G-STAR

RESTRICTED SUBSTANCE LIST & PACKAGING RSL

VERSION 7.0 - May 2026

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Introduction

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 shall 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.

The RSL and the MRSL shall be communicated by the supplier 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

In 2013, G-STAR committed to the Greenpeace DETOX Commitment, pledging to eliminate hazardous chemicals from our products and supply chain production processes. As part of this commitment, G-STAR became a signatory to the Zero Discharge of Hazardous Chemicals (ZDHC) initiative. Together with other signatory brands, we align with the ZDHC Roadmap to Zero, a joint effort to ensure the safe and sustainable use of chemicals in the fashion industry.

To support this goal, G-STAR continues to implement ZDHC tools and requires all relevant suppliers to annually submit a verified Higg Facility Environmental Module (FEM) to monitor environmental performance in production and manufacturing

Requirements for wet processing facilities

As part of our DETOX Program, all wet process suppliers must comply with the latest ZDHC Manufacturing Restricted Substances List (MRSL) and implement the following measures:

- Wastewater Testing & ClearStream Reports (twice per year)

  Suppliers must conduct testing and submit ZDHC ClearStream reports in accordance with the ZDHC Wastewater Guidelines, based on daily wastewater volumes:

  - o ≥15 m³/day: Follow Table A parameters
  - o <15 m³/day: Follow Table B parameters
    - Testing is only required for direct discharge (on-site ETP)
    - Includes ZDHC heavy metals, conventional parameters, and anions

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G-Star's commitment continued

Testing timelines:

- One test between May 1st – October 30th
- One test between November 1st – April 30th
- Testing dates must be at least three months apart

- **InCheck reports**

Submit monthly ZDHC InCheck reports to monitor chemical inventory against MRSL compliance.

- **Supplier to Zero certificate**

All wet process facilities must obtain the Supplier to Zero – Foundational Level certificate.
Progression to the Progressive and Aspirational levels is strongly encouraged in subsequent years, if the Foundational level was previously achieved

MRSL and RSL alignment

The ZDHC MRSL is a proactive tool for managing chemical inputs during manufacturing to minimize environmental impact and improve worker safety. However, non-conformities with MRSL requirements can signal potential risks for RSL (Restricted Substances List) compliance, which governs the chemical safety of finished products for consumers. To ensure products meet global regulatory and safety standards, suppliers with MRSL violations should expect additional RSL testing, and vice versa. Proactively addressing both MRSL and RSL issues is essential to uphold our shared commitment to product safety, regulatory compliance, and environmental responsibility. We encourage all supply chain partners to treat this as a continuous improvement journey, integral to responsible and future-fit production practices.

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 (including any appendices contained herein) is a mandatory condition for each and every order placed by G-Star.

G-Star Raw C.V. May 2026

Supplier responsibility version 7.0
Supplier responsibility
G-Star wants to ensure that our products are manufactured in a socially and environmentally 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 the G-Star Supplier Code of Conduct and RSL policies.** **• Sign and return scanned copy of the Declaration of Conformity Form to QA/Sourcing team of G-STAR** **• Communicate to and enforce in their supply chain the 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 diligence.** **• 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 a G-Star nominated supplier does not change your responsibility. 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 or the MRSL, the merchandise may be rejected by G-Star and the supplier will receive respective written information. Failure to comply may lead to penalties to be paid by the supplier to G-Star. Additionally, the supplier shall be liable for and shall indemnify G-Star against all costs, losses, and damages (including but not limited to testing costs, product recall costs, disposal costs, and lost profits) arising from or related to the non-compliance. We want to emphasize that we invest time, effort and money into these testing procedures and trust that you will ensure this 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.

Definition of material type version 7.0		
Definition of material type		
Natural fibres. Animal or vegetable fibres (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 fibres. Woven or knitted materials created by blending two or more fibre types. For the purpose of this RSL, a blended fibre consists of a natural and a synthetic fibre.	**Natural materials.** Material derived from animals or plants that have undergone very little modification. Includes horn, bone, cork, wood, paper, and straw. Excludes natural fibres, 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 fibres. Human-made fibres based on synthetic chemicals (often from petroleum sources) such as polymers and extruded fibres.	**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.
Synthetic coated fabrics. Leather-like materials composed of a textile backing and, typically, a PU or PVC coating. May be referred to as artificial, imitation, vegan, or synthetic leather, or pleather	**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. See 'synthetic coated fabrics" for leather like materials where the coating becomes part of the substrate.	**Synthetic rubber.** Material made from petroleum-based monomers with properties similar to natural rubber.	

Definition of material type version 7.0											
Definition of material type											
Examples of materials within the scope of the G-Star RSL[1]											
Natural fibres Including semi-synthetics	**Synthetic fibres**	**Blended fibres**	**Synthetic coated fabrics**	**Natural leather & fur skin**	**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 • Viscose (semi-synthetic) • Lyocell (semi-synthetic)	• Polyester • Acrylic • Nylon • Polyamide	• Cotton- polyester • Wool-nylon • Ramie- polyester	Textiles with: • Polyurethane (PU) coating • Polyvinyl Chloride (PVC)coating • Other Polymeric coatings	• Leather • Fur skin • Bonded recycled leather	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 • Shell (e.g. coconut or mother of pearl) • Jacron (a semi-synthetic paper product)	• 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 exhaustive											

Risk Matrix Apparel and Footwear version 7.0

●●● indicates a higher risk that a chemical is used and/or could be detected in a particular material.

●● indicates a lower risk that a chemical is used and/or could be detected in a particular material.

No dot indicates that the risk is not anticipated in a particular material.

Substance	Natural fibres	Synthetic fibres	Natural & synthetic blends	Synthetic coated fabrics	Natural leather & fur skin	Natural materials	Metal	Other: porcelain, ceramic, glass, crystal, etc.	Feather & down	Polymers: EVA	PU foams	All other PU & TPU	Rubber - excludes latex and silicon rubbers	Polycarbonate	ABS	PVC	All other foams, plastics & polymer	Coating & prints	Glue
Acetophenone, 2-phenyl-2-propanol & related substances										●●									
Acidic & alkaline substances (pH)	●●●	●●●	●●●	●●●	●●●														
Alkylphenol (AP) & alkylphenol ethoxylates (APEOs), including all isomers	●●●	●●●	●●●	●●●	●●●	●●●			●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
Azo-amines & arylamine salts	●●●/A	●●●/A	●●●/A	●●●/A	●●●/A	●●●/A			●●●/A									●●●	
Bisphenols		●●●	●●●	●●●	●●●					●●	●●	●●	●●	●●●	●●	●●	●●		
Brominated & organophosphorus substances	●●/B																		
Chlorinated paraffins				●●/K	●●●					●●	●●	●●●	●●●	●●	●●	●●●	●●		
Chlorophenols	●●	●●	●●		●●														
Chlorinated benzenes and toluenes		●●	●●	●●															
Cyclosiloxanes	●●	●●	●●														●●/C	●●	
Dimethylfumarate (DMFu)					●●														
Dyes disperse dyes		●●●/A	●●●/A	●●●/A														●●	
Dyes forbidden carcinogenic dyes		●●●/A	●●●/A	●●●/A														●●	
Dyes navy blue		●●	●●																
Fluorinated Greenhouse Gases																			
Formaldehyde	●●●	●●●	●●●	●●	●●●	●●●/D							●●					●●●	●●●
Heavy metals chromium VI	●●/E	●●/F			●●●														

A ●●● for dyed/colored materials (non-white only)

B ●● only if flame retardant use or contamination is suspected or if TPP use suspected in PU,TPU, or other polymeric materials

C ●●● for silicone polymers only

D ●●● for wood, paper, and straw materials only

E ●● for wool materials only

F ●● if extractable chrome above 1 mg/kg only

G Copper is exempt from restriction limits in metal parts

H ●● for plant-based fibers only; N/A for animal based fibers

J ●●● for cadmium and lead only; Crystal is exempt for lead

K ●●● for PVC materials only. Otherwise ●●

L ●● for styrene/butadiene rubbers (SBRs) only

M ●●● if PFAS use or contamination is suspected

N ●●● if rubber or black polymeric materials, otherwise ●●

P ●●● for PU and PVC- based materials only

Q ●●● for glues fixed in final product

Risk Matrix Apparel and Footwear version 7.0

●●● indicates a higher risk that a chemical is used and/or could be detected in a particular material.

