy)propionic acid                                           | 299-84-3   | Fenchlorphos                                                                                                      |
| 94-75-7               | 2,4-Dichlorophenoxyacetic acid                                                     | 51630-58-1 | Fenvalerate                                                                                                       |
| 64628-44-0            | 2-chloro-N-[[[4-(trifluoromethoxy)phenyl]amino]carbonyl]benzamide                  | 76-44-8    | Heptachlor                                                                                                        |
| 93-76-5               | 2,4,5-Trichlorophenoxyacetic acid                                                  | 1024-57-3  | Heptachlor epoxide                                                                                                |
| 99688-47-8            | A mixture of isomers of: bromobenzylbromotoluene                                   | 36355-01-8 | Hexabromo-1,1'-biphenyl                                                                                           |
| 309-00-2              | Aldrin                                                                             | 118-74-1   | Hexachlorobenzene                                                                                                 |
| 2642-71-9             | Azinphos-ethyl                                                                     | 465-73-6   | Isodrine                                                                                                          |
| 86-50-0               | Azinphos-hyl                                                                       | 4234-79-1  | Kelevan                                                                                                           |
| 608-73-1              | BHC or HCH                                                                         | 143-50-0   | Kepone                                                                                                            |
| 4824-78-6             | Bromophos-ethyl                                                                    | 58-89-9    | Lindane                                                                                                           |
| 2425-06-1             | Captafol                                                                           | 121-75-5   | Malathion                                                                                                         |
| 63-25-2               | Carbaryl                                                                           | 94-74-6    | MCPA                                                                                                              |
| 57-74-9               | Chlordane                                                                          | 94-81-5    | MCPB                                                                                                              |
| 6164-98-3             | Chlordimeform                                                                      | 93-65-2    | Mecoprop                                                                                                          |
| 470-90-6              | Chlorfenvinphos                                                                    | 10265-92-6 | Metamidophos                                                                                                      |
| 510-15-6              | Chlorobenzilate                                                                    | 72-43-5    | Methoxychlor                                                                                                      |
| 1897-45-6             | Chlorothalonil                                                                     | 298-00-0   | Methyl parathion                                                                                                  |
| 5598-15-2             | Chlorpyrifos                                                                       | 7786-34-7  | Mevinphos                                                                                                         |
| 56-72-4               | Coumaphos                                                                          | 2385-85-5  | Mirex                                                                                                             |
| 68359-37-5            | Cyfluthrin                                                                         | 6923-22-4  | Monocrotophos                                                                                                     |
| 91465-08-6            | Cyhalothrin                                                                        | 35367-38-5 | N-[[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide                                                         |
| 52315-07-8            | Cypermethrin                                                                       | 56-38-2    | Parathion                                                                                                         |
| 53-19-0;<br>72-54-8   | DDD                                                                                | 87-86-5    | Pentachlorophenol                                                                                                 |
| 3424-82-6;<br>72-55-9 | DDE                                                                                | 1825-21-4  | Pentachloroanisole                                                                                                |
| 50-29-3;<br>789-02-6  | DDT                                                                                | 72-56-0    | Perthan                                                                                                           |
| 78-48-8               | DEF                                                                                | 13171-21-6 | Phosphamidon                                                                                                      |
| 52918-63-5            | Deltamethrin                                                                       | 1336-36-3  | Polychlorinated biphenyls (PCB)                                                                                   |
| 333-41-5              | Diazinon                                                                           | 41198-08-7 | Profenofos                                                                                                        |
| 97-17-6               | Dichlofenthion                                                                     | 31218-83-4 | Propetamphos                                                                                                      |
| 1085-98-9             | Dichlofluanide                                                                     | 13593-03-8 | Quinalphos                                                                                                        |
| 81161-70-8            | Dichloro[(dichlorophenyl)methyl]benzene                                            | 82-68-8    | Quintozene                                                                                                        |
