G-STAR RAW

RESTRICTED SUBSTANCE LIST

VERSION 3.0 - March 2022

INTRODUCTION 3.0

G-Star is committed to producing high quality and responsibly manufactured products and intends to only do business with suppliers that share our commitment to make a strong product in a socially and environmentally conscious way. We outlined the minimum Social and Environmental, Health & Safety (EHS) standards under which our products should be manufactured in the G-Star Supplier Code of Conduct. The Code of Conduct refers to the G-Star Restricted Substances List (RSL) and Manufacturing Restricted Substances List (MRSL) as the basis for monitoring the use of chemicals in G-Star products.

The RSL applies to all products of G-Star Raw C.V. and/or its subsidiaries (hereinafter 'G-Star'), which includes ready-made garments, non-apparel, accessories and packing materials. The RSL also applies to all materials, such as metal parts and trims for use in producing G-Star products.

The MRSL applies to all chemicals used in wet processing facilities which includes dyeing, washing and printing facilities. Chemicals used in these production processes should meet the requirements of the MRSL.

The RSL and the MRSL should be communicated to all (raw material) suppliers. All chemicals used in any production process must meet the requirements of the G-Star MRSL and all products delivered to G-Star must meet the requirements of the RSL.

G-Star's Commitment

ZDHC & Supplier Detox Program

Through the DETOX Commitment with Greenpeace we committed to ban the use of hazardous chemicals from our products and production processes in our supply chain. This followed our membership to the Zero Discharge of Hazardous Chemicals (ZDHC) initiative. The ZDHC member brands unite around a joint roadmap to ensure safe and sustainable chemical use in the fashion industry. Moving forward, we will continue to work with the tools of the ZDHC initiative, as well as applying the Higg Facility Environmental Module (FEM) standards and tools to monitor the performance in production and manufacturing of our garments in our so-called Supplier DETOX Program.

MRSL performance per parameter

As part of our Supplier DETOX Program, all G-Star RAW's supply chain partners are required to follow ZDHC's Manufacturing Restricted Substances List (MRSL). We also encourage them to make use of the ZDHC Gateway to identify safer and more sustainable alternatives and to test wastewater to ZDHC Wastewater Guidelines.

Minimizing pollution and the environmental impact of hazardous chemicals have been a major priority for us since signing the DETOX Commitment with Greenpeace in 2013.

Purpose of the RSL

Our suppliers are critical partners in meeting our commitments regarding consumer safety, working conditions and environmental protection. The purpose of the RSL for garment and fabric manufacturing is to inform our suppliers on all chemicals that are banned or restricted in G-Star finished products. Our suppliers are expected to study this document carefully and communicate the information to relevant internal teams, sub-contractors and others involved in the production of G-Star products.

Each supplier is required to declare and ensure that the materials, parts, trims, metal parts and other goods supplied or otherwise delivered for G-Star products comply with the limitations described or referred to in the RSL and any additional requirements imposed by law or local authorities. The supplier is also responsible for seeking guidance from G-Star in situations of doubt about product compliance with the RSL for garment and fabric manufacturing.

Compliance with this Restricted Substance List is a mandatory condition for each and every order placed by G-Star.

G-Star Raw C.V. March 2022

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Supplier Responsibility

G-Star wants to ensure that our products are manufactured in a social and environmental responsible way throughout the supply chain. As our supplier/partner you are committed to live up to the G-Star Supplier Code of Conduct and the Restricted Substance List ("RSL"). The supplier must ensure to be compliant with G-Star's RSL by sourcing responsibly, this entails testing the items needed for the merchandise. We also advise you to use our nominated suppliers.

All Suppliers are required to:

- **Ensure they are fully aware of the content and requirements of G-star Supplier Code of Conduct and RSL policies.**
- **Sign and return scanned copy to QA responsible the Declaration of Conformity Form**
- **Communicate to their supply chain on G-Star MRSL & RSL requirements.**
- **Test / certify all materials/finished product in line with EU legislation and G-Star RSL.**
- **Testing must be carried out by internationally accredited and independent laboratories.**
- **Test reports must be kept at least 2 years as proof of due dilligence.**
- **Inform G-star QA about non-conformities, any risk to consumers or other incidents related to safety of their product immediately, and prepare corrective action plan to improve the non-conformity.**

Please be aware that buying from G-star nominated supplier does not shift the responsibility to this supplier; you as our direct supplier are fully responsible for every step in the production process, and for all materials used. This means you are responsible for the complete product including the packaging materials, placement prints and the ink used for them. Therefore all necessary control measures have to be in place to avoid that your merchandise fails to meet the requirements.

In case of failure, which means not complying with G-Star's RSL, the merchandise will not be accepted and the supplier will receive respective written information. There will be a fine to be paid by the supplier based on the damage G-Star suffered. We want to emphasize that we invest time, effort and money into these testing procedures and trust that you will ensure it will be handled correctly in your facilities to enable a long-term relationship with G-Star.

If there are any questions or concerns, please feel free to reach out to RSL@g-star.com for further info regarding G-Star's RSL.

Version 3.0		
Definition of Material type		
Natural fibers. Animal or vegetable fibers (including semi-synthetics).	**Printing.** The process of applying colour to a fabric in definite patterns or designs.	**Foam.** Spongy material made by trapping air bubbles in a solid. These can be open cell or closed cell
Blended fibers. Woven or knitted materials created by blending two or more fiber types. For the purpose of this RSL, a blended fiber consists of a natural and a synthetic fiber.	**Natural materials.** Material derived from animals or plants that have undergone very little modification. Includes horn, bone, cork, wood, paper, and straw. Excludes natural fibers, natural leather, feathers, down, and metals	**Metals.** Chemical elements that can be lustrous, ductile, malleable, and good conductors of heat and electricity. Includes metals deposited by physical vapor deposition (PVD), chemical vapor deposition (CVD), or electroplating
Synthetic fibers. Human-made fibers based on synthetic chemicals (often from petroleum sources) such as polymers and extruded fibers.	**Crystal.** In this variety of glass, also known as lead glass, lead replaces calcium content of a typical potash glass. The addition of lead oxide gives crystal a much higher index of refraction than normal glass, and consequently much greater sparkle. Crystal typically contains at least 24% lead and is therefore exempt from many regulatory requirements for jewelry. In the European Union, labeling of crystal products is regulated by Council Directive 69/493/EEC, which defines four categories based on the chemical composition and properties of the material.	**Feathers and down.** Includes the smaller down feathers as well as the larger contour and flight feathers. See the International Down and Feather Bureau for specific down and feather definitions.
Artificial leather. A leather-like material composed of a textile backing and, typically, a PU or PVC coating.	**Polymers and plastics.** Plastics are composed of various polymers (typically from petroleum sources) usually mixed with additives including colorants, plasticizers, stabilizers, and fillers. These additives affect the chemical composition, chemical properties, and mechanical properties of the plastic.	**Glue.** A substance capable of holding materials together by surface attachment.
Natural leather. Created by tanning animal rawhide	**Natural rubber.** Elastic material made from latex sap or trees that can be vulcanized.	
Coating. A fluid, semi-fluid, or other material, with or without a suspension of finely divided coloring matter, which changes to a solid film when a thin layer is applied to a metal, wood, stone, paper, leather, cloth, plastic, or other surface. Coatings do not include printing inks or those materials which actually become a part of the substrate, such as the pigment in a plastic article or those materials which are actually bonded to,the substrate, such as by electroplating or ceramic glazing	**Synthetic rubber.** Material made from petroleum-based monomers with properties similar to natural rubber.	