●● indicates a lower risk that a chemical is used and/or could be detected in a particular material.

No dot indicates that the risk is not anticipated in a particular material.

Substance	Natural fibres	Synthetic fibres	Natural & synthetic blends	Synthetic coated fabrics	Natural leather & fur skin	Natural materials	Metal	Other: porcelain, ceramic, glass, crystal, etc.	Feather & down	Polymers										
										EVA	PU foams	All other PU & TPU	Rubber - excludes latex and silicon rubbers	Polycarbonate	ABS	PVC	All other foams, plastics & polymer	Coating & prints	Glue
Heavy metals extractable	●●●	●●●	●●●	●●	●●●		●●/G			●●	●●	●●	●●	●●	●●	●●	●●	●●	
Heavy metals releasable nickel							●●●												
Heavy metals total content	●●/H		●●/H	●●●	●●		●●●	●●●/J		●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●
Monomers: styrene & vinyl chloride				●●●/K									●●/L		●●	●●●		●●/K	
N-nitrosamines											●●	●●	●●						
Organotin compounds		●●	●●	●●●	●●						●●●	●●●	●●●			●●●	●●●	●●●	●●●
Ortho-phenylphenol (OPP)	●●	●●	●●	●●	●●													●●	
Ozone-depleting substances																			
Per- & polyfluoroalkyl substances (PFAS)	●●●/M																		
Pesticides, agricultural																			
Phthalates			a	●●●						●●●	●●●	●●●	●●●	●●	●●	●●●	●●●	●●●	●●●
Polycyclic aromatic hydrocarbons (PAHs)				●●						●●●/N	●●●/N	●●●/N	●●●			●●●/N	●●●/N	●●●/N	●●●/N
Quinoline		●●	●●																
Solvents / residuals, DMFa				●●●							●●●	●●●						●●●/P	●●●/P
Solvents / residuals, DMAC and NMP				●●●							●●	●●					●●	●●	●●
Solvents / residuals, formamide										●●								●●	
UV Absorbers / stabilisers										●●	●●	●●	●●	●●	●●	●●	●●		
Volatile organic compounds (VOCs)				●●						●●	●●	●●	●●	●●	●●	●●	●●	●●	●●●/Q

A ●●● for dyed/colored materials (non-white only)

B ●● only if flame retardant use or contamination is suspected or if TPP use suspected in PU, TPU, or other polymeric materials

C ●●● for silicone polymers only

D ●●● for wood, paper, and straw materials only

E ●● for wool materials only

F ●● if extractable chrome above 1 mg/kg only

G Copper is exempt from restriction limits in metal parts

H ●● for plant-based fibers only; N/A for animal based fibers

J ●●● for cadmium and lead only; Crystal is exempt for lead

K ●●● for PVC materials only. Otherwise ●●

L ●● for styrene/butadiene rubbers (SBRs) only

M ●●● if PFAS use or contamination is suspected

N ●●● if rubber or black polymeric materials, otherwise ●●

P ●●● for PU and PVC- based materials only

Q ●●● for glues fixed in final product

Packaging products version 7.0 - Examples of packaging products within the scope of the G-Star RSL[1]

G-Star defines packaging as:
All products made of any materials of any nature to be used for the containment, protection, handling, delivery, and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer.

Hangtags	Stickers	Protective Coverings	Trimmings	Sales Packaging	Transport Packaging
• Cords • Foil stamps • Hot stamp prints • Paper hang tags • Plastic hang tags • Price tags • Spot UV hang tags • UPC tags	• Antimicrobial stickers • Labels, adhesive • Price tags • Tape	• Lamination, matte or gloss • Foam material • Suit bags • Plastic cases • Poly bags • Poly bags, zippered	• Bead chain • Collar bands • Clips, metal • Clips, plastic • Eyelets/grommets • Magnets • Pins • Tissue paper • Zippers • J-hooks • Plastic fasteners	• Boxes/cartons • Gift boxes • Retail carry bags • Hangers (when sold with a clothing item) • Spot UV boxes • Suit bags • Thermal receipt paper • Tissue paper • UV coated boxes • Varnished coated boxes • Water-based (aqueous) lacquer coated boxes	• Antimicrobial stickers • Boxes/cartons • Corrugated shipping boxes/cartons • J board • Silica gel/desiccant sachets • Stuffing materials, expanded foam materials • Water-based (aqueous) lacquer-coated boxes

[1]NOTE: This list provides examples of products within each category but is not exhaustive

Packaging materials version 7.0 - Examples of packaging materials within the scope of the G-Star RSL[1]									
Natural Fibers Including semi-synthetics	**Blended Fibers**	**Synthetic Fibers**	**Coatings, Dyes & Prints**	**Natural Materials**	**Polymers, Plastics, Foams, Natural Rubber & Synthetic Rubber**	**Metal**	**Glue**	**Natural Leather**	**Synthetic coated fabric**
• Cotton • Wool • Silk • Hemp • Linen • Viscose (semi-synthetic) • Lyocell (semi-synthetic) • Cellulose	• Cotton- polyester • Wool-nylon • Ramie- polyester	• Polyester • Acrylic • Nylon • Polyamide	Foil stamping • Hot-stamp printing • Spot UV • Soft-touch coatings	• Cork • Wood • Paper • Straw • Stone • Cardboard • Jacron (semi-synthetic paper product)	• Acrylonitrile butadiene styrene (ABS) • Ethylene vinyl acetate (EVA) • Polystyrene (PS) • Polyethylene (PE) • 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 • Aluminium	• Hot melt adhesive • Powdered adhesive • Flock adhesive • Contact adhesive • Latex glue • Polyurethane glue • Neoprene cement • Epoxies • Silicone adhesive • UV-cured adhesive	• Leather • Fur & hides	• Polyurethane (PU) • Polyvinyl Chloride (PVC)
[1]NOTE: This list provides examples of materials within each category but is not exhaustive									

Packaging Matrix version 7.0

●●● indicates a high risk that a chemical is used and/or could be detected in a particular material.

●● indicates a medium risk that a chemical is used and/or could be detected in a particular material.

No dot indicates that there is a negligable risk of a chemical being used and/or detected in a particular material.

