

Helinox Restricted Substances List

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1. Introduction

Helinox Restricted Substance List is created to protect the environment and the health of customers.

Helinox is committed to eliminating hazardous chemicals from our supply chains.

The RSL is intended to incorporate Restricted Substance List (RSL) in the finished products based on the international standards and regulations, as well as Manufacturing Restricted Substance List (MRSL) such as bluesign® and ZDHC.

- **The RSL will be revised annually, the latest version is valid.**
- **The RSL document is in English. We don't have a responsibility for any mistakes in the translation.**
- **Suppliers and Subcontractors must comply and ensure to maintain with Helinox RSL.**
- **The effective date: DEC 01, 2021**

The following table is the summary of the chemicals and substances that are restricted or banned in our products. The list represents current global standards for the industry based on bluesign®

2. Requirements

2.1. Regulations

Regulations	Details
European chemical regulation, REACH (EC) NO 1907/2006, Annex XVII	https://echa.europa.eu/substances-restricted-under-reach
European Regulation (EU) 2017/1000 on PFOS	https://www.legislation.gov.uk/eur/2017/1000
SVHC (Substance of Very High Concern)	http://echa.europa.eu/web/guest/candidate-list-table
California Proposition 65	https://oehha.ca.gov/proposition-65/proposition-65-list
CPSIA (The Consumer Product Safety Improvement Act)	https://www.cpsc.gov/Regulations-Laws--Standards/Statutes/The-Consumer-Product-Safety-Improvement-Act

2.2. Restricted parameters

Parameters	Limit Type	Test Method / Sample Preparation
Flame Retardants; PBDEs (Polybrominated diphenyl ethers)	Do not use	
PVC	Do not use	
Perfluorocarbons (PFCs)	Prohibited	
pH	Non-leather products: 4.0-7.5	ISO 3071 (2005)
	Leather products: 3.5-7.5	ISO 4045 (2008)
Odor	No unpleasant odor shall be emitted from the products	SNV 195 651