Version 3.0											
Definition of Material type											
Examples of Materials within the Scope of the G-Star RSL[1]											
Natural Fibers Including semi-synthetics	**Blended Fibers**	**Synthetic Fibers**	**Artificial Leather**	**Natural Leather**	**Coatings & Prints**	**Natural Materials**	**Other Materials**	**Polymers, Plastics, Foams, Natural Rubber & Synthetic Rubber**	**Metal**	**Feathers & Down**	**Glue**
• Cotton • Wool • Silk • Hemp • Cashmere • Linen • Fur hair • Rayon (Semi-synthetic) • Lyocell (Semi-synthetic)	• Cotton- Polyester • Wool-Nylon • Ramie- Polyester	• Polyester • Acrylic • Nylon • Polyamide	•Polyurethane (PU) • Polyvinyl Chloride (PVC)	• Leather • Fur skin	Printing techniques such as: • Heat transfers • Dye sublimation printing • Screen printing • Direct-to- garment printing • Discharge printing • Plastisol transfers Coatings such as: • Polyvinyl chloride (PVC) • Polyurethane (PU) • UV-cured	• Horn • Bone • Cork • Wood • Paper • Straw • Stone	• Glass • Synthetic stone • Porcelain • Ceramic • Crystal	• Ethylene vinyl acetate (EVA) • Polystyrene (PS) • Polyethylene (PE) • Acrylonitrile butadiene styrene (ABS) • Neoprene • Polypropylene (PP) • Polycarbonate (PC) • Polyamide (PA) • Polyurethane (PU) • Polyvinyl chloride (PVC) • Thermoplastic polyurethane (TPU) • Thermoplastic elastomer (TPE) • Styrene ethylene butylene styrene (SEBS)	• Stainless steel • Brass • Copper • Gold • Silver • Aluminium	• Feathers • Down	• Hot melt adhesive • Powdered adhesive • Flock adhesive • Contact adhesive • Latex glue • Polyurethane glue • Neoprene cement • Epoxies • Silicone adhesive • UV-cured adhesive
[1] NOTE: This list provides examples of materials within each category but is not all-inclusive.											

Risk Matrix version 3.0

●●● indicate that a chemical has been in widespread use and/or frequently detected in a particular material.

●● indicate that a chemical has been deliberately used and/or detected in a particular material occasionally.

● indicates there is a very low but theoretical chance that a chemical could be used and/or detected.

No dot indicates that we believe there is an almost negligible risk of a chemical being used and/or detected.

CHEMICAL	NATURAL FIBERS	SYNTHETIC FIBERS	BLENDED FIBERS	ARTIFICIAL LEATHER	NATURAL LEATHER	NATURAL MATERIALS	METAL	OTHER: PORCELAIN , CERAMIC , GLASS, CRYSTAL , ETC.	FEATHER & DOWN	POLYMERS								COATING AND PRINTS	GLUE
										EVA	PU Foams	All other PU & TPU	Rubber excludes latex and silicon rubbers	Polycarbonate	ABS	PVC	All Other foams, plastics & Polymer		
ACETOPHENONE AND 2- PHENYL-2-PROPANOL										●●									
ACIDIC AND ALKALINE SUBSTANCES (pH)	●●●	●●●	●●●	●●●	●●●														
ALKYLPHENOLS (AP) AND ALKYPHENOL ETHOXYLATES (APEO)	●●●	●●●	●●●	●●●	●●●	●●●			●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
AZO AMINES AND ARYLAMINE SALTS	●●●	●●●	●●●	●●●/A	●●●	●●●/A			●●●/A									●●●	
BISPHENOL- A		●●	●●							●●	●●	●●	●●	●●●	●●	●●	●●		
CHLORINATED PARAFFINS				●●	●●●					●●	●●	●●●	●●●	●●	●●	●●●	●●		
CHLOROPHENOLS	●●	●●	●●		●●													●	
CHLORINATED BENZENES AND TOLUENES		●●	●●	●●	●														
DIMETHYLFUMURATE (DMFu)					●●													●	
DYES DISPERSE DYES		●●●	●●●	●●●														●●	
DYES FORBIDDEN CARCINOGENIC DYES		●●●	●●●	●●●														●●	
DYES NAVY BLUE		●●	●●																
FLAME RETARDANTS	●●/B																		
FORMALDEHYDE	●●●	●●●	●●●	●●	●●●	●●●/C							●●					●●●	●●●
HEAVY METALS CHROMIUM VI	●●/D	●●/E			●●●														
HEAVY METALS EXTRACTABLE	●●●	●●●	●●●	●●	●●●		●●/F			●●	●●	●●	●●	●●	●●	●●	●●	●●	

A Level 1 for dyed/coloured materials	**E** Level 2 if extractable Chrome above 1 ppm	**J** Level 1 for PVC materials	**N** Level 1 for PU-based materials
B Level 2 if Flame Retardants are applied	**F** Copper is exempt from restriction limits in Metal parts.	**K** Level 2 for Styrene/Butadiene Rubbers (SBRs) only	
C Level 1 for Wood, Paper, and Straw materials	**G** Level 2 for plant-based fibers; N/A for animal-based fibers.	**L** Level 1 if a Fluorinated finish is applied	
D Level 2 for Wool materials	**H** Level 1 for Cadmium and Lead only; Crystal is exempt for Lead	**M** Level 1 if Rubber or black Polymeric materials	

Risk Matrix version 3.0

●●● indicate that a chemical has been in widespread use and/or frequently detected in a particular material.