Substance	Natural fibres	Blended fibres	Synthetic fibres	Coatings, dyes & prints	Natural materials including paper and cardboard	Polymers, plastics, foams, natural rubber & synthetic rubber	Metal	Glue	Natural leather	Synthetic coated fabric
Alkylphenol (AP) & alkylphenol ethoxylates (APEOs)	●●●	●●●	●●●	●●●	●●●	●●●/A		●●●	●●●	●●●
Azo-amines & arylamine salts	●●●/B	●●●/B	●●●/B		●●●/B				●●●/B	●●●/B
Bisphenols		●●●	●●●	●●●/C	●●●/D	●●/E			●●●	●●●
Buthylhydroxytoluene (BHT)						●●/G				
Dimethylfumarate (DMFu)						●●/H			●●	
Brominated & organophosphorus substances						●●/F				
Formaldehyde	●●	●●	●●	●●●	●●●	●●/J		●●●	●●	●●
Heavy metals total content (Cd, CrVI, Pb, Hg)[1]				●●	●●●/K	●●/L	●●		●●	
MOSH/MOAH				●●●/Q	●●●/Q	●●●/Q				
Organotin compounds				●●●		●●●		●●●	●●	●●●
Per- & polyfluoroalkyl substances (PFAS)	Prohibited									
Phthalates				●●●/M		●●●/N		●●●	●●/P	●●●

A ●●● for foams; ●● for other materials

B ●●● for dyed/colored materials (non-white) only

C ●●● for PVC only; ●● for all other materials

D ●●● for thermal receipt and recycled paper only; ●● for other materials

E ●● for tapes, polycarbonate, and recycled plastic cases only; no testing requirement for other materials

F ●● for materials with recycled content or if TPP use suspected in PU, TPU, or other polymeric materials

G ●● for poly bags only; no testing requirement for other materials

H ●● for silica gel packets and foam packaging only; no testing requirement for other materials

J ●● for rubber only, no testing requirement for other materials

K ●● for materials with recycled content only; no testing requirement for other materials

L ●●● for PVC only, no testing requirement for other materials

M ●●● or plastisol prints; ●● for all other materials

N ●●● or polycarbonate and ABS, ●●● for all other polymers

P ●● for patent or coated leather; no testing requirement for other materials

Q ●●for recycled paper and/or printed packaging materials

[1]Please note that Chromium VI, Cadmium, Lead, and Mercury are restricted to a sum total of 100 mg/kg in several jurisdictions. Cadmium, Lead, and Mercury are analyzed using the same method even if the risk of finding them varies across different materials.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Acetophenone, 2-phenyl-2-propanol and related substances				
Acetophenone	98-86-2	Extraction in acetone or methanol GC/MS, sonication for 30 minutes at 60 degrees C	< 50 mg/kg each	Potential breakdown products in EVA foam when using certain cross-linking agents, including Dicumyl Peroxide.
2-phenyl-2-propanol	617-94-7			
Acetophenone Azine	729-43-1	Extraction in acetone or methanol GC/MS or LC/MS, sonication for 30 minutes at room temperature		Formed by reaction between acetophenone and hydrazine, a byproduct found in azodicarbonamide (ADCA) up to 0.1%. May be found in foams where ADCA is used as a blowing agent and DCP is used as crosslinker.
Acidic and alkaline substances				
pH value	N/A	Textiles and Synthetic coated fabrics: EN ISO 3071:2020 Leather: EN ISO 4045:2018	Textiles, accessories and footwear: 4.0 - 7.5 Leather: Chrome-tanned: 3.2 - 5.5 Other: 3.5 - 7.5 Important: Egypt, Morocco, and the Gulf Cooperation Council (GCC) require pH for leather not lower than 3.5.	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. For chrome-tanned leather, the final fixing bath of the re-tanning process should always have a pH below 4.0 to guard against the formation of Chromium VI.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Alkylphenols (APs) and alkylphenol ethoxylates (APEOs)				
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 Down (China market only): GB/T 23322-2018 for compliance with GB/T 14272-2021	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 18218-1:2023 with quantification according to EN ISO 18254-1:2016 Down (China market only): GB/T 23322-2018 for compliance with GB/T 14272-2021		
Octylphenol ethoxylates (OPEOs)	Various			

Restricted Substances List version 7.0				
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 17234-1:2024 4-Aminoazobenzene (4AAB): All materials except leather: EN ISO 14362-3: 2017 Leather: EN ISO 17234-2:2011	< 20 mg/kg each	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			

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Biocides				
2-(Thiocyanomethylthio)- Benzothiazole (TCMTB)	21564-17-0	Leather: EN ISO 13365-1:2020 Textiles: EN 17134-1:2024	< 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	
Preservatives	Various	Chromatographic Methods and/or Methods US EPA 8081A, US EPA 8081B and US EPA 8151A	Forbidden	

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Bisphenols				
Bisphenol-A (BPA)	80-05-7	Leather: EN ISO 11936:2023 All other materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, then add methanol or acetonitrile for precipitation prior to analysis with LC/MS	< 1 mg/kg	BPA may be used in the production of epoxy resins, polycarbonate plastics, flame retardants, and PVC. BPS may be used as a substitute for BPA and can be found along with BPF in polyamide dye-fixing agents and sulfone- and phenol-based leather tanning agents. BPA and BPS can be found in recycled polymeric and paper materials due to polycarbonate plastic and thermal receipt paper made with bisphenols entering waste streams. BPA, BPS, and BPB are included on the REACH SVHC list. Additional restrictions on the entire class of bisphenols are expected, with a revised restriction proposal forthcoming in the European Union. G-Star recommends testing relevant materials for bisphenols according to the Testing Matrix and to begin working with suppliers to minimize residual concentrations or replace them with better alternatives where possible.
Bisphenol S (BPS)	80-09-1		Textiles: < 200 mg/kg each Leather: < 500 mg/kg each Limits will likely be reduced further in future revisions of G-Star RSL based on the best available technology and feasibility within the supply chain. Other materials: < 200 mg/kg each	
Bisphenol B (BPB)	77-40-7			
Bisphenol F (BPF)	620-92-8			
Bisphenol AF (BPAF)	1478-61-1		< 1000 mg/kg	

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Brominated & organophosphorous substances				
Tri(2,3-dibromopropyl)phosphate (TRIS/TDBPP)[1]	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 [1]Banned in textiles with skin contact For tetra-, penta-, hexa-, hepta- and decaBDE: [2]<10 mg/kg for the sum of Tetra-, Penta-, Hexa-, Hepta- and DecaBDE [3]< 350 mg/kg (total) articles containing recovered/recycled material	With very limited exceptions, flame retardant 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. It 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. The 10 mg/kg limit is established to account for incidental impurities, byproducts, and contaminants. Flame retardants should not be used for any other purpose, e.g., as softeners or plasticizers.
Tris(aziridinyl)phosphinoxide (TEPA)[1]	545-55-1			
Polybromobiphenyls (PBBs)[1]	59536-65-1			
Octabromodiphenylethers (OctaBDEs)	32536-52-0			
Polybrominated diphenyl ethers (PBDEs)	Various			
Decabromodiphenylether (DecaBDE)[2,3]	1163-19-5			
Heptabromodiphenylethers (HeptaBDEs)[2,3]	68928-80-3			
Tetrabromodiphenylethers (TetraBDEs)[2,3]	40088-47-9			
Pentabromodiphenylethers (PentaBDEs)[2,3]	32534-81-9			
Hexabromodiphenylethers (HexaBDEs)[2,3]	36483-60-0			
Hexabromocyclododecane and all main diastereomeres identified (alpha-, beta-, gamma-) (HBCDD/HBCD)	3194-55-6 134237-50-6 134237-51-7 134237-52-8 25637-99-4			
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			
Trixylylphosphate (TXP)	25155-23-1			
Tris(1,3-dichloro-iso-propyl)phosphate (TDCPP)	13674-87-8			
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8			
Triphenyl phosphate (TPP)	115-86-6			May be used as a flame retardant, an antioxidant for PU materials, or as an alternative plasticiser to orthophthalates.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Chlorinated paraffins				
Short-chain Chlorinated Paraffins (SCCPs) (C10-C13)	85535-84-8	Leather: ISO 18219-1:2021 (SCCP) ISO 18219-2:2021 (MCCP) Textiles and all other materials: 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	
Chlorophenols				
Pentachlorophenol (PCP) and its salts and esters	87-86-5	All materials: EN 17134-2:2023	< 0.5 mg/kg each Important: Egypt and Morocco additionally restrict MCP and DCP to levels at or above this limit.	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 (TriCP)	15950-66-0			
2,3,5-Trichlorophenol (TriCP)	933-78-8			
2,3,6-Trichlorophenol (TriCP)	933-75-5			
2,4,5-Trichlorophenol (TriCP)	95-95-4			
2,4,6-Trichlorophenol (TriCP))	88-06-2			
3,4,5-Trichlorophenol (TriCP)	609-19-8			

Restricted Substances List version 7.0				
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 17137:2024	< 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 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Cyclosiloxanes				
Octamethylcyclotetrasiloxane (D4)	556-67-2	All materials: Ultrasonic extraction with tert-Butyl methyl ether (TBME) or acetone for 30 min at 40° C then GC/MS	< 1000 mg/kg each	May be present in silicone pads and as contaminants in formulations that contain silicone, like silicone softeners and those used for prints. They are SVHCs.
Decamethylcyclopentasiloxane (D5)	541-02-6			
Dodecamethylcyclohexasiloxane (D6)	540-97-6			
Dimethylfumarate (DMFu)				
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.