2.3. Restricted substances

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Aldehydes									
Formaldehyde	50-00-0	Leather	Usage ban	15	75	300	mg/kg	ISO 17226-1 (2019) ISO 17226-2 (2019)	
		Textiles Metal parts Polymer parts Down/feather articles	Limitation	15	75	300	mg/kg	ISO 14184-1 (2011)	
Alkylphenoethoxylates (APEOs)									
Nonylphenol ethoxylates (NPEO)	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		100		mg/kg	EN ISO 18254-1 (2016)	For sum of all allocated Members/Substances (if traces above 10 ppm are detected the source of contamination has to be identified and phased out)
		Leather	Usage ban		100		mg/kg	EN ISO 18254-1 (2016) EN ISO 18218-1 (2015)	
Octylphenol ethoxylates (OPEO)	Several	Leather	Usage ban		100		mg/kg	EN ISO 18254-1 (2016) EN ISO 18218-1 (2015)	
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		100		mg/kg	EN ISO 18254-1 (2016)	
Alkylphenols (APs)									
Nonylphenol (NP), mixed isomers	Several	Textiles Leather	Usage ban		10		mg/kg	EN ISO 21084 (2019)	For sum of all allocated Members/Substances
		Metal parts Polymer parts Down/feather articles	Usage ban		10		mg/kg	EN ISO 21084 (2019), modified // 1g sample / 20 ml THF with Sonication for 60 min at 70°C	
Octylphenol (OP), mixed isomers	Several	Textiles Leather	Usage ban		10		mg/kg	EN ISO 21084 (2019)	For sum of all allocated Members/Substances
		Metal parts Polymer parts Down/feather articles	Usage ban		10		mg/kg	EN ISO 21084 (2019), modified // 1 g sample / 20ml THF with Sonication for 60 min at 70°C	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Amines									
Aniline - free content	62-53-3	Leather	Usage ban	30			mg/kg	EN ISO 17234-1 (2015)	In case aniline is detected the test needs to be repeated without addition of sodium dithionite.
		Textiles Polymer parts	Limitation	30			mg/kg	EN ISO 14362-1 (2017)	
Arylamines									
Arylamines (including corresponding salts)	Several	Leather	Usage ban	20 each			mg/kg	EN ISO 17234-1 (2015) EN ISO 17234-2 (2011) // for azo colorants which may release 4-Aminoazobenzene	Single substances listed in Annex (as substance for example in PU, and as decomposition product of azo colorants which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines)
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban	20 each			mg/kg	EN ISO 14362-1 (2017) EN ISO 14362-3 (2017) // for azo colorants which may release 4-Aminoazobenzene	
Biocides									
Dimethylfumarate	624-49-7	Textiles Leather	Usage ban	0.1			mg/kg	EN 17130 (2019)	
		Metal parts Polymer parts Down/feather articles Leather	Usage ban	0.1			mg/kg	GC-MS // ISO/TS 16186 (2012)	
<i>o</i>-Phenylphenol and its salts	Several	Leather	Limitation	50	100	200	mg/kg	prEN ISO 13365-1 (2019)	
		Textiles	Limitation	5.0			mg/kg	BVL B 82.02-8 (2001) // Extraction with KOH DIN EN ISO 17070 (2015) // Extraction with KOH EN 17134 (2019) // Extraction with KOH	
Chlorinated Benzenes and Toluenes									
Chlorinated Benzenes and Toluenes	Several	All	Usage ban	5.0			mg/kg	EN 17137 (2018)	For sum of all allocated chlorinated benzenes and toluenes // additional regulation for each allocated Member/Substance - Usage ban 1.0 mg/kg Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Chlorinated Phenols									
Chlorinated Phenols	Several	All	Usage ban	See limits of substance groups below				BVL B 82.02-8 (2001) // Extraction with KOH DIN EN ISO 17070 (2015) // Extraction with KOH	Usage ban for every allocated Member/Substance Single substances listed in Annex
<i>Pentachlorophenol, its salts, esters and compounds</i>	Several	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated PCPs
<i>Tetrachlorophenol, its salts and compounds</i>	25167-83-3	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated TeCPs
<i>Trichlorophenol, all isomers</i>	25167-82-2	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated TriCPs
Mono- and Dichlorophenols	Several	All	Usage ban	1.0			mg/kg		For sum of all allocated Mono- and DiCPs
Colorants									
Colorants banned for other reasons	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2005)	Single substances listed in Annex
Colorants with allergenic potential	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2005)	
Colorants with carcinogenic potential	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2005)	
Dioxins and Furans									
Dioxins and Furans - Group 1 and 2	Several	All	Usage ban	5.0			µg/kg	EPA 8290A	For sum of all allocated Members/Substances to Group 1 and 2 Single substances listed in Annex