| 76253-60-6            | Dichloro[(dichlorophenyl)methyl]methylbenzene                                      | 8001-50-1  | Strobane                                                                                                          |
| 120-36-5              | Dichlorprop                                                                        | 297-78-9   | Telodrin                                                                                                          |
| 115-32-2              | Dicofol                                                                            | 731-27-1   | Tolyfluanide                                                                                                      |
| 141-66-2              | Dicrotophos                                                                        | 8001-35-2  | Toxaphene                                                                                                         |
| 60-57-1               | Dieldrin                                                                           | 1582-09-8  | Trifluralin                                                                                                       |
| 60-51-5               | Dimethoate                                                                         | 69770-45-2 | $\alpha$ -cyano-4-fluoro-3-phenoxybenzyl 3-[2-chloro-2-(4-chlorophenyl)vinyl]-2,2-dimethylcyclopropanecarboxylate |
| 88-85-7               | Dinoseb                                                                            | 959-98-8   | $\alpha$ -Endosulfan                                                                                              |
| 63405-99-2            | DTTB (4, 6-Dichloro-7 (2,4,5-trichlorophenoxy) -2-Trifluoro methyl benz imidazole) | 319-84-6   | $\alpha$ -Hexachlorocyclohexane                                                                                   |
| 115-29-7              | Endosulfan                                                                         | 33213-65-9 | $\beta$ -Endosulfan                                                                                               |
| 72-20-8               | Endrin                                                                             | 319-85-7   | $\beta$ -Hexachlorocyclohexane                                                                                    |
| 66230-04-4            | Esfenvalerate                                                                      | 319-86-8   | $\delta$ -Hexachlorocyclohexane                                                                                   |
| 106-93-4              | Ethylendibromid                                                                    | -          | -                                                                                                                 |



| PHENYLMERCURY COMPOUNDS |                                |            |                          |
|-------------------------|--------------------------------|------------|--------------------------|
| CAS No.                 | Substance                      | CAS No.    | Substance                |
| 13302-00-6              | Phenylmercury 2-ethylhexanoate | 13864-38-5 | Phenylmercury octanoate  |
| 62-38-4                 | Phenylmercury acetate          | 103-27-5   | Phenylmercury propionate |
| 26545-49-3              | Phenylmercury neodecanoate     | -          | -                        |

| PHTHALATES             |                                                                                |                        |                                       |
|------------------------|--------------------------------------------------------------------------------|------------------------|---------------------------------------|
| Group 1                |                                                                                |                        |                                       |
| CAS No.                | Substance                                                                      | CAS No.                | Substance                             |
| 85-68-7                | Butyl benzyl phthalate (BBP)                                                   | 28553-12-0; 68515-48-0 | Di-isononyl phthalate (DINP)          |
| 84-74-2                | Dibutyl phthalate (DBP)                                                        | 84-75-3                | Di-n-hexyl phthalate (DnHP)           |
| 84-61-7                | Di-cyclohexyl phthalate (DCHP)                                                 | 117-84-0               | Di-n-octyl phthalate (DNOP)           |
| 84-69-5                | Di-isobutyl phthalate (DIBP)                                                   | 131-18-0               | Dipentyl phthalate (DPENP)            |
| 26761-40-0; 68515-49-1 | Di-iso-decyl phthalate (DIDP)                                                  | 117-81-7               | Di(ethylhexyl) phthalate (DEHP)       |
| OTHER PHTHALATES       |                                                                                |                        |                                       |
| CAS No.                | Substance                                                                      | CAS No.                | Substance                             |
| 68515-42-4             | 1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP) | 71850-09-4             | Di-isobutylphthalate (DIHxP)          |
| 68515-50-4             | 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DHNUP)       | 27554-26-3             | Di-iso-octyl phthalate (DIOP)         |
| 84777-06-0             | 1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear (DNiPP)      | 605-50-5               | Diisopentyl phthalate (DiPP)          |
| 71888-89-6             | 1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)    | 131-11-3               | Dimethyl phthalate (DMP)              |
| 117-82-8               | Bis(2-methoxyethyl) phthalate (DMEP)                                           | 84-76-4                | Dinonyl phthalate (DNP)               |
| 68515-51-5             | Di-C6-10 alkylphthalates                                                       | 131-16-8               | Di-n-propyl phthalate (DPRP)          |
| 84-61-7                | Di-cyclohexyl phthalate (DCHP)                                                 | 131-18-0               | Dipentyl phthalate (DPP)              |
| 68648-93-1             | Di-decyl/hexyl/octyl (mixed) phthalates                                        | 776297-69-9            | N-pentyl-isopentylphthalate (nPiP)    |
| 84-66-2                | Diethyl phthalate (DEP)                                                        | 26040-51-7             | Bis(2-ethylhexyl) tetrabromophthalate |

| POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) |                        |          |                        |
|-----------------------------------------|------------------------|----------|------------------------|
| Group 1                                 |                        |          |                        |
| CAS No.                                 | Substance              | CAS No.  | Substance              |
| 56-55-3                                 | Benzo[a]anthracene     | 205-82-3 | Benzo[j]fluoranthene   |
| 50-32-8                                 | Benzo[a]pyrene         | 207-08-9 | Benzo[k]fluoranthene   |