Restricted Substances List version 7.0				
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 54231:2022	< 30 mg/kg each	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 3	2475-46-9			
C.I. Disperse blue 7	3179-90-6			
C.I. Disperse blue 26	3860-63-7			
C.I. Disperse blue 35A	56524-77-7			
C.I. Disperse blue 35B	56524-76-6			
C.I. Disperse blue 102	12222-97-8			
C.I. Disperse blue 106	12223-01-7			
C.I. Disperse blue 124	61951-51-7			
C.I. Disperse brown 1	23355-64-8			
C.I. Disperse orange 1	2581-69-3			
C.I. Disperse orange 3	730-40-5			
C.I. Disperse orange 11	82-28-0			
C.I. Disperse orange 149	85136-74-9			
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 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 3	2832-40-8			
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 6858-49-7			
C.I. Disperse yellow 56	54077-16-6			

Restricted Substances List version 7.0				
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 54231:2022	< 30 mg/kg each	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 52080-58-7			
Dyes navy blue				
Component 1: C39H23ClCrN7O12S.2Na Component 2: C46H30CrN10O20S2.3Na	118685-33-9 Not allocated	All materials: DIN 54231:2022	< 30 mg/kg	Navy blue colorants are regulated and prohibited from use for dyeing of textiles. Index 611-070-00-2

Restricted Substances List version 7.0				
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 each	Prohibited from use. 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 17226-1:2021	< 75 mg/kg Important: United Arab Emirates Cabinet Resolution No. (54) restricts Formaldehyde in children's textiles to 20 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 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Heavy metals extractable				
Chromium VI (Cr VI) and its compounds	18540-29-9	EN 16711-2:2015 EN ISO 17075-1:2017 if Cr is detected	< 1.0 mg/kg Saudi Arabia and Egypt have a limit of Not Detected (< 0.5 mg/kg) in textiles.	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: EN16711-2:2015 Leather: EN ISO 17072-1:2019 [1]Crystal or "lead glass" is exempt from total Lead restrictions.	< 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[1]	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 polymerisation 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[2] [2]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.
Chromium (Cr)	7440-47-3		< 2.0 mg/kg Leather: < 200 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.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Heavy metals extractable continued				
Nickel (Ni)	7440-02-0	All materials except Leather: EN 16711-2:2015 Leather: EN ISO 17072-1:2019	< 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.
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 and as catalysts in the manufacture of PU and vinyl chloride for use in PVC.
Selenium (Se)	7782-49-2		< 500 mg/kg Important: Morocco and Egypt now have a 100 mg/kg limit	Selenium may be found in synthetic fibres, paints, inks, plastics and metal trims.
Applicable for leather				
Chromium VI (Cr VI)	18540-29-9	Leather: EN ISO 17075-2:2017 Ageing test: EN ISO 10195:2018 For garments and accessories method A1 For footwear method A2	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: EN 16711-1:2015 Leather: EN ISO 17072-2:2022	< 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 stabilisation 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 stabilisation may be accomplished with the use of cadmium or lead.
Mercury (Hg)	7439-97-6		< 0.5 mg/kg	
Arsenic (As)	7440-38-2		< 100 mg/kg	
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 Migration EN 16711-3 2019	< 90 mg/kg Migration: <0.05 micrograms/cm2/hour	

Restricted Substances List version 7.0				
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: 2023 and Abrasion of coated items EN 12472: 2020 Release (eyewear frames): EN 16128:2025	Release (metal parts): Prolonged skin contact: 0.5 µg/cm^2/week Pierced part: 0.2 µg/cm^2/week Eyewear frames: 0.5 µg/cm^2/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.
Monomers				
Styrene, Free	100-42-5	Extraction in Methanol GC/MS, sonication at 60 degrees C for 60 minutes	< 30 mg/kg	Styrene is a precursor for polymerisation 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 6401:2022	< 1 mg/kg	Vinyl Chloride is a precursor for polymerisation and may be present in various PVC materials like prints, coatings, flip flops, and synthetic leather.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
N-nitrosamines				
N-Nitrosodibutylamine (NDBA)	924-16-3	EN ISO 19577:2019 with LC/MS/MS verification if positive	< 0.5 mg/kg each	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			
Other restricted substances				
1,3-benzenediol (resorcinol)	108-46-3	All materials: GC/MS headspace 120 degrees C for 45 minutes	< 1000 mg/kg	Used in the production of dyes, plasticisers and resin
Diazene-1,2-dicarboxamide (C,C'- azodi(formamide))	123-77-3	Solvent extraction followed by LCMS/MS	< 1000 mg/kg	Diazene-1,2-dicarboxamide can be used specifically forthe production of foams, thermoplastics and epoxy resins as blowing agent.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Organotin compounds				
Tributyltin (TBT)	Various	All materials: EN ISO 16179:2025 or EN ISO 22744-1:2020	< 0.5 mg/kg	Class of chemicals combining tin and organics such as butyl and phenyl groups that should no longer be used in the production of apparel, footwear, and related products. 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. G-Star recommends restricting "Other Organotins" as a matter of best practice consistent with other industry restricted substances lists.
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			
Monooctyltin (MOT)	Various			
Dimethyltin (DMT)	Various		Other organotins: < 1 mg/kg each	
Diphenyltin (DPhT)	Various			
Dipropyltin (DPT)	Various			
Monomethyltin (MMT)	Various			
Monophenyltin (MPhT)	Various			
Tetrabutyltin (TeBT)	1461-25-2			
Tetraethyltin (TeET)	597-64-8			
Tetraoctyltin (TeOT)	3590-84-9			
Ortho-phenylphenol (OPP)				
o-Phenylphenol (OPP)	90-43-7	All materials: EN 17134-2:2023	< 100 mg/kg Leather < 1000 mg/kg	OPP is used for its preservative properties in leather or as a carrier in polyester dyeing processes.
Ozone depleting substances				
Various	Various	GC-MS headspace 120° C for 45 minutes	< 5 mg/kg	Prohibited from use. Ozone-depleting substances have been used as a foaming agent in PU foams as well as a dry-cleaning agent.