<i>Dioxins and Furans - Group 1</i>	Several	All	Usage ban	1.0			µg/kg		For sum of all allocated Members/Substances to Group 1 Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Dioxins and Furans (continued)									
<i>Dioxins and Furans - Group 3</i>	Several	All	Usage ban		95		µg/kg	EPA 8290A	For sum of all allocated Members/Substances to Group 3 - official regulation for sum of all allocated Members/Substances to Group 1, 2 and 3 - 100 µg/kg Single substances listed in Annex
<i>Dioxins and Furans - Group 4 and 5</i>	Several	All	Usage ban		5.0		µg/kg		For sum of all allocated Members/Substances to Group 4 and 5 Single substances listed in Annex
<i>Dioxins and Furans - Group 4</i>	Several	All	Usage ban		1.0		µg/kg		For sum of all allocated Members/Substances to Group 4 Single substances listed in Annex
Fibers									
<i>Asbestos</i>	Several	All	Usage ban		Not detected			REM/EDX BGI 505-46 U.S. EPA/600/R-93/116	Single substances listed in Annex
Flame retardants									
Flame retardants	Several	All	Usage ban		5.0 each		mg/kg	EN ISO 17881-1 (2016) for Brominated flameretardants EN ISO 17881-2 (2016) for phosphorus flame retardants	Single substances listed in Annex
<i>Chlorinated Paraffins, all chain lengths</i>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		5.0 each		mg/kg	prEN ISO 18219-1 (2019) prEN ISO 18219-2 (2019)	Single substances listed in Annex
		Leather	Usage ban		100 each		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Glycols									
2-Ethoxyethanol	110-80-5	Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban					GC-MS // Extraction with Methanol	
2-Ethoxyethyl acetate	111-15-9	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban					GC-MS // 2-Step extraction with THF and Methanol	
2-Methoxy-1-propanol	1589-47-5	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban					GC-MS // 2-Step extraction with THF and Methanol	
2-Methoxyethanol	109-86-4	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban					GC-MS // 2-Step extraction with THF and Methanol	
2-Methoxyethyl acetate	110-49-6	Textiles Metal parts Rubber articles Down/Feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban					GC-MS // 2-Step extraction with THF and Methanol	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Glycols (continued)									
2-Methoxypropyl acetate	770657-70-4	Plastic article	Usage ban		5.0		mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban		5.0		mg/kg	GC-MS // Extraction with Methanol	
Bis(2-methoxyethyl) ether	111-96-6	Plastic article	Usage ban		5.0		mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban		5.0		mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
Ethylene glycol dimethylether	110-71-4	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban		5.0		mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban		5.0		mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
Triethylene glycol dimethyl ether	112-49-2	Plastic article	Usage ban		5.0		mg/kg	GC-MS // Extraction with Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban		5.0		mg/kg	GC-MS // Extraction with Methanol	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Halogenated Biphenyls, halogenated Terphenyls and halogenated Naphthalenes									
<i>Polybrominated Biphenyls</i>	59536-65-1	All	Usage ban	5.0			mg/kg	EN ISO 17881-1 (2016) ISO/TR 17881-3 (2018)	For sum of all allocated Members/Substances
<i>Polybrominated Naphthalenes</i>	Several	All	Usage ban	1.0			mg/kg		For sum of all allocated Members/Substances
<i>Polybrominated Terphenyls</i>	Several	All	Usage ban	1.0			mg/kg		For sum of all allocated Members/Substances
<i>Polychlorinated Biphenyls</i>	1336-36-3	All	Usage ban	1.0			mg/kg		For sum of all allocated Members/Substances
<i>Polychlorinated Naphthalenes</i>	Several	All	Usage ban	1.0 each			mg/kg		Usage ban 1.0 mg/kg for every allocated Member/Substance
<i>Polychlorinated Terphenyls</i>	61788-33-8	All	Usage ban	1.0			mg/kg		For sum of all allocated Members/Substances
Halogenated Biphenyls, halogenated Terphenyls and halogenated Naphthalenes									
Halogenated Diarylalkanes	Several	All	Usage ban	1.0 each			mg/kg	GC-MS // Extraction following DIN EN 62321-6 (2016)	Single substances listed in Annex
Isocyanates									
Isocyanates	Several	All	Limitation	1.0			mg/kg	EN 13130-8 (2004)	Free content applies to sum of all allocated isocyanates Single substances listed in Annex
Metals									