| 205-99-2                                | Benzo[b]fluoranthene   | 218-01-9 | Chrysene               |
| 192-97-2                                | Benzo[e]pyrene         | 53-70-3  | Dibenz[a,h]anthracene  |
| Group 2                                 |                        |          |                        |
| CAS No.                                 | Substance              | CAS No.  | Substance              |
| 120-12-7                                | Anthracene             | 85-01-8  | Phenanthrene           |
| 206-44-0                                | Fluoranthene           | 129-00-0 | Pyrene                 |
| Group 3                                 |                        |          |                        |
| CAS No.                                 | Substance              | CAS No.  | Substance              |
| 2381-21-7                               | 1-methylpyrene         | 192-65-4 | Dibenzo[a,e]pyrene     |
| 27208-37-3                              | Acenaphthene           | 189-64-0 | Dibenzo[b,def]chrysene |
| 83-32-9                                 | Acenaphthylene         | 191-30-0 | Dibenzo[def,p]chrysene |
| 208-96-8                                | Benzo(r,s,t)pentaphene | 86-73-7  | Fluorene               |
| 189-55-9                                | Benzo[ghi]perylene     | 193-39-5 | Indeno[1,2,3cd]pyrene  |
| 191-24-2                                | Cyclopenta[c,d]pyrene  | 91-20-3  | Naphthalene            |
| 27208-37-3                              |                        | 192-62-5 | Naphthol chrysene      |



| SOLVENTS                          |                              |                              |                                           |
|-----------------------------------|------------------------------|------------------------------|-------------------------------------------|
| CHLORINATED BENZENES AND TOLUENES |                              |                              |                                           |
| CAS No.                           | Substance                    | CAS No.                      | Substance                                 |
| 634-66-2                          | 1,2,3,4 tetrachlorobenzene   | 108-41-8                     | 3-Chlorotoluene                           |
| 634-90-2                          | 1,2,3,5 tetrachlorobenzene   | 106-43-4                     | 4-Chlorotoluene                           |
| 87-61-6                           | 1,2,3-trichlorobenzene       | 94-99-5                      | alpha, 2,4-trichlorotoluene               |
| 95-94-3                           | 1,2,4,5 tetrachlorobenzene   | 2014-83-7                    | alpha, 2,6-trichlorotoluene               |
| 120-82-1                          | 1,2,4-trichlorobenzene       | 102-47-6                     | alpha, 3,4-trichlorotoluene               |
| 95-50-1                           | 1,2-dichlorobenzene          | 5216-25-1                    | alpha, 4-tetrachlorotoluene               |
| 108-70-3                          | 1,3,5-trichlorobenzene       | 81-19-6                      | alpha, alpha, 2,6-tetrachlorotoluene      |
| 541-73-1                          | 1,3-dichlorobenzene          | 98-07-7                      | alpha, alpha, alpha trichlorotoluene      |
| 106-46-7                          | 1,4-dichlorobenzene          | 2136-89-2                    | alpha, alpha, alpha, 2-tetrachlorotoluene |
| 877-11-2                          | 2,3,4,5,6-pentachlorotoluene | 108-90-7                     | Chlorobenzene                             |
| 2077-46-5                         | 2,3,6-trichlorotoluene       | 25168-05-2                   | Chlorotoluene                             |
| 32768-54-0                        | 2,3-dichlorotoluene          | 25321-22-6                   | Dichlorobenzene                           |
| 6639-30-1                         | 2,4,5-trichlorotoluene       | 29797-40-8                   | Dichloromethylbenzene                     |
| 95-73-8                           | 2,4-dichlorotoluene          | 118-74-1                     | hexachlorobenzene                         |
| 19398-61-9                        | 2,5-dichlorotoluene          | 608-93-5                     | pentachlorobenzene                        |
| 118-69-4                          | 2,6-dichlorotoluene          | 12002-48-1                   | Trichlorobenzene                          |
| 95-49-8                           | 2-Chlorotoluene              | 100-44-7                     | α-chlorotoluene                           |
| 95-75-0                           | 3,4-dichlorotoluene          | -                            | -                                         |
| CHLORINATED SOLVENTS              |                              |                              |                                           |
| CAS No.                           | Substance                    | CAS No.                      | Substance                                 |
| 630-20-6                          | 1,1,1,2-tetrachloroethane    | 540-59-0, 156-60-5, 156-59-2 | 1,2-dichloroethane cis and trans          |
| 71-55-6                           | 1,1,1-trichloroethane        | 56-23-5                      | Carbon tetrachloride                      |
| 79-34-5                           | 1,1,2,2-tetrachloroethane    | 67-66-3                      | Chloroform                                |
| 79-00-5                           | 1,1,2-trichloroethane        | 75-09-2                      | Dichloromethane                           |
| 75-34-3                           | 1,1-dichloroethane           | 67-72-1                      | Hexachloroethane                          |
| 75-35-4                           | 1,1-dichloroethylene         | 76-01-7                      | Pentachloroethane                         |
| 96-18-4                           | 1,2,3-Trichloropropane       | 127-18-4                     | Tetrachloroethylene                       |
| 107-06-2                          | 1,2-dichloroethane           | 79-01-6                      | Trichloroethylene                         |
| OTHER SOLVENTS                    |                              |                              |                                           |
| CAS No.                           | Substance                    | CAS No.                      | Substance                                 |
| 872-50-4                          | 1-Methyl-2-pyrrolidone (NMP) | 68-12-2                      | N,N-Dimethylformamide (DMF)               |
| 127-19-5                          | N,N-Dimethylacetamide (DMAc) | -                            | -                                         |

| VOLATILE ORGANIC COMPOUNDS (VOC) |              |           |             |
|----------------------------------|--------------|-----------|-------------|
| CAS No.                          | Substance    | CAS No.   | Substance   |
| 71-43-2                          | Benzene      | 106-42-3  | Para-xylene |
| 100-41-4                         | Ethylbenzene | 106-44-5  | p-cresol    |
| 108-39-4                         | m-cresol     | 108-95-2  | Phenol      |
| 108-38-3                         | Meta-xylene  | 108-88-3  | Toluene     |
| 95-48-7                          | o-cresol     | 1330-20-7 | Xylene      |
| 95-47-6                          | Orto-xylene  | -         | -           |