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Per-and polyfluoroalkyl substances (PFAS)[1] (see appendix A for individual substances and appendix D for the G-Star PFAS-free policy)				
No intentional use allowed				PFAS may be used in commercial water-, oil- and stain-repellent agents as well as in breathable membranes that remove moisture, e.g., PTFE. Regulations around the world ban the use of PFAS in apparel and footwear, with partial or full exemptions for recycled materials, personal protective equipment and outdoor apparel for severe wet conditions. Contact G-STAR about any potential exemptions, including for recycled products. [1]Refer to appendix A for a full list of substances and CAS Numbers for which testing can be conducted to indicate whether PFAS chemistry is present above restricted levels due to intended use or unintended contamination. Refer to appendix D for the G-STAR PFAS-free policy. [2]Several U.S. states restrict total organic fluorine while some EU member states restrict total fluorine with the ability to demonstrate that fluorine > 50 mg/kg does not come from PFAS. [3]France introduced a recycled content exemption for products made with 20% or more recycled content. The presence of PFAS must be proportional to the quantity of post-consumer recycled content. There is also a 12-month sell- through for products manufactured before January 1, 2026. Additionally, France exempts: second-hand products, technical textiles, and PPE. [4]Significantly higher findings of PFAS analytes are possible with EN 17681-1:2025, especially FTOHs, which does not necessarily mean PFAS were intentionally used. Check with G-STAR to understand whether re-tests of previously tested materials are necessary.
USA and Denmark: All PFAS as measured by total fluorine[2]	Various Various	EN 14582:2016 or ASTM D7359:2023 or EN 17813:2023	< 50 mg/kg	
Perfluoroctane sulfonates (PFOS) and its salts	Various	Textiles and other materials including sythetic coated fabric (excluding polymers): EN 17681-1:2025 alkaline hydrolysis[4] Leather: EN ISO 23702-1:2023 Polymers (including plastics, foams, natural & synthetic rubber): EN ISO 23702-1:2023 using THF extraction followed by methanol precipitation (1:1)	< 0.025 mg/kg total	
PFOS-related substances	Various		< 1 mg/kg total	
Perfluoroctanoic Acid (PFOA) and its salts	Various		< 0.025 mg/kg total	
PFOA-related substances	Various		< 1 mg/kg total	
Perfluorohexane-1-sulphonic acid (PFHxS) and its salts	Various		< 0.025 mg/kg total	
PFHxS-related substances	Various		< 1 mg/kg total	
C_9-C_{14} Perfluorocarboxylic acids (PFCAs) and their salts	Various		< 0.025 mg/kg total	
C_9-C_{14} PFCA-related substances	Various		< 0.26 mg/kg total	
France: PFAS containing products[3]	Various		1) 0.025 mg/kg for targeted PFAS 2) 0.25 mg/kg for the sum targeted PFAS ; 3) 50 mg/kg for PFAS including polymers	
C_9-C_{21} PFCAs and their salts	Various		< 0.025 mg/kg total	
C_9-C_{21} PFCA-related substances	Various		< 0.26 mg/kg total	
PFHxA and salts	Various		< 0.025 mg/kg total	
PFHxA-related substances	Various		< 1 mg/kg total	

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Pesticides agricultural (see appendix B for individual substances)				
See appendix B for the complete list	Various	All materials: EN ISO 15913:2003 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09	< 0.5 mg/kg	May be found in natural fibers, primarily cotton.
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 14389:2022 (8.1 Calculation based on weight of print only; 8.2 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. Other ortho-phthalates (like DPHP) may have similar toxicological characteristics to those listed. Before using any unlisted orthophthalates, please make sure to have a sound toxicology study from your chemical supplier.
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			

Restricted Substances List version 7.0				
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 14389:2022 (8.1 Calculation based on weight of print only; 8.2 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. Other ortho-phthalates (like DPHP) may have similar toxicological characteristics to those listed. Before using any unlisted orthophthalates, please make sure to have a sound toxicology study from your chemical supplier.
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			
Bis(2-ethylhexyl) tetrabromophthalate	26040-51-7			

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Polychlorinated and halogenated biphenyls (PCBs) and naphthalenes (PCN)				
Halogenated biphenyls, including polycholorinated biphenyl (PCB)	1336-36-3 and others	Extraction following IEC 62321-6 (2015) // GC-MS	Not detected	PCBs and PCNs are persistent organic pollutants and have entered the environment through both use and disposal. PCBs and PCNs are used as plasticizers, pigments, adhesives, insecticides, flame retardants, water repellent finishes and as pesticide.
Halogenated naphthalenes, including polychlorinated naphthalenes (PCN)	70776-03-3 and others			
Polycyclic aromatic hydrocarbons (PAHs)				
Benzo(a)pyrene [BaP]	50-32-8	AfPS GS 2019 or EN 17132: 2019 or ISO 16190: 2021	1 mg/kg each Total 18 PAHs: < 10 mg/kg	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. [1]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 18 PAHs: < 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[1]	91-20-3			
Phenanthrene	85-01-8			
Pyrene	129-00-0			

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Quinoline				
Quinoline	91-22-5	All materials: DIN 54231:2022	< 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. It is not expected in non-dyed materials.
Solvents and residuals				
DMFa (N,N Dimethylformamide)	68-12-2	Textiles: EN 17131:2025 All other materials: ISO 16189:2021	< 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.
N-Methyl-2-pyrrolidone (NMP)	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 absorbers/stabilisers				
2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328)	25973-55-1	ISO 24040: 2022 with extraction in THF, analysis by GC/MS	< 100 mg/kg **Upcoming limit:** < 10 mg/kg from 4 Aug 2027; < 1 mg/kg from 4 Aug 2029	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		< 1000 mg/kg each	
2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320)	3846-71-7			
2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenbol (UV-329)	3147-75-9			
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3			
Bumetrizole (UV-326)	3896-11-5			

Restricted Substances List version 7.0				
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	The VOCs listed here represent a broad range of potentially harmful substances that can be semiquantified using the prescribed headspace method. These VOCs should not be used in textile auxiliary chemical preparations. They are associated with solvent- based processes such as solvent-based polyurethane coatings, glues/ adhesives, and polymer manufacturing. They should not be used for any kind of facility cleaning or spot cleaning. Individual VOCs should be reported if found > 100 mg/kg (regardless of the limit stated) and confirmation testing may be required.
Other VOCs: see appendix C for a complete list	Various		See appendix C for individual limits	

Restricted Substances List version 7.0				
Chemical substance	**CAS number**	**Test method**	**G-STAR restricted limit**	**Relevance of restriction**
Restriction on packaging				
Cadmium (Cd)	Various	All materials: Total heavy metals (Cd, Cr, Pb & Hg): DIN EN 16711-1: 2016. This test method detects metal elements (Cd, Cr, Hg, Pb). When the final value >100 mg/kg of Cr contributes to the sum, the Cr VI method described below should be used to exclude the presence of Cr VI	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)				
Mercury (Hg)				
Chromium (Cr6+) - hexavalent		Metal: IEC 62321-7-1:2017 The testing laboratory will convert the test result into mg/kg. Natural leather and natural materials: EN ISO 17075-2:2017 All other materials: IEC 62321-7- 2:2015		
[1]MOAH consisting of 1 to 7 aromatic rings		GC-FID/MS	< 0.1% and < 1 mg/kg MOAH compounds containing 3 to 7 aromatic rings	These mineral oils can be used in printing inks of packaging materials and recycled paper. The implementation applies to mineral oils containing substances that disrupt the recycling of packaging waste paper or restrict the use of recycled materials because of the risk of these substances to human health.
[1]MOSH consisting of 16 to 35 carbon atoms			< 0.1% (< 1000 mg/kg)	
Butylated hydroxytoluene (BHT)	128-37-0	All materials: ASTM D4275	< 25 mg/kg	Used as an additive in plastics as an antioxidant to prevent aging. Can cause phenolic yellowing of textiles.

[1]Suppliers should inform their contracted packaging and/or printing companies about the MOSH/MOAH restrictions in order that they determine, in consultation with printing ink manufacturers, the permissible printing inks (free of MOSH/MOAH) within the meaning of the French Arrêté du 13 avril 2022. A declaration of conformity, whilst not yet required, will be required in the future as part of the planned EU Packaging Regulation. As part of the duty of care as a manufacturer, random checks should be carried out on the printing inks used or the printed materials.