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CHEMICAL	NATURAL FIBERS	SYNTHETIC FIBERS	BLENDED FIBERS	ARTIFICIAL LEATHER	NATURAL LEATHER	NATURAL MATERIALS	METAL	OTHER: PORCELAIN , CERAMIC , GLASS, CRYSTAL , ETC.	FEATHER & DOWN	POLYMERS								COATING AND PRINTS	GLUE
										EVA	PU Foams	All other PU & TPU	Rubber excludes latex and silicon rubbers	Polycarbonate	ABS	PVC	All Other foams, plastics & Polymer		
HEAVY METALS RELEASABLE NICKEL							●●●												
HEAVY METALS TOTAL CONTENT	●●/G		●●/G	●●●	●●		●●●	●●●/H		●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●
MONOMERS, STYRENE & VINYL CHLORIDE				●●●/J									●●/K		●●	●●●		●●●/J	
N-NITROSAMINES													●●						
ORGANOTIN COMPOUNDS		●●	●●	●●●	●●						●●●	●●●	●●●			●●●	●●●	●●●	●●●
ORTHO-PHENYLPHENOL (OPP)	●●	●●	●●	●●	●●													●●	
PERFLUORINATED CHEMICALS (PFCs)	●●●/L																		
PESTICIDES																			
PHTHALATES				●●●						●●●	●●●	●●●	●●●	●●	●●	●●●	●●●	●●●	●●●
POLYCLIC AROMATIC HYDROCARBONS				●●						●●●/M	●●●/M	●●●/M	●●●			●●●/M	●●●/M	●●●/M	●●●/M
QUINOLINE		●●	●●																
SOLVENTS / RESIDUALS DMFa				●●●							●●●	●●●						●●●/N	●●●/N
SOLVENTS / RESIDUALS DMAC AND NMP				●●●							●●	●●					●●	●●	●●
SOLVENTS / RESIDUALS FORMAMIDE										●●								●●	
UV ABSORBERS / STABILISERS										●●	●●	●●	●●	●●	●●	●●	●●		
VOLATILE ORGANIC COMPOUNDS (VOCs)				●●						●●	●●	●●	●●	●●	●●	●●	●●	●●	●●●

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Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
ACETOPHENONE AND 2- PHENYL-2-PROPANOL				
Acetophenone	98-86-2	Extraction in acetone or methanol GC/MS, sonication for 30 minutes at 60 degrees C	< 10 mg/kg	Potential breakdown products in EVA foam when using certain cross-linking agents, including Dicumyl Peroxide.
2-Phenyl-2-Propanol	617-94-7		< 20 mg/kg	
ACIDIC AND ALKALINE SUBSTANCES				
pH value	Various	Textiles and Artificial Leather: EN ISO 3071:2020: Leather: EN ISO 4045:2018	Textiles: 4.0–7.5 Leather: 3.2 - 4.5	pH value is a characteristic number, ranging from pH 0 to pH 14, which indirectly shows the content of acidic or alkaline substances in a product. pH values less than 7 indicate sources of acidic substances, and values greater than 7 indicate sources of alkaline substances. To avoid irritation or chemical burns to the skin, the pH value of products must be in the range of human skin— approximately pH 5.5. G-Star recommends the limits cited to comply with global regulations and to minimize the chances of Chromium VI formation during tanning and processing of leather. Important: Egypt, Morocco, and the Gulf Cooperation Council (GCC) require pH for leather not lower than 3.5.

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
ALKYLPHENOLS (AP) AND ALKYPHENOL ETHOXYLATES (APEO)				
Nonylphenols (NP), mixed isomers	Various	Textiles and Leather: EN ISO 21084:2019 Polymers and all other materials: 1 g sample/20 mL THF, sonication for 60 minutes at 70 degrees C, analysis according to EN ISO 21084:2019	Total APs: 10 mg/kg Total APs + APEOs: 100 mg/kg	APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings. APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers. Biodegradation of APEOs into APs is the main source of APs in the environment. APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes. We acknowledge that residual or trace concentrations of APEOs may still be ound at levels exceeding 100 mg/kg and that more time is necessary for the supply chain to phase them out completely. Recycled products: Contact the G-Star Quality department for information about potential exemptions from the limit on NPEOs in recycled textile products.
Octylphenols (OP), mixed isomers	Various			
Nonylphenol ethoxylates (NPEOs)	Various	All materials except Leather: EN ISO 18254-1:2016 with determination of APEO using LC/MS or LC/MS/MS Leather: Sample prep and analysis using EN ISO 18218-1:2015 with quantification according to EN ISO 18254-1:2016		
Octylphenol ethoxylates (OPEOs)	Various			
ASBESTOS				
Actinolite	77536-66-4	EPA/600/R-93/116 forqualitative analysis using Polarized Light Microscopy (PLM), X-Ray Diffraction (XRD) and Analytical Transmission Electron Microscopy (AEM) or other Analytical Methods by Microscopy (Polarized Light Microscopy (PLM))	Prohibited	Asbestos fibres are strong, durable and fire resistant consisting of silicate minerals. Unlikely to be used in everyday wear except for fire fighting. Asbestos fibres are carcinogenic.
Amosite	12172-73-5			
Anthophyllite	77536-67-5			
Chrysotile	12001-29-5			
Crocidolite	12001-28-4			
Tremolite	77536-68-6			

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
AZO-AMINES AND ARYLAMINE SALTS				
4-Aminobiphenyl	92-67-1	All materials except leather: EN ISO 14362-1:2017 Leather: EN ISO 17234-1:2015 4-Aminoazobenzene (4AAB): All materials except leather: EN ISO 14362-3: 2017 Leather: EN ISO 17234-2:2011	< 20 mg/kg	Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those which degrade to form the listed cleaved amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for dyeing textiles.
Benzidine	92-87-5			
4-Chloro-o-toluidine	95-69-2			
2-Naphtylamine	91-59-8			
o-Aminoazotoluene	97-56-3			
2-Amino-4-nitrotoluene	99-55-8			
p-Chloraniline	106-47-8			
2,4-Diaminoanisole	615-05-4			
4,4'-Diaminodiphenylmethane (4,4'-MDA)	101-77-9			
3,3'-Dichlorobenzidine	91-94-1			
3,3'-Dimethoxybenzidine	119-90-4			
3,3'-Dimethylbenzidine	119-93-7			
3,3'-dimethyl-4,4'-diaminodiphenylmethane	838-88-0			
p-Cresidine	120-71-8			
4,4'-Methylen-bis(2-chloraniline)	101-14-4			
4,4'-Oxydianiline	101-80-4			
4,4'-Thiodianiline	139-65-1			
o-Toluidine	95-53-4			
2,4-Toluylendiamine (2,4-TDA)	95-80-7			
2,4,5-Trimethylaniline	137-17-7			
2-Methoxyaniline (= o-Anisidine)	90-04-0			
4-Aminoazobenzene (4-AAB)	60-09-3			
2,4-Xylidine	95-68-1			
2,6-Xylidine	87-62-7			
4-Chloro-o-toluidinium chloride	3165-93-3			
2-Naphthylammoniumacetate	553-00-4			
4-Methoxy-m-phenylene diammonium sulphate	39156-41-7			
2,4,5-Trimethylaniline hydrochloride	21436-97-5			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
BIOCIDES				
Dimethylfumarate (DMFu)	624-49-7	All materials: ISO 16186:2021	< 0.1 mg/kg	DMFu is an anti-mold agent that may be used in sachets in packaging to prevent the buildup of mold, especially during shipping.
o-Phenylphenol (OPP)	90-43-7	All materials: DIN 50009:2021	< 100 mg/kg Leather < 1000 mg/kg	OPP is used for its preservative properties in leather or as a carrier in polyester dyeing processes.
2-(Thiocyanomethylthio)- Benzothiazole (TCMTB)	21564-17-0	EN ISO 13365-1:2020	< 500 mg/kg	TCMTB is a preservative for leather and can be used as a pesticide
Triclosan	3380-34-5		< 50 mg/kg	Triclosan can be used as disinfectant and as antibacterial agent in textiles. Triclosan can damage the liver, kidneys, heart and lungs, suppresses the immune system.
2-Octylisothiazol-3(2H)- on (OIT)	26530-20-1		< 250 mg/kg	These chemicals have biocidal properties and can also be used as pesticides
4-Chlor-3-Methylphenol (CMK)	59-50-7		Leather: < 600 mg/kg	