| TRIMS REQUIREMENTS (Excluding Zips)*                                                                    |                                                                                                       |                                                                     |                                                                     |                                                                                  |                                                                     |                                                                     |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| TEST                                                                                                    | METHOD<br>(Always refer to the latest version and<br>requirement of each method/norm)                 | METAL TRIMS                                                         | PLASTIC TRIMS<br>(include silicone)                                 | TEXTILE TRIMS                                                                    | TRANSFER (PATCH<br>OR TRANSFER<br>PRINTS)                           | LEATHER TRIMS                                                       |
| <b>Maintenance and care label</b>                                                                       |                                                                                                       |                                                                     |                                                                     |                                                                                  |                                                                     |                                                                     |
| <b>APPEARANCE AFTER WASHING (ONE CYCLE – if washable)</b>                                               | <b>GB/T 8629 40°C normal cycle (4N), or if hand wash (4H), drying flat (C), GB/T 21295, Table 13.</b> | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5              | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 |
| <b>APPEARANCE AFTER WASHING (10 CYCLES - if washable)</b>                                               | <b>ISO 6330 - 30°C 3M drying C + ISO 15487 for appearance</b>                                         | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5              | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 |
| <b>APPEARANCE AFTER DRY CLEANING (5 CYCLES - if dry cleanable with perchloroethylene)</b>               | <b>ISO 3175-2 - sensible cycle + ISO 15487 for appearance</b>                                         | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5              | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 |
| <b>APPEARANCE DRY CLEANING (5 CYCLES - if dry cleanable with hydrocarbons)</b>                          | <b>ISO 3175-3 - sensible cycle + ISO 15487 for appearance</b>                                         | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5              | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 |
| <b>APPEARANCE AFTER STEAMING (if steaming is not permitted, please enter a note in data sheet)</b>      | <b>DIN 53894-2 + ISO 15487 for appearance</b>                                                         | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5              | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 |
| <b>APPEARANCE AFTER IRONING (if ironable)</b>                                                           | <b>In house method, 150°C for 15 seconds with domestic iron</b>                                       | NA                                                                  | NA                                                                  | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5              | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 | No visual change,<br>Colour change $\geq 4$ ,<br>Cross-staining 4/5 |
| <b>DIMENSIONAL STABILITY TO STEAM (if steaming is not permitted, please enter a note in data sheet)</b> | <b>ISO 3759 + DIN 53894-2 + ISO 5077</b>                                                              | NA                                                                  | NA                                                                  | Woven -2 < S < +0.5 (If elastane is present, -3 < S < +1)<br>Knitted -5 < S < +1 | NA                                                                  | NA                                                                  |
| <b>DIMENSIONAL STABILITY TO IRONING (if ironable)</b>                                                   | <b>ISO 3759 + In house method, 150°C for 15 seconds with domestic iron + ISO 5077</b>                 | NA                                                                  | NA                                                                  | Woven -2 < S < +0.5 (If elastane is present, -3 < S < +1)<br>Knitted -5 < S < +1 | NA                                                                  | NA                                                                  |
| <b>DIMENSIONAL STABILITY TO WASHING (if washable)</b>                                                   | <b>ISO 3759 + ISO 6330 - 30°C 3M drying C + ISO 5077</b>                                              | NA                                                                  | NA                                                                  | Woven -3 < S < +0.5 (If elastane is present, -3 < S < +1)<br>Knitted -5 < S < +1 | NA                                                                  | NA                                                                  |
| <b>DIMENSIONAL STABILITY TO DRY CLEANING (if dry cleanable)</b>                                         | <b>ISO 3759 + ISO 3175-2 - sensible cycle and/or ISO 3175-3 - sensible cycle + ISO 5077</b>           | NA                                                                  | NA                                                                  | Woven -2 < S < +0.5 (If elastane is present, -3 < S < +1)<br>Knitted -3 < S < +1 | NA                                                                  | NA                                                                  |

| TRIMS REQUIREMENTS (excluding ZIP)*                                      |                                                                                                                       |                                                                                                          |                                                                                                          |                                   |                                                                                              |                                                                           |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| TEST                                                                     | METHOD<br>(Always refer to the latest version and requirement of each method/norm)                                    | METAL TRIMS                                                                                              | PLASTIC TRIMS<br>(include silicone)                                                                      | TEXTILE TRIMS                     | TRANSFER (PATCH OR TRANSFER PRINTS)                                                          | LEATHER TRIMS                                                             |