See packaging matrix on page 12

Appendix version 7.0					
Substance	**CAS number**	**Substance**	**CAS number**	**Substance**	**CAS number**
Appendix A. Per-and polyfluoroalkyl substances (PFAS)[1]					
PFOS and its salts		**PFOA and Its salts**		**PFHxS and its salts**	
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	Perfluorooctanoic acid (PFOA)	335-67-1	Perfluorohexane Sulfonic acid (PFHxS)	355-46-4
Perfluorooctanesulfonic acid, potassium salt (PFOS-K)[2]	2795-39-3	Sodium perfluorooctanoate (PFOA-Na)[3]	335-95-5	Perfluorohexane Sulfonic acid, potassium salt (PFHxS-K)[5]	3871-99-6
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)[2]	29457-72-5	Potassium perfluorooctanoate (PFOA-K)[3]	2395-00-8	Perfluorohexane Sulfonic acid, lithium salt (PFHxS-Li)[5]	55120-77-9
Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH4)[2]	29081-56-9	Silver perfluorooctanoate (PFOA-Ag)[3]	335-93-3	Perfluorohexane Sulfonic acid, ammonium salt (PFHxS- NH4)[5]	68259-08-5
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH)2)[2]	70225-14-8	Perfluorooctanoyl fluoride (PFOA-F)[3]	335-66-0	Perfluorohexane Sulfonic acid, sodium salt (PFHxS-Na)[5]	82382-12-5
Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C2H5)4)[2]	56773-42-3	Ammonium pentadecafluorooctanoate (APFO)[3]	3825-26-1		
Didecyldimethyl ammonium perfluorooctane sulfonate (PFOS-N(C10H21)2(CH3)2)[2]	251099-16-8				
PFOS related substances		**PFOA related substances**		**PFHxS related substances**	
N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	N-Methylperfluoro-1-hexanesulfonamide (N-Me-FHxSA)	68259-15-4
N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	Methyl perfluorooctanoate (Me-PFOA)[3]	376-27-2	Perfluorohexane sulfonamide (PFHxSA)	41997-13-1
2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	Ethyl perfluorooctanoate (Et-PFOA)[3]	3108-24-5		
2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	2-Perfluorooctylethanol (8:2 FTOH)	678-39-7		
Perfluoro-1-octanesulfonyl fluoride (POSF)[2]	307-35-7	1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)[4]	27905-45-9	[1]**NOTE: This list is a subset of PFAS and is not exhaustive.**	
Perfluorooctane sulfonamide (PFOSA)	754-91-6	1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)[4]	1996-88-9		
		2H,2H-Perfluorodecanoic acid (H2PFDA)[8]	27854-31-5		

[2,3,4,5,6,7] These substances are included as they appear in the regulation. However, as they are hydrolysed during the testing, they will never be detected or reported. Instead, they will be reported as:
[2]Converted to PFOS; [3]Converted to PFOA; [4]Converted to 8:2 FTOH; [5]Converted to PFHxS; [6]Converted to 10:2 FTOH; [7]Converted to 6:2 FTOH
[8]Cannot be detected by the 17681-1:2025 alkaline hydrolysis method. Suppliers must check their supply chain to make sure it is not present in input chemistry.

Appendix version 7.0					
Substance	**CAS number**	**Substance**	**CAS number**	**Substance**	**CAS number**
Appendix A. Per-and polyfluoroalkyl substances (PFAS)[1] continued					
C9 – C14 PFCAs and their salts		**C9 – C14 PFCA related substances**		**PFHxA and its salts**	
Perfluorotetradecanoic Acid (PFTeDA, C14-PFCA)	376-06-7	1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA)[6]	17741-60-5	Perfluorohexanoic Acid (PFHxA, C6-PFCA)	307-24-4
Perfluoro-3-7-dimethyloctanecarboxylate (PF-3,7-DMOA)	172155-07-6	1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)[6]	2144-54-9	**PFHxA related substances**	
Perfluorononanoic Acid (PFNA, C9-PFCA)	375-95-1	1H,1H,2H,2H-Perfluorododecanol (10:2 FTOH)	865-86-1	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	27619-97-2
Perfluorodecanoic Acid (PFDA, C10-PFCA)	335-76-2	2H,2H,3H,3H-Perufloroundecanoic acid (H4PFUnA)	34598-33-9	1H,1H,2H,2H-Perfluorooctanol (6:2 FTOH)	647-42-7
Perfluoroundecanoic Acid (PFUnA, C11-PFCA)	2058-94-8	Perfluorocylethanol 8:2 (8:2 FTOH)	678-39-7	1H,1H,2H,2H-Perfluorooctyl acrylate (6:2 FTA)[7]	17527-29-6
Perfluorododecanoic Acid (PFDoA, C12-PFCA)	307-55-1	1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)	39239-77-5	1H,1H,2H,2H-Perfluorooctyl methacrylate (6:2 FTMA)[7]	2144-53-8
Perfluorotridecanoic Acid (PFTrDA, C13-PFCA)	72629-94-8	1H,1H,2H,2H-Perfluorododecanesulphonic acid (10:2 FTS)	120226-60-0	**[1]NOTE: This list is a subset of PFAS and is not exhaustive.**	
		1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI)[8]	2043-54-1		
		1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)[8]	30046-31-2		

[2,3,4,5,6,7] These substances are included as they appear in the regulation. However, as they are hydrolysed during the testing, they will never be detected or reported. Instead, they will be reported as:
[2]Converted to PFOS; [3]Converted to PFOA; [4]Converted to 8:2 FTOH; [5]Converted to PFHxS; [6]Converted to 10:2 FTOH; [7]Converted to 6:2 FTOH
[8]Cannot be detected by the 17681-1:2025 alkaline hydrolysis method. Suppliers must check their supply chain to make sure it is not present in input chemistry.

Appendix version 7.0					
Substance	**CAS number**	**Substance**	**CAS number**	**Substance**	**CAS number**
Appendix B. Pesticides and herbicides, agricultural					
2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds; 2,4,5-TP	93-72-1	Polychlorinated naphthalenes	70776-03-3	Isodrine	465-73-6
2,4,5-T	93-76-5	Dichlofluanide	1085-98-9	Kelevane	4234-79-1
2,4-D	94-75-7	Dichlorprop	120-36-5	Kepone	143-50-0
Aldrine	309-00-2	Dicofol	115-32-2	Lindane	58-89-9
Azinophosmethyl	86-50-0	Dicrotophos	141-66-2	Malathione	121-75-5
Azinophosethyl	2642-71-9	Dieldrine	60-57-1	MCPA	94-74-6
Bromophos-ethyl	4824-78-6	Dimethoate	60-51-5	MCPB	94-81-5
Captafol	2425-06-1	Dinoseb, Salts and Acetate	88-85-7	Mecoprop	93-65-2
Carbaryl	63-25-2	DTTB (4, 6-Dichloro-7 (2,4,5-trichloro- phenoxy) -2-Trifluoro methyl benz imidazole)	63405-99-2	Metamidophos	10265-92-6
Chlorbenzilat	510-15-6	Endosulfan	115-29-7	Methoxychlor[1]	72-43-5
Chlordane	57-74-9	Endosulfan, α-	959-98-8	Mirex	2385-85-5
Chlordimeform	6164-98-3	Endosulfan, β-	33213-65-9	Monocrotophos	6923-22-4
Chlorfenvinphos	470-90-6	Endrine	72-20-8	Parathion-methyl	298-00-0
Chlorpyrifos[1]	2921-88-2	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	Hexabromobiphenyl	36355-01-8	Strobane	8001-50-1
DDD	53-19-0 72-54-8	a-Hexachlorcyclohexane with & without Lindane	319-84-6	TelodrinE	297-78-9
DDE	3424-82-6 72-55-9	b-Hexachlorcyclohexane with & without Lindane	319-85-7	Toxaphene	8001-35-2
DDT	50-29-3 789-02-6	g-Hexachlorcyclohexane with & without Lindane	319-86-8	Tolylfluanide	731-27-1
Diazinon	333-41-5	Hexachlorobenzene	118-74-1	Trifluralin	1582-09-8