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
BISPHENOLS				
Bisphenol-A (BPA)	80-05-7	All materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, analysis with LC/MS	< 1 mg/kg	Used in the production of epoxy resins, polycarbonate plastics, flame retardants, PVC, polyamide dye-fixing agents, and sulfone- and phenol based leather tanning agents. May be found in recycled polymeric and paper materials due to polycarbonate plastic and thermal receipt paper made with Bisphenols entering waste streams. BPA is formally restricted in items intended to come in contact with the mouth. It is important to investigate all relevant sources of Bisphenols and their concentrations in products with legislation imposing strict limits pending in multiple jurisdictions. Restriction of these substances is likely in a future update.
Bisphenol S (BPS)	80-09-1		G-Star recommends testing synthetic textiles & blends, polycarbonate plastics, and natural leather to assess concentrations of Bisphenols in preparation for future restriction	
Bisphenol F (BPF)	620-92-8			
Bisphenol AF (BPAF)	1478-61-1			
CHLORINATED PARAFFINS				
Short-chain Chlorinated Paraffins (SCCPs) (C10-C13)	85535-84-8	Leather: ISO 18219-1:2021 (SCCP) ISO 18219-2:2021 (MCCP) Textiles: ISO 22818:2021 (SCCP + MCCP)	< 1000 mg/kg	May be used as softeners, flame retardants, or fat-liquoring agents in leather production; also as a plasticizer in polymer production.
Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17)	85535-85-9		< 1000 mg/kg	

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
CHLOROPHENOLS				
Pentachlorophenol (PCP)	87-86-5	All materials: DIN 50009:2021	< 0.5 mg/kg each	Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP), Tetrachlorophenol (TeCP), and Trichlorophenols (TriCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing/transporting fabrics. PCP, TeCP, and TriCP can also be used as in-can preservatives in print pastes and other chemical mixtures.
2,3,5,6- Tetrachlorophenol (TeCP)	935-95-5			
2,3,4,6- Tetrachlorphenol (TeCP)	58-90-2			
2,3,4,5- Tetrachlorphenol (TeCP)	4901-51-3			
2,3,4-Trichlorophenol (TrCP)	15950-66-0			
2,3,5-Trichlorophenol (TrCP)	933-78-8			
2,3,6-Trichlorophenol (TrCP)	933-75-5			
2,4,5-Trichlorophenol (TrCP)	95-95-4			
2,4,6-Trichlorophenol (TrCP)	88-06-2			
3,4,5-Trichlorophenol (TrCP)	609-19-8			

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
CHLORINATED BENZENES AND TOLUENES				
Hexachlorobenzene (HCB)	118-74-1	All materials: EN 17137:2018	< 1 mg / kg (total)	Chlorobenzenes and Chlorotoluenes (Chlorinated Aromatic Hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/ polyester fibers. They can also be used as solvents. Cross-contamination from anti-moth agents and poly shipping bags may cause failures. [1]Important: The Gulf Cooperation Council (GCC) maintains a limit of 1 mg/kg for 1,2-Dichlorobenzene in textiles.
Pentachlorobenzenes (PCB)	608-93-5			
α,α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride	5216-25-1			
α,α,α-trichlorotoluene; benzotrichloride	98-07-7			
α-chlorotoluene; benzyl chloride	100-44-7			
1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,3,5-Trichlorobenzene	87-61-6 120-82-1 108-70-3			
1,2,3,4-Tetrachlorobenzene 1,2,3,5-Tetrachlorobenzene 1,2,4,5-Tetrachlorobenzene	634-66-2 634-90-2 95-94-3			
1,3-Dichlorobenzene 1-4-Dichlorobenzene	541-73-1 106-46-7			
2-Chlorotoluene 3-Chlorotoluene 4-Chlorotoluene	95-49-8 108-41-8 106-43-4			
2,3-Dichlorotoluene 2,4-Dichlorotoluene 2,5-Dichlorotoluene 2,6-Dichlorotoluene 3,4-Dichlorotoluene	32768-54-0 95-73-8 19398-61-9 118-69-4 95-75-0			
2,3,6-Trichlorotoluene 2,4,5-Trichlorotoluene	2077-46-5 6639-30-1			
2,3,4,5-Tetrachlorotoluene 2,3,4,6-Tetrachlorotoluene 2,3,5,6- Tetrachlorotoluene	76057-12-0 875-40-1 1006-31-1			
Pentachlorotoluenes	877-11-2			
1,2-Dichlorobenzene	95-50-1		< 10 mg/kg[1]	

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
DISPERSE DYES WHICH ARE CLASSIFIED TO BE ALLERGENIC				
C.I. Disperse Blue 1	2475-45-8	All materials: DIN 54231:2005	< 30 mg/kg	Disperse dyes are a class of water- insoluble dyes that penetrate the fiber system of synthetic or manufactured fibers and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fiber (e.g., polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.
C.I. Disperse Blue 35A	56524-77-7			
C.I. Disperse Blue 35B	56524-76-6			
C.I. Disperse Blue 106	12223-01-7			
C.I. Disperse Blue 124	61951-51-7			
C.I. Disperse Orange 3	730-40-5			
C.I. Disperse Orange 37/59/76	12223-33-5 13301-61-6 51811-42-8			
C.I. Disperse Red 1	2872-52-8			
C.I. Disperse Yellow 3	2832-40-8			
C.I. Disperse Blue 3	2475-46-9			
C.I. Disperse Blue 7	3179-90-6			
C.I. Disperse Blue 26	3860-63-7			
C.I. Disperse Blue 102	12222-97-8			
C.I. Disperse Brown 1	23355-64-8			
C.I. Disperse Orange 1	2581-69-3			
C.I. Disperse Orange 11	82-28-0			
C.I. Disperse Orange 149	85136-74-9			
C.I. Disperse Red 11	2872-48-2			
C.I. Disperse Red 17	3179-89-3			
C.I. Disperse Red 151	61968-47-6			
C.I. Disperse Yellow 1	119-15-3			
C.I. Disperse Yellow 7	6300-37-4			
C.I. Disperse Yellow 9	6373-73-5			
C.I. Disperse Yellow 23	6250-23-3			
C.I. Disperse Yellow 39	12236-29-2			
C.I. Disperse Yellow 49	54824-37-2			
C.I. Disperse Yellow 56	54077-16-6			