| <b>Physical Performance</b>                                              |                                                                                                                       |                                                                                                          |                                                                                                          |                                   |                                                                                              |                                                                           |
| <b>SHARP POINTS/SHARP EDGES/SMALL PARTS</b>                              | <b>GB 31702</b><br><b>16 CFR 1501 + 16 CFR 1500.48-49,</b><br><b>before and after use and abuse 16 CFR 1500.51-53</b> | No small parts, sharp points and no sharp edges before and after use and abuse                           | No small parts, sharp points and no sharp edges before and after use and abuse                           | NA                                | NA                                                                                           | NA                                                                        |
| <b>RESISTANCE TO UNSNAPPING OF SNAP FASTENERS</b>                        | <b>ASTM D4846</b>                                                                                                     | 2.0 lb. min – 8.0 lb. max.                                                                               | 2.0 lb. min – 8.0 lb. max.                                                                               | NA                                | NA                                                                                           | NA                                                                        |
| <b>BUTTON - CENTRAL PART TENSION TEST</b>                                | <b>BS 4162 section 4</b>                                                                                              | If for adult: up to size 13 mm: 70 N; from 13 to 16 mm: 90 N; from 16 to 23 mm: 110 N; over 23 mm: 130 N | If for adult: up to size 13 mm: 70 N; from 13 to 16 mm: 90 N; from 16 to 23 mm: 110 N; over 23 mm: 130 N | NA                                | NA                                                                                           | NA                                                                        |
| <b>APPEARANCE AFTER ABRASION</b>                                         | <b>ISO 12947-2 12000 CYCLES 9 KPa</b>                                                                                 | NA                                                                                                       | NA                                                                                                       | NA                                | No visual change                                                                             | NA                                                                        |
| <b>RESISTANCE TO REPEATED FLEXURES - BALLY METHOD</b>                    | <b>ISO 4818-13 ONLY DRY CONDITION</b>                                                                                 | NA                                                                                                       | NA                                                                                                       | NA                                | 50000 CYCLES: NO VISUAL CHANGE<br>100000 CYCLES: ≥ 4 SLIGHT UNIFORM CHANGE                   | 20000 CYCLES: NO VISUAL CHANGE<br>50000 CYCLES: ≥ 4 SLIGHT UNIFORM CHANGE |
| <b>STRETCH AND RECOVERY</b>                                              | <b>ISO 20932-1</b>                                                                                                    | NA                                                                                                       | NA                                                                                                       | If elastic part is present: > 95% | NA                                                                                           | NA                                                                        |
| <b>Use, ageing and corrosion</b>                                         |                                                                                                                       |                                                                                                          |                                                                                                          |                                   |                                                                                              |                                                                           |
| <b>CORROSION RESISTANCE TO DAMP HEAT applied on leather material</b>     | <b>ISO 17228 – cycle 7G 72 HRS 60°C 85% HR</b>                                                                        | 5 - No change                                                                                            | 5 - No change                                                                                            | NA                                | NA                                                                                           | 5 - No change                                                             |
| <b>CORROSION RESISTANCE TO SALT SPRAY</b>                                | <b>ISO 9227 - 24 HRS 5% SALIN SOLUTION</b>                                                                            | 5 - No change                                                                                            | 5 - No change<br>(only for metallic aspect)                                                              | NA                                | NA                                                                                           | NA                                                                        |
| <b>CORROSION RESISTANCE TO DAMP HEAT</b>                                 | <b>ISO 4611 - 72 HRS 60°C 85% HR</b>                                                                                  | 5 - No change                                                                                            | 5 - No change                                                                                            | NA                                | NA                                                                                           | NA                                                                        |
| <b>CORROSION RESISTANCE TO SULPHUR DIOXIDE</b>                           | <b>ISO 4524-2 8 H</b>                                                                                                 | ≥ 4 - Slight change                                                                                      | ≥ 4 - Slight change<br>(only for metallic aspect)                                                        | NA                                | NA                                                                                           | NA                                                                        |