[1]Chlorpyrifos and Methoxychlor individual limit: < 0.01 mg/kg. Other: < 0.5 mg/kg each

Appendix version 7.0					
Substance	**CAS number**	**Substance**	**CAS number**	**Substance**	**CAS number**
Appendix C. Volatile organic compounds					
VOCs with a limit of < 500 mg/kg					
Carbon Disulfide	75-15-0	Paraxylene	106-42-3	2-(2-Methoxyethoxy)ethanol	111-77-3
Carbon Tetrachloride	56-23-5	1,2,3-trichloropropane[1]	96-18-4	2-ethoxyethanol[1]	110-80-5
Chloroform	67-66-3	1,2,Dichloropropane	78-87-5	2-Methoxyethanol EGME (ethylene glycol monomethyl ether)[1]	109-86-4
1,1-Dichloroethylene	75-35-4	2-Ethoxyethyl acetate[1]	111-15-9	2-Methoxypropan-1-ol	1589-47-5
Pentachloroethane	76-01-7	2-Ethylhexane acid	149-57-5	EGDME (Ethylene glycol dimethyl ether[1]	110-71-4
1,1,1,2- Tetrachloroethane	630-20-6	Aniline	62-53-3	EGMEA (Ethylene glycol monomethyl ether acetate)[1]	110-49-6
1,1,2,2- Tetrachloroethane	79-34-5	Bis(2-methoxyethyl)ether[1]	111-96-6	Hexachloroethane	67-72-1
1,1,1- Trichloroethane	71-55-6	Isophorone	78-59-1	Merhylene chloride (dichloromethane)	75-09-2
1,1,2- Trichloroethane	79-00-5	THF	109-99-9	n-hexane	110-54-3
Orthoxylene	95-47-6	1-bromopropane[1]	106-94-5	TEGDME (Triethylene glycol dimethyl ether)[1]	112-49-2
Metaxylene	108-38-3	1-PG2MEA 1-Propanol,2-methoxy-, acetate)	70657-70-4		
VOCs with a limit of < 100 mg/kg		**VOCs with a limit of < 50 mg/kg**		**VOCs with a limit of < 30 mg/kg**	
Phenol	108-95-2	Ethylbenzene	100-41-4	Xylene	1330-20-7
		Cyclohexanone	108-94-1		
		2-Butanone (MEK)	78-93-3		
		Tetrachloroethylene (PERC)	127-18-4		
		Trichloroethylene[1]	79-01-6		
VOCs with a limit of < 10 mg/kg					
Toluene	108-88-3	1,2-Dichloroethane[1]	107-06-2		

[1] **Included in EU: REACH Regulation 1907/2006 SVHC Candidate List**

Appendix D - PFAS-free policy version 7.0

Definition of PFAS

PFAS (per- and polyfluoroalkyl substances) are toxic chemicals that:

- Are highly persistent (they last forever in the environment)
- Are bio-accumulative (they build up in humans/living organisms over time)
- Can cause serious health problems including cancer, immune system damage, and reproductive harm
- Spread easily through water, soil and air

Due to their persistence and the high likelihood of cross-contamination (from PFAS-containing materials, manufacturing equipment / surfaces, as well as through water, soil, and air), authorities around the world are increasingly regulating the entire class of PFAS instead of specific subclasses or individual PFAS.

Purpose of this policy

G-Star aims to completely phase out the use of PFAS (and organic fluorine substances that could be considered PFAS) in the production of its products.
It also aims to achieve - for all its products - the highest standard as follows: No intentional use of PFAS, and PFAS not detected.

This means that:

- Products are not intentionally treated with PFAS
- Products do not contain a PFAS-based membrane such as PTFE
- No PFAS can be detected (beyond allowable limits) using the latest standardized industry test methods

Policy scope

Every stakeholder in our supply chain must follow this policy:

- G-Star employees
- Finished goods suppliers
- Material suppliers
- Chemical suppliers
- Subcontractors
- Wet processing facilities

This policy covers:

- All products, materials, trims and packaging
- All production processes (wet and dry)

Appendix D - PFAS-free policy version 7.0

Policy implementation

G-Star's approach to implementing this PFAS-free policy throughout the supply chain focuses on five key aspects, as described below:

1) Risk assessment
2) Substitution with PFAS free alternative chemical formulations
3) Chemical management
4) Control of contamination and residuals
5) Testing and monitoring

Risk assessment

High risk materials include (but are not limited to) materials that:
• claim water, stain or oil repellence
• are made with pre-consumer recycled content
• are made of polymers

High risk product categories include (but are not limited to) outerwear, swimwear, technical/performance wear, gloves and umbrellas.

G-Star will only accept coatings/finishes that are "PFAS-free" which covers all, not just selected, PFAS substances.

Suppliers of finished products must:
• conduct a risk assessment of all the materials used in G-Star products
• assess fabrics (including secondary fabrics, such as linings and interlining) to identify where non-compliant finishes and chemical products could have been used (e.g. water-repellent or stain-repellent coatings or finishes)
• make sure they know the name and manufacturer of the coating/finish and have the relevant Safety Data Sheet(s) (SDS)

Substitution with PFAS free alternative chemical formulations

G-Star is a "Signatory brand of ZDHC" which gives G-Star the ability to more closely monitor its supply chain on the use of restricted substances.
G-Star is committed to providing ZDHC training for its own Product Development team as well as Suppliers of high-risk product categories.

Suppliers of finished products must:
• purchase raw material only from ZDHC accredited mills or purchase materials certified by certification systems that align with ZDHC such as Oeko-Tex, GOTS and Bluesign
• source chemical formulations only from ZDHC-conformant chemical suppliers
• implement a Chemical Management System consistent with ZDHC Chemical Management System (CMS) guidelines
• actively research and implement PFAS-free alternatives

Appendix D - PFAS-free policy version 7.0

Chemical management

G-Star has adopted the ZDHC Manufacturing Restricted Substance List (MRSL) and has developed its own Restricted Substance List (RSL). These documents are shared with all direct suppliers and signed by them as acknowledgement of receipt and commitment to implementation throughout their supply chains.
These documents are reviewed annually to ensure full adherence to the latest regulatory requirements. Any changes in industry standards (e.g. new test methods or limits) are clearly communicated in writing in a timely manner.

Suppliers of finished products must:
• communicate the G-Star requirements with all wet processing facilities and raw material suppliers
• provide a written statement from their chemical suppliers, material suppliers and outsourced wet processing facilities that PFAS substances, including membranes like PTFE, are not present in their materials or chemical formulations and are not formed during manufacturing
• ask their chemical suppliers, material suppliers and outsourced wet processing facilities to provide evidence that chemical formulations used are ZDHC-approved (via the ZDHC Gateway)
• collect and share up-to-date SDS (Safety Data Sheets) and TDS (Technical Data Sheets) for all chemicals used in their own manufacturing facility, such as finishing mixtures, mold sprays, machinery lubricants, cleaning agents, etc.
• verify through testing that PFAS are not present in their finished goods in concentrations that exceed G-Star RSL restriction limits

Outsourced wet processing facilities should:
• provide a written statement to confirm that PFAS substances are not present in the chemical formulations used, and are not formed during wet processing
• provide SDS (Safety Data Sheets) and TDS (Technical Data Sheets) when requested
• provide evidence that chemical formulations used are ZDHC-approved (via the ZDHC Gateway)

Suppliers of chemicals or materials should:
• provide a written statement that PFAS substances (including membranes like PTFE) are not present in their materials or chemical formulations and are not formed during manufacturing
• provide SDS (Safety Data Sheets) and TDS (Technical Data Sheets) when requested
• provide evidence that chemical formulations used are ZDHC-approved (via the ZDHC Gateway)

Control of contamination and residuals

G-Star's goal is for all mills producing materials for G-Star products to be completely PFAS free, as the risk of cross-contamination through machinery is extremely high.
During the transition period (if PFAS chemistry within a facility cannot be fully eliminated in the immediate term) facilities must:

• separate completely any production lines that use PFAS from production lines for articles where PFAS are restricted
• thoroughly clean all equipment and surfaces for the PFAS free production lines

If products containing PFAS have previously been manufactured at a facility, all equipment and surfaces should be thoroughly cleaned. Advice on how this can be done can be found via the following link: https://afirm-group.com/wp-content/uploads/2023/09/AFIRM_Phaseout_PFAS_2023_0831.pdf

Appendix D - PFAS-free policy version 7.0

Testing and monitoring

G-Star has established a procedure to risk-assess and select materials and styles for random testing to ensure that there has been no intentional use of PFAS throughout the production process.
However, it is the Supplier's responsibility to conduct its own due diligence and ensure that the products they deliver to G-Star are fully compliant with both legislation and the G-Star RSL.