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
DYES WHICH ARE CLASSIFIED TO BE CARCINOGENIC				
C.I. Basic Red 9	569-61-9	All materials: DIN 54231:2005	< 30 mg/kg	Basic dyes are water- soluble cationic dyes mainly used on acrylic fibers.
C.I. Basic Violet 1	8004-87-3			
C.I. Basic Violet 3 (with ≥ 0.1 % Michler's ketone or base)	548-62-9			
C.I. Basic Violet 14	632-99-5			
C.I. Basic Blue 26 (with ≥ 0.1 % Michler's ketone or base)	2580-56-5			
C.I. Basic Green 4 (oxalate, chloride or free)	2437-29-8 569-64-2 10309-95-2			
C.I. Acid Red 26	3761-53-3			Acid dyes are water-soluble anionic dyes mainly used on fibers such as wool, silk, and nylon.
C.I. Acid Violet 49	1694-09-3			
C.I. Direct Black 38	1937-37-7			Direct dyes are used on natural fibers such as cotton, linen, cellulose and in special treatments such as dip dyes.
C.I. Direct Blue 6	2602-46-2			
C.I. Direct Brown 95	16071-86-6			
C.I. Direct Red 28	573-58-0			
4-Dimethylaminoazobenzene (Solvent Yellow 2)	60-11-7			Solvent dyes are dyes which are soluble in organic solvents, and can be used on natural and synthetic fibers.
C.I. Solvent Blue 4	6786-83-0			
Solvent Yellow 14	842-07-9			
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol (C.I. Violet 8)	561-41-1			
DYESTUFFS CARCINOGENIC AND WITH ENVIRONMENTAL PROBLEMS				
Navy Blue is a mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5- dinitro-2-oxidophenylazo)-1-naphtholato)- chromate(1-)	Component 1: 118685-33-9 Component 2: Not allocated	All materials: DIN 54231:2005	< 30 mg/kg	Navy Blue Dye is a specific dye mixture used to dye leather and textiles.

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
FLAME RETARDANTS				
Tri(2,3-dibromopropyl)phosphate (TRIS)	126-72-7	EN ISO 17881-1 (2016) for brominated flame retardants EN ISO-17881-2 (2016) for phosphorus flame retardants	< 10 mg/kg; each	With very limited exceptions, flameretardant substances, including the entire class of organohalogen flame retardants, should no longer be applied to materials during production. Listed here are examples of lame-retardant substances used historically across the apparel and footwear industry. I t is not intended to be a complete list. Other flame retardants not applicable to this industry are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation
Tris(aziridinyl)phosphinoxide (TEPA)	545-55-1			
Polybromobiphenyls (PBBs)	59536-65-1			
Octabromodiphenylethers (OctaBDEs)	32536-52-0			
Polybrominated diphenyl ethers (PBDEs)	Various			
Decabromodiphenylether (DecaBDE)	1163-19-5			
Heptabromodiphenylethers (HeptaBDEs)	68928-80-3			
Tetrabromodiphenylethers (TetraBDEs)	40088-97-1			
Pentabromodiphenylethers (PentaBDEs)	32534-81-9			
Hexabromodiphenylethers (HexaBDEs)	36483-60-0			
Hexabromocyclododecane and all main diastereomeres identified (alpha-, beta-, gamma-) (HBCDD)	3194-55-6 134237-50-6 134237-51-7 134237-52-8 25637-99-4			
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8			
Decabromodiphenyl ethane (DBDPE)	84852-53-9			
Tetrabromobisphenol A (TBBPA)	79-94-7			
Bis(2,3-dibromopropyl)phosphate (BIS)	5412-25-9			
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0			
Tris(1,3-dichloro-iso-propyl)phosphate (TDCPP)	13674-87-8			
Trixylylphosphate (TXP)	25155-23-1			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
FLUORINATED GREENHOUSE GASES				
Various	Various	Sample preparation: Purge and trap — thermal desorption or SPME Measurement: GC/MS	< 0.1 mg/kg	May be used as foam blowing agents, solvents, fire retardants, and aerosol propellants.
FORMALDEHYDE				
Formaldehyde	50-00-0	All materials except Leather: JIS L 1041-2011 A (Japan Law 112) or EN ISO 14184-1:2011 Leather: EN ISO 17226-2:2019 with EN ISO 17226-1:2019 confirmation method in case of interferences. Alternatively, EN ISO 17226-1:2021 can be used on its own.	< 75 mg/kg	Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins.

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
HEAVY METALS EXTRACTABLE[3]				
Chromium VI (Cr VI) and its compounds	18540-29-9	EN 16711-2:2016 EN ISO 17075-1:2017 if Cr is detected	< 1.0 mg/kg	Though typically associated with leather tanning, Chromium VI also may be used in the "after-chroming" process for wool dyeing (Chrome salts applied to acid-dyed wool to improve fastness).
Arsenic (As) and its compounds	7440-38-2	All materials except Leather: DIN EN16711-2:2016 Leather: DIN EN ISO 17072-1:2019 [2]Crystal or "lead glass" is exempt from total Lead restrictions. [3]See Appendix A for separate South Korea KC Mark soluble Heavy Metal requirements.	< 0.2 mg/kg	Arsenic and its compounds can be used in preservatives, pesticides, and defoliants for cotton, synthetic fibers, paints, inks, trims, and plastics.
Cadmium (Cd) and its compounds	7440-43-9		< 0.1 mg/kg	Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides, and paints.
Lead (Pb) and its compounds	7439-92-1		< 1.0 mg/kg[2]	Lead may be associated with plastics, paints, inks, pigments and surface coatings.
Antimony (Sb)	7440-36-0		< 30 mg/kg	Antimony can be found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments, and alloys.
Barium (Ba)	7440-39-3		< 1000 mg/kg	Barium and its compounds can be used in pigments for inks, plastics, and surface coatings, as well as in dyeing, mordants, filler in plastics, textile finishes, and leather tanning.
Cobalt (Co)	7440-48-4		< 4.0 mg/kg	Cobalt and its compounds can be used in alloys, pigments, dyestuff, and the production of plastic buttons.
Copper (Cu)	7440-50-8		< 50.0 mg/kg[4] [4]Copper is exempt from restriction limits in Metal parts	Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent.

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
HEAVY METALS EXTRACTABLE CONTINUED[3]				
Nickel (Ni)	7440-02-0	All materials except Leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2019 [3]See Appendix A for separate South Korea KC Mark soluble Heavy Metal requirements.	< 1.0 mg/kg	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.
Chromium (Cr)	7440-47-3		< 2.0 mg/kg	Chromium compounds can be used as dyeing additives; dye-fixing agents; colour-fastness after- treatments; dyes for wool, silk, and polyamide (especially dark shades); and leather tanning.
Mercury (Hg)	7439-97-6		< 0.02 mg/kg	Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.
Selenium (Se)	7782-49-2		< 500 mg/kg	Selenium may be found in synthetic fibres, paints, inks, plastics and metal trims.
APPLICABLE FOR LEATHER				
Chromium VI (Cr VI)	18540-29-9	EN ISO 17075-1:2017 Aging of the sample is required according to ISO 10195 (2018) Method A2 (24h, 80°C, max. 10%rH, usage of a non-ventilated oven)	Not detected Detection Limit: 3 mg/kg	Many heavy metals are bio accumulative when absorbed by the human body through perspiration and give cause for concern in health terms such as chronic toxicity, allergenic reactions and cancer
HEAVY METALS TOTAL CONTENT				
Cadmium (Cd)	7440-43-9	All materials except Leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2019	< 40 mg/kg	Heavy metals, including arsenic, cadmium, lead, and mercury may be found in pigments and dyes, metal alloys and coating, and in the PVC stabilization process. Cadmium may be found in low quality dyes. Arsenic, cadmium, lead, and mercury may be found in pigments, but have largely been phased out. Metal alloys and coatings may contain arsenic, cadmium, and lead. PVC stabilization may be accomplished with the use of cadmium or lead.
Lead (Pb)	7439-92-1	Non-metal: CPSC-CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 Lead in paint and surface coatings: CPSC-CH-E1003-09.1	< 90 mg/kg	
Mercury (Hg)	7439-97-6	All materials except Leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2019	< 0.5 mg/kg	
Arsenic (As)	7440-38-2		< 100 mg/kg	