<i>Antimony, its salts and compounds</i>	Several	Leather	Limitation	5	10	10	mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content // Usage as flame retardant: bluesign® CRITERIA for flame retardants have to be followed
		Textiles	Limitation	5	10	10	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
		Metal parts Polymer parts Down/feather articles	Limitation	60			mg/kg	DIN EN ISO 11885 (2009) EN 71-3 (2019) // Acidic solution migration simulating gastric juices DIN EN ISO 17294-2 (2017)	
		Fibers/yarn	Limitation	260			mg/kg	DIN EN 16711-1 (2016) // Total content	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Metals (continued)									
Arsenic, its salts and compounds		Textiles Metal parts Polymer parts Down/feather articles	Usage ban	0.2			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
		Leather	Usage ban	0.2			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	
Cadmium, its salts and compounds	Several	Textiles Polymer parts Down/feather articles	Usage ban	0.1			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
		Leather	Usage ban	40			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	
		Textiles Polymer parts Down/feather articles Metal parts	Usage ban	40			mg/kg	DIN EN 16711-1 (2016) // Total content	As total metal content
		Leather	Usage ban	0.5			mg/kg	EN ISO 17072-2 (2019) // Total content	
Chromium VI, its salts and compounds	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban	0.5			mg/kg	EN ISO 17075-1 (2017)	As extractable metal content
		Metal parts	Usage ban	0.5			mg/kg	EN 62321-7-1 (2016)	
		Leather	Usage ban	3.0			mg/kg	EN ISO 17075-1 (2017) EN ISO 17075-2 (2017) DIN EN ISO 4044 (2017)	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Metals (continued)									
Chromium, its salts and compounds	Several	Metal parts Polymer parts Down/feather articles	Limitation	60			mg/kg	DIN EN ISO 11885 (2009) EN 71-3 (2019) // Acidic solution migration simulating gastric juices DIN EN ISO 17294-2 (2017)	If products are covered with a metallayer, including a chromium layer, coating must be constantly in good condition // as extractable metal content
		Textiles	Limitation	0.5			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content // fortexiles dyed with chromium containing metal complex dyes A: 1.0 // B: 2.0 // C: 2.0 mg/kg
Cobalt, its salts and compounds	Several	Leather	Limitation	1.0			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content // for textiles and leather dyed with cobaltcontaining metal complex dyes A: 1.0 // B: 4.0 // C: 4.0 mg/kg
		Textiles	Limitation	1.0			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
		Metal parts Polymer parts Down/feather articles	Limitation	1.0	4.0	4.0	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
Copper, its salts and compounds	Several	Textiles	Limitation	25	50	50	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
		Leather	Limitation	25	50	50	mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Metals (continued)									
Lead, its salts and compounds	Several	Metal parts	Usage ban	90			mg/kg	DIN EN 16711-1 (2016) // Total content	As total metal content
		Leather	Usage ban	40			mg/kg	EN ISO 17072-2 (2019) // Total content	
		Textiles Polymer parts Down/feather articles	Usage ban	40			mg/kg	DIN EN 16711-1 (2016) // Total content	
		Leather	Usage ban	0.2	1.0	1.0	mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content
		Textiles Polymer parts Down/feather articles	Usage ban	0.2	1.0	1.0	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
Mercury, its salts and compounds	Several	Metal parts	Usage ban	60			mg/kg	EN 71-3 (2019) // Acidic solution migration simulating gastric juices EN ISO 12846 (2012)	As extractable metal content
		Leather	Usage ban	0.02			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	
		Textiles Polymer parts Down/feather articles	Usage ban	0.02			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
Nickel, its salts and compounds	Several	Textiles	Limitation	1.0			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content // for textiles dyed with nickel containing metal complex dyes A: 1.0 // B: 4.0 // C: 4.0 mg/kg
		Leather	Limitation	1.0			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content // for leather dyed with nickel containing metal complex dyes A: 1.0 // B: 4.0 // C: 4.0 mg/kg
		Metal parts Polymer parts Down/feather articles	Usage ban for A and B	0.5	0.5	-	µg/cm ² /week	EN 1811 (2011) + A1 (2015) // Release prEN 12472 (2018)	As released metal content