| <b>CORROSION RESISTANCE TO HYDROGEN SULPHIDE</b>                         | <b>ISO 22775 Method 1</b>                                                                                             | 5 - No change                                                                                            | 5 - No change<br>(only for metallic aspect)                                                              | NA                                | NA                                                                                           | NA                                                                        |
| <b>CORROSION RESISTANCE TO SALT WATER</b>                                | <b>ISO 22775 Method 2</b>                                                                                             | 5 - No change                                                                                            | 5 - No change<br>(only for metallic aspect)                                                              | NA                                | NA                                                                                           | NA                                                                        |
| <b>SIMULATION OF WEAR - only for painted, varnished or rubber-coated</b> | <b>EN 12472</b>                                                                                                       | ≥ 4 - Slight change                                                                                      | ≥ 4 - Slight change<br>(only for metallic aspect)                                                        | NA                                | NA                                                                                           | NA                                                                        |
| <b>CROSS-CUT TEST - only for painted, varnished or rubber-coated</b>     | <b>ISO 2409</b>                                                                                                       | ≤ 1                                                                                                      | ≤ 1                                                                                                      | NA                                | NA                                                                                           | NA                                                                        |
| <b>TRANSFER THERMAL AGEING</b>                                           | <b>In house method, 100°C for 16 hours</b>                                                                            | NA                                                                                                       | NA                                                                                                       | NA                                | 5 – No change<br>(No detaching, no visual change, no colour change, no wrinkles, no blister) | NA                                                                        |

**TRIMS REQUIREMENTS (excluding ZIP)\***

| <u>TEST</u>                                                                           | <u>METHOD</u><br>(Always refer to the latest version and requirement of each method/norm) | <u>METAL TRIMS</u>                                                                      | <u>PLASTIC TRIMS</u><br>(include silicone)                                              | <u>TEXTILE TRIMS</u>                                                                       | <u>TRANSFER (PATCH OR TRANSFER PRINTS)</u>                                                 | <u>LEATHER TRIMS</u>                                                                       |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b><u>Colour Fastness</u></b>                                                         |                                                                                           |                                                                                         |                                                                                         |                                                                                            |                                                                                            |                                                                                            |
| <b><u>COLOUR FASTNESS TO RUBBING</u></b>                                              | <b><u>ISO 105-X12</u></b>                                                                 | <u>NA</u>                                                                               | <u>NA</u>                                                                               | <u>Dry: Colour change ≥ 4, Staining ≥ 4</u><br><u>Wet: Colour change ≥ 4, Staining ≥ 3</u> | <u>Dry: Colour change ≥ 4, Staining ≥ 4</u><br><u>Wet: Colour change ≥ 4, Staining ≥ 3</u> | <u>Dry: Colour change ≥ 4, Staining ≥ 4</u><br><u>Wet: Colour change ≥ 4, Staining ≥ 3</u> |
| <b><u>COLOUR FASTNESS TO WATER</u></b>                                                | <b><u>ISO 105 E01 use multifiber DW</u></b>                                               | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    |
| <b><u>COLOUR FASTNESS TO PERSPIRATION</u></b>                                         | <b><u>ISO 105 E04 use multifiber DW</u></b>                                               | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    |
| <b><u>COLOUR FASTNESS TO ARTIFICIAL SALIVA (0-36 MONTHS)</u></b>                      | <b><u>GB/T 18886</u></b>                                                                  | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>   | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      |
| <b><u>COLOUR FASTNESS TO DOMESTIC AND COMMERCIAL LAUNDERING</u></b>                   | <b><u>ISO 105 C06 cycle 40°C A15 use multifiber DW</u></b>                                | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    |
| <b><u>COLOUR FASTNESS TO DRY CLEANING USING PERCHLOROETHYLENE SOLVENT</u></b>         | <b><u>ISO 105 D01 use multifiber DW</u></b>                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    |
| <b><u>COLOUR FASTNESS TO DRY CLEANING USING HYDROCARBONS SOLVENT</u></b>              | <b><u>ISO 105 X05 use multifiber DW</u></b>                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    |
| <b><u>COLOUR FASTNESS TO IRONING</u></b>                                              | <b><u>ISO 105 X11 for temperature follow care label</u></b>                               | <u>NA</u>                                                                               | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      | <u>NA</u>                                                                                  | <u>NA</u>                                                                                  |