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
HEAVY METALS RELEASABLE NICKEL				
Nickel	7440-02-0	Nickel release EN 1811: 2011 + A1: 2015 and Abrasion of coated items EN 12472: 2020	Release (metal parts): Prolonged skin contact: 0.5 µg/cm2/week Pierced part: 0.2 µg/cm2/week Eyewear frames: 0.5 µg/cm2/week	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.
		Release (eyewear frames): EN 16128:2015		
MONOMERS				
Styrene, Free	100-42-5	Extraction in Methanol GC/MS, sonication at 60 degrees C for 60 minutes	< 500 mg/kg	Styrene is a precursor for polymerization and may be present in various Styrene copolymers like plastic buttons. Free styrene is restricted, not total styrene.
Vinyl Chloride	75-01-4	EN ISO 6401:2008	< 1 mg/kg	Vinyl Chloride is a precursor for polymerization and may be present in various PVC materials like prints, coatings, flip flops, and synthetic leather.

Restricted Substances List version 3.0				
CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
N-NITROSAMINES				
N-Nitrosodibutylamine (NDBA)	924-16-3	GB/T 24153-2009: determination using GC/MS, with LC/MS/MS verification if positive. Alternatively, LC/MS/MS may be performed on its own. EN ISO 19577:2019	< 0.5 mg/kg	Can be formed as by-product in the production of rubber.
N-Nitrosodiethylamine (NDEA)	55-18-5			
N-Nitrosodimethylamine (NDMA)	62-75-9			
N-Nitrosodipropylamine (NDPA)	621-64-7			
N-Nitrosomorpholine (NMOR)	59-89-2			
N-Nitroso-N-ethyl-N-phenylamine (NEPhA)	612-64-6			
N-Nitroso-N-methyl-N-phenylamine (NMPhA)	614-00-6			
N-Nitroso-piperidine (NPIP)	100-75-4			
N-Nitroso-pyrrolidine (NPYR)	930-55-2			
ORGANOTIN COMPOUNDS				
Tributyltin (TBT)	Various	All materials: CEN ISO/TS 16179:2012 or EN ISO 22744-1:2020	< 0.5 mg/kg	Class of chemicals combining tin and organics such as butyl and phenyl groups. Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilizers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.
Triphenyltin (TPhT)	Various			
Dibutyltin (DBT)	Various		< 1 mg/kg each	
Dioctyltin (DOT)	Various			
Monobutyltin (MBT)	Various			
Tricyclohexyltin (TCyHT)	Various			
Trioctyltin (TOT)	Various			
Tripropyltin (TPT)	Various			
Trimethyltin (TMT)	Various			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
OTHER CHEMICAL RESIDUES				
Bisphenol-A (BPA)	80-05-7	All materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, analysis with LC/MS	< 1 mg/kg	Used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC. Restricted in items intended to come into contact with the mouth.
Quinoline	91-22-5	All materials: DIN 54231:2005 with methanol extraction at 70 degrees C	< 50 mg/kg	Found as an impurity in polyester and some dyestuffs. Quinoline can be included with disperse dye testing, as the same method is used for both.
OZONE DEPLETING SUBSTANCES				
Various	Various	GC-MS // Headspace	Usage ban	Prohibited from use. Ozone-depleting substances have been used as a foaming agent in PU foams as well as a dry-cleaning agent.
PERFLUORINATED CHEMICALS AND HER COMPOUNDS (SEE APPENDIX B FOR INDIVIDUAL SUBSTANCES)				
Perfluoroctane Sulfonates (PFOS) and related substances	1763-23-1 et.al.	Leather: EN 23702-1: 2018 All other materials: CEN/TS 15968:2010	< 1µg / m² total	PFOA and PFOS may be present as unintended byproducts in long-chain and short-chain commercial water-, oil-, and stain-repellent agents. PFOA may also be used in polymers like Polytetrafluoroethylene (PTFE). Refer to Appendix B for the list of substances and CAS Numbers included in this restriction. In addition to this list, all PFOA- and PFOS-related substances are prohibited from use and are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation.
Perfluoroctane Acid (PFOA) and it salts	754-91-6		25 ppb total	
PFOA-related substances	307-35-7		1000 ppb total	
PESTICIDES AGRICULTURAL (SEE APPENDIX C FOR INDIVIDUAL SUBSTANCES)				
See Appendix C for the complete list	Various	All materials: ISO 15913/DIN 38407 F2 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09	Forbidden	May be found in natural fibers, primarily cotton.