Finished products identified as non-compliant with legal requirements will be deemed unmarketable and cannot be sold. All costs relating to unmarketable styles/products will be borne by the Supplier.

Suppliers of finished products must:
- ask raw material suppliers to send material samples to third-party laboratories to confirm legal (and RSL) requirements are met
- request these test reports from material suppliers
- stop doing business with any mill that is unable to provide proof of being PFAS-free
- maintain updated chemical inventories, Safety Data Sheets and PFAS test reports
- provide these documents when requested

Material Suppliers should:
- send material samples to third-party laboratories to confirm legal (and RSL) requirements are met (at supplier's cost)
- maintain updated chemical inventories, Safety Data Sheets and PFAS test reports
- provide these records when requested

Appendix E - MMCF requirements RSL version 7.0
Definition of MMCF
Manmade cellulosic fibers (MMCFs) are regenerated fibre typically made from dissolved wood pulp (cellulose) derived from trees. Common types include viscose, lyocell, and modal.
Additional requirements for MMCF facilities
Facilities producing man-made cellulosic fibres (MMCF), such as viscose, modal, or lyocell, are expected to align with the latest ZDHC MMCF Guidelines. This includes: • Responsible sourcing of wood pulp or other cellulosic feedstocks • Implementation of chemical recovery systems (e.g. sulphur recovery) • Control and monitoring of wastewater parameters (e.g. COD, sulphides) • Reduction and monitoring of air emissions (e.g. CS_2 and H_2S) Suppliers must be able to demonstrate alignment with these requirements through recognized industry tools, third-party verification, or participation in the ZDHC MMCF Programme where applicable. The ZDHC MMCF Guidelines can be found via the following: https://knowledge-base.roadmaptozero.com/hc/en-gb/sections/14226028840349-MMCF-Guidelines

REACH Candidate List version 7.0
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 authorisation can be found here: https://echa.europa.eu/candidate-list-table
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 in accordance with the information duty (Article 33) of all cases where a substance listed in the candidate list of substances of very high concern for authorisation is present in the product or other materials, chemicals and other goods provided for use in any G-Star labelled or distributed product. Additionally, authorisation requirements (as per Annex XIV) and restriction requirements (as per Annex XVII) in REACH regulation shall be considered by any suppliers or sources situated in Europe.

Declaration of Conformity Form to G-STAR RSL (version 7.0)	
This Declaration of Conformity is issued under the sole responsibility of:	
Name of Supplier	
Date of Signature	
Name and Title of Signatory	SIGNATURE

The above-named Supplier declares that all products sold to G-Star comply with G-Star RSL requirements. G-Star reserves 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 or the MRSL, the merchandise may be rejected and the supplier will receive respective written information. Failure to comply may lead to penalties to be paid by the supplier to G-Star. Additionally, the supplier shall be liable for and shall indemnify G-Star against all costs, losses, and damages (including but not limited to testing costs, product recall costs, disposal costs, and lost profits) arising from or related to the non-compliance.

Where the above-named Supplier is an MMCF facility, it declares that:
it is familiar with the ZDHC MMCF Guidelines and can confirm and demonstrate alignment with the requirements contained therein.

In addition, the above-named Supplier declares that:
- it has read and understood the ***PFAS-free policy*** contained in this document
- no PFAS substances are knowingly used in the products, materials or chemicals it supplies to G-Star or for its products
- no PFAS membranes (such as PTFE) are used in the products or materials it supplies
- it has communicated this policy to all material suppliers, chemical suppliers, and wet processing facilities
- it has collected written confirmations from its suppliers confirming that materials and chemical formulations used do not contain PFAS
- it has collected current Safety Data Sheets for all chemicals used and these show no PFAS
- it has tested (or will test) its products to verify PFAS levels are below G-Star RSL limits
- it maintains updated records (chemical inventories, SDS and test reports) and will provide these if requested
- it commits to implementing this policy throughout its supply chain
- it understands that non-compliant finished products cannot be sold and it will bear all costs associated with non-compliant products

Change log version 7.0	
Chemical group (RSL)	**Change log major changes from RSL 6.0 to RSL 7.0**
Acetophenone, 2-phenyl-2-propanol and related substances	Added 1 substance
Acidic and alkaline substances	Updated the limit
Alkylphenols (AP) and alkylphenol ethoxylates (APEO)	No changes
Azo-amines and arylamine salts	No changes
Biocides	Updated test method
Bisphenols	Added 1 substance Updated limit for Bisphenols B, S, F
Brominated & organophosphorous substances	Updated limits for tetra-, penta-, hexa-, hepta- and decaBDE Added note for 3 substances
Chlorinated paraffins	No changes
Chlorophenols	No changes
Chloriated benzenes and toluenes	No changes
Cyclosiloxanes	Updated test method
Dimethylfumarate (DMFu)	No changes
Disperse dyes which are classified to be allergenic	No changes
Dyes which are classified to be carcinogenic	No changes
Dyes navy blue	No changes
Fluorinated greenhouse gases	No changes
Formaldehyde	Updated test method
Heavy metals extractable	Updated test methods
Heavy metals total content	Updated test methods for cadmium, mercury, arsenic
Heavy metals releasable nickel	Updated test method eyewear frames
Monomers	No changes
N-nitrosamines	No changes

Change log version 7.0	
Chemical group (RSL)	**Change log major changes from RSL 6.0 to RSL 7.0**
Other restricted substances	Changed name from Other chemical residues Added 1 substance
Organotin compounds	Updated test method
Ortho-phenylphenol (OPP)	No changes
Ozone depleting substances	No changes
Per-and polyfluoroalkyl substances (PFAS)	Expanded scope and updated regulatory requirements (including total fluorine approach and new regional regulations)
Pesticides agricultural	No changes
Phthalates	No changes
Polychlorinated & halogenated biphenyls (PCBs) & naphthalenes (PCN)	No changes
Polycyclic aromatic hydrocarbons (PAHs)	No changes
Quinoline	Updated test method
Solvents and residuals	Updated test method
UV absorbers/stabilisers	Updated limit for UV328 Added 1 substance
Volatile organic compounds (VOCs)	Updated limit indicated in overview
Restriction on packaging	Updated test methods for heavy metals
Introduction	No changes
Supplier responsibility	No changes
Definition of material type	No changes
Risk matrix apparel & footwear	Updated based on latest information
Packaging products	No changes
Packaging materials	No changes
Risk matrix packaging	Updated based on latest information
Restriction on packaging	Updated based on latest information
Appendices	Updated based on latest information Added Appendix D - PFAS-free policy Added Appendix E - MMCF requirements
Declaration of conformity	Updated to reflect the addition of the PFAS-free policy

Disclaimer
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Information provided in this document is valid as of May 2026. 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