| <b><u>COLOUR FASTNESS TO ARTIFICIAL LIGHT- XENON ARC FADING LAMP</u></b>              | <b><u>ISO 105 B02 (method 3, 4 Blue Wool Standard)</u></b>                                | <u>NA</u>                                                                               | <u>4 medium-dark colour</u><br><u>3/4 light, 3 fluo colour</u>                          | <u>4 medium-dark colour</u><br><u>3/4 light, 3 fluo colour</u>                             | <u>4 medium-dark colour</u><br><u>3/4 light, 3 fluo colour</u>                             | <u>4 medium-dark colour</u><br><u>3/4 light, 3 fluo colour</u>                             |
| <b><u>COLOUR FASTNESS TO CHLORINATED WATER (BEACHWEAR ONLY)</u></b>                   | <b><u>ISO 105 E03 50 mg/l</u></b>                                                         | <u>Colour change 4</u>                                                                  | <u>Colour change 4</u>                                                                  | <u>Colour change 4</u>                                                                     | <u>Colour change 4</u>                                                                     | <u>NA</u>                                                                                  |
| <b><u>COLOUR FASTNESS TO SEA WATER (BEACHWEAR ONLY)</u></b>                           | <b><u>ISO 105 E02 use multifiber DW</u></b>                                               | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u> | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>NA</u>                                                                                  |
| <b><u>COLOUR FASTNESS TO PHENOLIC YELLOWING -only for light and pastel shades</u></b> | <b><u>ISO 105 X18</u></b>                                                                 | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u>                                                                | <u>Colour change ≥ 4</u>                                                                   | <u>Colour change ≥ 4</u>                                                                   | <u>Colour change ≥ 4</u>                                                                   |
| <b><u>COLOUR FASTNESS TO DYE MIGRATION - only if PU or PES are present</u></b>        | <b><u>GB/T 22700 Annex B, use multifiber DW</u></b>                                       | <u>NA</u>                                                                               | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 3/4</u><br><u>Cross-staining ≥ 4/5</u>    |
| <b><u>COLOUR FASTNESS TO DRY HEAT - only if PU or PES are present</u></b>             | <b><u>ISO 105 P01 at 150°C and 180°C use multifiber DW</u></b>                            | <u>NA</u>                                                                               | <u>NA</u>                                                                               | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      | <u>Colour change ≥ 4</u><br><u>Colour staining ≥ 4</u><br><u>Cross-staining ≥ 4/5</u>      |
| <b><u>COLOUR FASTNESS TO CROSS-STAINING</u></b>                                       | <b><u>GB/T 31127 Method A</u></b>                                                         | <u>NA</u>                                                                               | <u>NA</u>                                                                               | <u>Colour staining ≥ 4/5</u>                                                               | <u>Colour staining ≥ 4/5</u>                                                               | <u>Colour staining ≥ 4/5</u>                                                               |

| TEST                                                                                        | METHOD<br><small>(Always refer to the latest version and requirement of each method/norm)</small> | LEATHER AND FUR FOR APPAREL<br>REQUIREMENTS*                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                             |                                                                                                   | RAW MATERIAL/FINISHED GARMENT                                                                                                                                                                                                                                                                                                              |
| Colour Fastness (if a textile component is present refer to fabrics protocols/requirements) |                                                                                                   |                                                                                                                                                                                                                                                                                                                                            |
| COLOUR FASTNESS TO<br>CROCKING/RUBBING                                                      | QB/T 2537 (500g weight)                                                                           | Leather with coating ≤ 15µm (500g)<br>Dry rubbing (20 times) ≥ 3<br>Wet rubbing (10 times) ≥ 3<br><br>Leather with coating > 15 µm (500g)<br>Dry rubbing (50 times) ≥ 3/4<br>Wet rubbing (20 times) ≥ 3<br><br>Suede leather:<br>Dry rubbing (20 times) ≥ 3; wet rubbing (10 times) ≥ 3<br>Requirement based on QB/T 1615: Leather Garment |
|                                                                                             | ISO 11640                                                                                         | Dry: ≥ 4 after 50 cycles<br>Wet: ≥ 3/4 after 20 cycles<br>Perspiration: ≥ 3 after 10 cycles                                                                                                                                                                                                                                                |
| COLOUR FASTNESS TO<br>CROCKING/RUBBING<br>FUR                                               | QB/T 2790                                                                                         | Dry rubbing ≥ 3/4; wet rubbing ≥ 3                                                                                                                                                                                                                                                                                                         |
| COLOUR FASTNESS TO PERSPIRATION-<br>FUR                                                     | QB/T 2924                                                                                         | Colour staining ≥ 3                                                                                                                                                                                                                                                                                                                        |
| COLOUR FASTNESS TO LIGHT- FUR                                                               | QB/T 2925                                                                                         | Colour Change ≥ 3                                                                                                                                                                                                                                                                                                                          |