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
PHTHALATES				
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	Sample preparation for all materials: CPSC-CH-C1001-09.4 Measurement: Textiles: GC/MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed). All materials except textiles: GC/MS	< 500 mg/kg each The sum of all Phthalates < 1000 mg/kg	Esters of ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the molding of plastic by decreasing its melting temperature. Phthalates can be found in: • Flexible plastic components (e.g., PVC) • Print pastes • Adhesives • Plastic buttons • Plastic sleevings • Polymeric coatings Listed here are all legally restricted phthalates as well as those included on the REACH substances of very high concern (SVHC) candidate list at the time of publication. Suppliers should assume that the RSL includes all phthalates on the SVHC list—whether itemized here or not— since the list is updated frequently.
Dibutyl phthalate (DBP)	84-74-2			
Butylbenzyl phthalate (BBP)	85-68-7			
Di-isobutyl phthalate (DIBP)	84-69-5			
Di-“isononyl” phthalate (DINP)	28553-12-0 68515-48-0			
Di-“isodecyl” phthalate (DIDP)	26761-40-0 68515-49-1			
Di-n-octyl phthalate (DNOP)	117-84-0			
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6			
Di-isopentylphthalate (DIPP)	605-50-5			
Di-n-pentyl phthalate (DPP)	131-18-0			
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8			
Di-n-hexyl phthalate (DnHP)	84-75-3			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
PHTHALATES CONTINUED				
1,2-Benzenedicarboxylic acid Dipentyl ester, branched and linear	84777-06-0	Sample preparation for all materials: CPSC-CH-C1001-09.4 Measurement: Textiles: GC/MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed). All materials except textiles: GC/MS	< 500 mg/kg each The sum of all Phthalates < 1000 mg/kg	Esters of ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the molding of plastic by decreasing its melting temperature. Phthalates can be found in: • Flexible plastic components (e.g., PVC) • Print pastes • Adhesives • Plastic buttons • Plastic sleevings • Polymeric coatings Listed here are all legally restricted phthalates as well as those included on the REACH substances of very high concern (SVHC) candidate list at the time of publication. Suppliers should assume that the RSL includes all phthalates on the SVHC list—whether itemized here or not— since the list is updated frequently.
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4			
N-pentyl-isopentyl phthalate (NPIPP)	776297- 69-9			
Di-cyclohexylphthalate (DCHP)	84-61-7			
Di-hexylphthalate, branched and linear (DHxP)	68515-50-4			
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1			
Di-iso-hexylphthalate (DIHxP)	71850-09-4			
Di-n-propylphthalate (DPrP)	131-16-8			
Diethyl phthalate (DEP)	84-66-2			
Dimethyl phthalate (DMP)	131-11-3			
Di-iso-octyl phthalate (DIOP)	27554-26-3			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
POLYCYCLIC AROMATIC HYDROCARBONS (PAH'S)				
Benzo(a)pyrene [BaP]	50-32-8	AfPS GS 2019:01 PAK	1 mg/kg each	PAHs are natural components of crude oil and are common residues from oil refining. PAHs have a characteristic smell similar to that of car tires or asphalt. Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers and coatings. PAHs are often found in the outsoles of footwear and in printing pastes for screen prints. PAHs can be present as impurities in Carbon Black. They also may be formed from thermal decomposition of recycled materials during reprocessing *Naphthalene: Dispersing agents for textile dyes may contain high residual naphthalene concentrations due to the use of low-quality Naphthalene derivatives (e.g., poor- quality Naphthalene Sulphonate Formaldehyde condensation products).
Benzo(a)anthracene	56-55-3			
Chrysene	218-01-9			
Benzo(b)fluoranthene	205-99-2			
Benzo(k)fluoranthene	207-08-9			
Dibenzo(a,h)anthracene	53-70-3			
Benzo(e)pyrene	192-97-2			
Benzo(j)fluoranthene	205-82-3			
Acenaphthene	83-32-9		No individual restriction Total: < 10 mg/kg	
Acenaphthylene	208-96-8			
Antracene	120-12-7			
Benzo(g,h,i)perylene	191-24-2			
Fluoranthene	206-44-0			
Fluorene	86-73-7			
Indeno(1,2,3-cd)pyrene	193-39-5			
Naphthalene	91-20-3 *			
Phenanthrene	85-01-8			
Pyrene	129-00-0			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
RESTRICTION ON PACKAGING				
Cadmium (Cd)	Various	CEN/TR 13695-1 Acid digestion with ICP analysis	The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed 100 mg/kg	Packaging means transportation packaging as well as product packaging, i.e., any material used for the containment, protection, handling, delivery, and presentation of finished goods (article).
Lead (Pb)				
Chromium (Cr6+) - hexavalent				
Mercury (Hg)				
SOLVENTS AND RESIDUALS				
DMFa (N,N Dimethylformamide)	68-12-2	Textiles: EN 17131:2019 All other materials: DIN CEN ISO/TS 16189:2013	< 500 mg/kg	DMFa is a solvent used in plastics, rubber, and polyurethane (PU) coating. Water-based PU does not contain DMFa and is therefore preferable.
1-Methyl-2-pyrrolidone	872-50-4		< 1000 mg/kg	Industrial solvent used in production of water-based Polyurethanes and other polymeric materials. May also be used as a surface treatment for textiles, resins, and metal-coated plastics, or as a paint stripper.
DMAC (N,N-dimethylacetamide)	127-19-5			Solvent used in the production of elastane fibers and sometimes as substitute for DMFa.
Formamide	75-12-7		< 200 mg/kg	Byproduct in the production of EVA foams.
UV STABILISERS				
2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320)	3846-71-7	DIN EN 62321-6:2016-05 (Extraction in THF, analysis by GC/MS)	< 1000 mg/kg each	PU foam materials such as open cell foams for padding. Used as UV-absorbers for plastics (PVC, PET, PC, PA, ABS, and other polymers), rubber, polyurethane.
2,4-di-tert-butyl-6-(5- chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1			
2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328)	25973-55-1			
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3			

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CHEMICAL SUBSTANCE	**CAS NUMBER**	**TEST METHOD**	**G-STAR RESTRICTED LIMIT**	**RELEVANCE OF RESTRICTION**
VOLATILE ORGANIC COMPOUNDS (VOCs)				
Benzene	71-43-2	For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C	< 1 mg/kg	These VOCs should not be used in textile auxiliary chemical preparations. They are associated with solvent- based processes such as solvent-based polyurethane coatings and glues/adhesives. They should not be used for any kind of facility cleaning or spot cleaning.
Pentachloroethane	76-01-7		< 1 mg/kg	
1,1,1,2- Tetrachloroethane	630-20-6		< 1 mg/kg	
1,1,2,2- Tetrachloroethane	79-34-5		< 1 mg/kg	
1,1,1- Trichloroethane	71-55-6		< 1 mg/kg	
1,1,2- Trichloroethane	79-00-5		< 1 mg/kg	
Toluene	108-88-3		< 10 mg/kg	
Carbon Disulfide	75-15-0		< 10 mg/kg	
1,2-Dichloroethane	107-06-2		< 10 mg/kg	
1,1-Dichloroethylene	75-35-4		< 10 mg/kg	
Ethylbenzene	100-41-4		< 20 mg/kg	
Xylene	1330-20-7		< 30 mg/kg	
Orthoxylene	95-47-6		< 30 mg/kg	
Metaxylene	108-38-3		< 30 mg/kg	
Paraxylene	106-42-3		< 30 mg/kg	
Cyclohexanone	108-94-1		< 50 mg/kg	
2-Butanone (MEK)	78-93-3		< 50 mg/kg	
Tetrachloroethylene (PERC)	127-18-4		< 50 mg/kg	
Trichloroethylene	79-01-6		< 50 mg/kg	
Phenol	108-95-2		< 100 mg/kg	
Carbon Tetrachloride	56-23-5		< 500 mg/kg	
Trichloromethane (Chloroform)	67-66-3		< 500 mg/kg	

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APPENDIX A. SOUTH KOREA KC MARK SOLUBLE HEAVY METAL REQUIREMENT

South Korea KC Mark requirements apply to the migration of Heavy Metals from surface coatings/paints, synthetic resins, and paper materials in products intended to be placed in the mouth of children and products intended for infants.