| COLOUR FASTNESS TO ARTIFICIAL<br>LIGHT – XENON ARC FADING LAMP -                            | ISO 105 B02 (method 3)                                                                            | 3 Blue Wool Standard                                                                                                                                                                                                                                                                                                                       |
| COLOUR FASTNESS TO DRY CLEANING                                                             | ISO 11643                                                                                         | Colour change 3<br>Colour staining 2/3<br>Colour self-staining 4/5                                                                                                                                                                                                                                                                         |
| COLOUR FASTNESS TO WATER                                                                    | ISO 11642                                                                                         | Colour change 3<br>Colour staining 2/3<br>Colour self-staining 4/5                                                                                                                                                                                                                                                                         |
| COLOUR FASTNESS TO PERSPIRATION                                                             | ISO 11641                                                                                         | Colour change 3<br>Colour staining 2/3<br>Colour self-staining 4/5                                                                                                                                                                                                                                                                         |
| COLOUR FASTNESS TO WATER<br>SPOTTING                                                        | ISO 15700                                                                                         | Colour change 3<br>No halo, No swelling                                                                                                                                                                                                                                                                                                    |
| ACCELERATED AGEING IN CLIMATIC<br>CHAMBER WITH HEAT & HUMIDITY                              | ISO 17228 (3 cycles 7A 24h 50°C 90% RH)                                                           | > 3/4                                                                                                                                                                                                                                                                                                                                      |
| PHENOLIC YELLOWING (WHITE AND<br>PASTEL COLOUR ONLY)                                        | ISO 105-X18                                                                                       | > 4/5                                                                                                                                                                                                                                                                                                                                      |

| TEST                                  | METHOD<br><small>(Always refer to the latest version and requirement of each method/norm)</small> | LEATHER AND FUR FOR APPAREL<br>REQUIREMENTS*                                                                                                                                                                                                   |                                                                                 |
|---------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
|                                       |                                                                                                   | RAW MATERIAL/FINISHED GARMENT                                                                                                                                                                                                                  |                                                                                 |
| Strength Properties                   |                                                                                                   |                                                                                                                                                                                                                                                |                                                                                 |
| TEAR STRENGTH                         | ISO 3377-2, QB/T 2711                                                                             | Raw materials:<br>Thickness < 0.5 mm: 9 N (CLASS 4)<br>Thickness > 0.5 mm:<br>CLASS 1 - SHEEP LEATHER: 11 N<br>CLASS 2 - PIG LEATHER: 13 N<br>CLASS 3 - COW, HORSE, MULE LEATHER: 13 N<br>CLASS 4 - SPLIT AND OTHER SMALL ANIMALS LEATHER: 9 N | Finished Product:<br>> 10 N<br>Requirements based on QB/T 1615: Leather Garment |
| MEASUREMENT OF STITCH TEAR RESISTANCE | ISO 23910                                                                                         | ≥ 180 N                                                                                                                                                                                                                                        |                                                                                 |
| TEAR STRENGTH                         | ISO 3377 – 1 (Single edge)                                                                        | Exotics: ≥ 10 N/mm Sheep and Goat: ≥ 15 N/mm - Others: ≥ 20 N/mm                                                                                                                                                                               |                                                                                 |
| FINISH ADHESION (IF APPLICABLE)       | ISO 11644                                                                                         | 3 N/10 mm                                                                                                                                                                                                                                      |                                                                                 |
| FLEX RESISTANCE                       | ISO 5402-1                                                                                        | No finish cracks after 20000 cycles                                                                                                                                                                                                            |                                                                                 |