SUBSTANCE	CAS NUMBER	LIMIT	TEST METHOD
Antimony (Sb)	7440-36-0	60 mg/kg	ISO 8124-3:2010
Arsenic (As)	7440-38-2	25 mg/kg	
Barium (Ba)	7440-39-3	1000 mg/kg	
Cadmium (Cd)	7440-43-9	75 mg/kg	
Chromium (Cr)	7440-47-3	60 mg/kg	
Lead (Pb)	7439-92-1	90 mg/kg	
Mercury (Hg)	7439-97-6	60 mg/kg	
Selenium (Se)	7782-49-2	500 mg/kg	

APPENDIX B. PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFCS)

SUBSTANCE	CAS NUMBER	SUBSTANCE	CAS NUMBER	SUBSTANCE	CAS NUMBER
PFOS and Related Substances		**PFOA and Its Salts**		**PFOA-related Substances**	
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	Perfluorooctanoic acid (PFOA)	335-67-1	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4
Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3	Sodium perfluorooctanoate (PFOA-Na)	335-95-5	Methyl perfluorooctanoate (Me-PFOA)	376-27-2
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5	Potassium perfluorooctanoate (PFOA-K)	2395-00-8	Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5
Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH4)	29081-56-9	Silver perfluorooctanoate (PFOA-Ag)	335-93-3	2-Perfluorooctylethanol (8:2 FTOH)	678-39-7
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH)2)	70225-14-8	Perfluorooctanoyl fluoride (PFOA-F)	335-66-0	1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9
Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C2H5)4)	56773-42-3	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9
N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2				
N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8				
2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2				
2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7				
Perfluoro-1-octanesulfonyl fluoride (POSF)	307-35-7				
Perfluorooctane sulfonamide (PFOSA)	754-91-6				

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APPENDIX C. PESTICIDES AND HERBICIDES, AGRICULTURAL					
SUBSTANCE	**CAS NUMBER**	**SUBSTANCE**	**CAS NUMBER**	**SUBSTANCE**	**CAS NUMBER**
2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds; 2,4,5-TP	93-72-1	Dichlofluanide	1085-98-9	Kelevane	4234-79-1
2,4,5-T	93-76-5	Dichlorprop	120-36-5	Kepone	143-50-0
2,4-D	94-75-7	Dicofol	115-32-2	Lindane	58-89-9
Aldrine	309-00-2	Dicrotophos	141-66-2	Malathione	121-75-5
Azinophosmethyl	86-50-0	Dieldrine	60-57-1	MCPA	94-74-6
Azinophosethyl	2642-71-9	Dimethoate	60-51-5	MCPB	94-81-5
Bromophos-ethyl	4824-78-6	Dinoseb, Salts and Acetate	88-85-7	Mecoprop	93-65-2
Captafol	2425-06-1	DTTB (4, 6-Dichloro-7 (2,4,5-trichloro- phenoxy) -2-Trifluoro methyl benz imidazole)	63405-99-2	Metamidophos	10265-92-6
Carbaryl	63-25-2	Endosulfan	115-29-7	Methoxychlor	72-43-5
Chlorbenzilat	510-15-6	Endosulfan, α-	959-98-8	Mirex	2385-85-5
Chlordane	57-74-9	Endosulfan, β-	33213-65-9	Monocrotophos	6923-22-4
Chlordimeform	6164-98-3	Endrine	72-20-8	Parathion-methyl	298-00-0
Chlorfenvinphos	470-90-6	Esfenvalerate	66230-04-4	Pentachloroanisole	1825-21-4
Chlorthalonil	1897-45-6	Ethylendibromid	106-93-4	Phosdrin/Mevinphos	7786-34-7
Coumaphos	56-72-4	Ethylparathione; Parathion	56-38-2	Perthane	72-56-0
Cyfluthrin	68359-37-5	Fenvalerate	51630-58-1	Propethamphos	31218-83-4
Cyhalothrin	91465-08-6	Halogenated naphthalenes, including polychlorinated naphthalenes (PCNs)	Various	Profenophos	41198-08-7
Cypermethrin	52315-07-8	Heptachlor	76-44-8	Quinalphos	13593-03-8
S,S,S-Tributyl phosphorotrithioate (Tribufos)	78-48-8	Heptachlorepoxide	1024-57-3	Quintozene	82-68-8
Deltamethrin	52918-63-5	a-Hexachlorcyclohexane with & without Lindane	319-84-6	Strobane	8001-50-1
DDD	53-19-0 72-54-8	b-Hexachlorcyclohexane with & without Lindane	319-85-7	TelodrinE	297-78-9
DDE	3424-82-6 72-55-9	g-Hexachlorcyclohexane with & without Lindane	319-86-8	Toxaphene	8001-35-2
DDT	50-29-3 789-02-6	Hexachlorobenzene	118-74-1	Tolylfluanide	731-27-1
Diazinon	333-41-5	Isodrine	465-73-6	Trifluralin	1582-09-8

Version 3.0
REACH CANDIDATE LIST
For suppliers that are doing wet processing or tanning in the EU the requirements of the Authorisation list must be met.
The full list of Substances Subject to Authorization can be found here-
REACH Candidate List
WHAT ALL SUPPLIERS AND SOURCES SHOULD DO
Every G-Star Supplier and Source agree to inform G-Star of any substances listed in the candidate present in any G-Star product with over 0.1% w/w (>1000 mg/kg). The European Court of Justice judgement of 10-09-2015 case C-106/14 is referring to every constituent part of the article. In supplying this information G-Star does not intend to assume all or any part of our Suppliers' and/or Sources' duty to comply with the regulation. Chemicals, substances and articles will be assessed on their risks for health and environmental aspects.
All G-Star Suppliers and Sources shall visit the European Chemicals Agency (ECHA) website (www.echa.europa.eu) regularly and comply with the published obligations and guidance regarding chemicals and consumer articles.
To help ensure that all products supplied to G-Star comply with REACh, each Supplier and Source is obligated to track not only the current SVHCs, as listed on the ECHA website, but also the entire list of potential SVHCs. Suppliers and Sources shall map each step in their supply chains, including the sourcing and processing of Materials, Chemicals and Other Goods ingredients, and immediately inform G-Star. according to the Information Duty (Article 33) of all cases where a substance listed in the Candidate List of Substances of Very High Concerns for Authorization is present in the product or other Materials, Chemicals and Other Goods provided for use in any G-Star labeled or distributed product. Additionally, authorization requirements (as per Annexure XIV) and restriction requirements (as per Annexure XVII) in REACh regulation shall be considered by any Suppliers or Sources situated in Europe.

Declaration of Conformity Form to G-STAR RSL (version 3.0)

This Declaration of Conformity is issued under the sole responsibility of:	
Name of Supplier–	**Address of Supplier -**
Date of Declaration(validity 1 year)-	**Product Group–**
Name and Title of Contact-	SIGNATURE

The above named Supplier declare that all products sold to G-Star comply with G-Star RSL requirements. G-Star reserve the right to audit products at random to ensure that Declarations of Conformity are valid.
In case of failure, which means not complying with G-Star's RSL, the merchandise will not be accepted and the supplier will receive respective written information. There will be a fine to be paid by the supplier based on the damage G-Star suffered.

DISCLAIMER
Information provided in this document is valid as of March 2022. Changes, modifications and/or actualizations will be notified from time to time, and will make part of this list as of such date.
For any questions or further information please contact RSL@g-star.com