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Monomers									
Acrylamide	79-06-1	All	Usage ban	1.0			mg/kg	CEN/TS 13130-10 (2005)	
Other Chemical Substances									
2-Phenyl-2-propanol	617-94-7	All	Limitation	10	50	50	mg/kg	GC-MS // Extraction with Methanol	
Acrylamide	79-06-1	All	Usage ban	1.0			mg/kg	CEN/TS 13130-10 (2005)	
Acetophenone	98-86-2	All	Limitation	20			mg/kg	GC-MS // Extraction with Methanol	
Azodicarbonamide (ADCA)	123-77-3	All	Limitation	100	200	200	mg/kg	Solvent Extraction // GC-MS or LC-MS or LC DAD	
Bisphenol A	80-05-7	Textiles Leather	Usage ban	1.0			mg/kg	EN ISO 18857-2 (2012) // Extraction with Methanol EN ISO 18857-2 (2012) // Extraction with THF	
		Metal parts Polymer parts Down/feather articles	Limitation	50			mg/kg		
Cresol, all isomers	1319-77-3	All	Usage ban	See isomers			mg/kg	BVL B 82.02-8 (2001) // Extraction with KOH DIN EN ISO 17070 (2015) // Extraction with KOH	10 mg/kg for each isomer
m-Cresol	108-39-4	All	Usage ban	10			mg/kg		
o-Cresol	95-48-7	All	Usage ban	10			mg/kg		
p-Cresol	106-44-5	All	Usage ban	10			mg/kg		
Formamide	75-12-7	Textiles	Usage ban	50	50	100	mg/kg	EN 17131 (2019)	
		Metal parts Polymer parts Down/feather articles Leather	Usage ban	50	50	100	mg/kg	CEN ISO/TS 16189 (2013)	
Isoquinoline	119-65-3	All	Usage ban	50			mg/kg	LC-MS/MS // Extraction with Methanol LC-DAD // Extraction with THF LC-DAD // Extraction with Methanol LC-MS/MS // Extraction with THF	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Other Chemical Substances (continued)									
Phenol	108-95-2	All	Limitation	10	50	100	mg/kg	LC-MS // Extraction with Methanol GC-MS // Extraction with Methanol	
Quinoline	91-22-5	All	Usage ban	50			mg/kg	LC-MS/MS // Extraction with Methanol LC-DAD // Extraction with THF or Methanol LC-MS/MS // Extraction with THF	
Siloxanes	Several	All	Usage ban					GC // with reference to TEGEWA method	Usage ban for every allocated member/substances
Octamethyl cyclotetrasiloxane (D4)	556-67-2	All	Usage ban	30		mg/kg			
Decamethyl cyclopentasiloxane (D5)	541-02-6	All	Usage ban	50		mg/kg			
Dodecamethyl cyclohexasiloxane (D6)	540-97-6	All	Usage ban	50		mg/kg			
Ozone Depleting Substances									
Ozone depleting substances(CFCs) class I	Several	All	Usage ban	0.1 each			mg/kg	GC-MS // Headspace	Usage ban for direct use in manufacturing of articles
Ozone depleting substances (CFCs) class II	Several	All	Usage ban	0.1 each			mg/kg	GC-MS // Headspace	Single substances listed in Annex
Pesticides									
Pesticides	Several	All	Usage ban	0.5			mg/kg	GC-MS // ASE with Acetone/Hexane LC-MS // ASE with Acetone/Hexane GC-MS // Soxhlet Extraction with Acetone/Hexane LC-MS // Soxhlet Extraction with Acetone/Hexane	Applies to total sum of all allocatedmembers/substances Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Perfluoroalkyl sulfonic acids and derivatives - PFSA									
Perfluorooctane sulfonic acid and its derivatives	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		1.0		µg/m ²	CEN/TS 15968 (2014)	Usage ban on long-chain compounds based on electrofluorination chemistry (C6 and higher).
		Leather	Usage ban		1.0		µg/m ²	EN ISO 23702-1 (2018)	Single substances listed in Annex
Perfluoroalkyl carboxylic acids and derivatives - PFCA									
Perfluorocarboxylic acids and its salts	Several	Leather	Usage ban		0.1		mg/kg	EN ISO 23702-1 (2018)	For sum of all allocated Members/Substances
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		0.1		mg/kg	CEN/TS 15968 (2014)	
Perfluorohexanoic acid and its salts	Several	Leather	Usage ban		0.05 Monitoring		mg/kg	EN ISO 23702-1 (2018)	Single substances listed in Annex
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		0.05 Monitoring		mg/kg	CEN/TS 15968 (2014)	
Perfluorooctanoic acid and its salts	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		25		µg/kg	CEN/TS 15968 (2010)	Phase-out of long-chain compounds based on telomer chemistry (C8 and higher) since end of 2014.
		Leather	Usage ban		25		µg/kg	EN ISO 23702-1 (2018)	Single substances listed in Annex
Perfluorooctanoic acid related substances	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		1000		µg/kg	CEN/TS 15968 (2014)	Phase-out of long-chain compounds based on telomer chemistry (C8 and higher) since end of 2014.
		Leather	Usage ban		1000		µg/kg	EN ISO 23702-1 (2018)	For the sum of PFOA-related substances. Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Plasticizers									
Phthalic acid esters	Several	Textiles	Usage ban	50 each			mg/kg	EN ISO 14389 (2014) CPSC-CH-C1001-09.4	Single substances listed in Annex
		Metal parts Polymer parts Down/feather articles Leather	Usage ban	50 each			mg/kg	CPSC-CH-C1001-09.4	
Polyaromatic hydrocarbons (PAHs)									
Polyaromatic hydrocarbons (PAHs)	Several	All	Usage ban	10			mg/kg	AfPS GS 2019	For sum of all allocated PAHs PAHs without substance specific limitare listed in Annex
Benzo(a)anthracene	56-55-3	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(a)pyrene	50-32-8	All	Usage ban	0.2			mg/kg		
Benzo(b)fluoroanthene	205-99-2	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(e)pyrene	192-97-2	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(j)fluoroanthene	205-82-3	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(k)fluoroanthene	207-08-9	All	Usage ban	0.5	1.0	1.0	mg/kg		
Chrysene	218-01-9	All	Usage ban	0.5	1.0	1.0	mg/kg		
Dibenzo(a,h)anthrene	53-70-3	All	Usage ban	0.5	1.0	1.0	mg/kg		
Polymers									
Polyvinyl chloride	9002-86-2	All	Usage ban	See comment				FTIR Beilstein test // FTIR measurement only if result of Beilstein test was positive	Usage ban for usage range A and B - Not detected // for usage range C: forspecial applications. BLUESIGN has the right to make an individual decision
Solvents									
1,2-Dichloroethane	107-06-2	All	Usage ban	1.0			mg/kg	GC-MS // Headspace	
Benzene	71-43-2	All	Usage ban	5.0			mg/kg	VDA 278 (2011)	
Dichloromethane	75-09-2	All	Usage ban	5.0			mg/kg	GC-MS // Headspace	Usage ban for direct use in manufacturing of articles

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Solvents (continued)									
N,N-Dimethylacetamide (DMAc)	127-19-5	Textile articles including fabrics, laminates and non-wovens, garments and other finished textile article	Usage ban	5.0			mg/kg	EN 17131 (2019)	Several exceptions are defined: Exception is valid for elastane and PAN fibers as residual fiber solvent with Monitoring status – A: 10 mg/kg B: 50 mg/kg C: 50 mg/kg. Exception is valid for Aramid fibers - for special applications BLUESIGN has the right to make an individual decision.
		Metal parts Polymer parts Down/feather articles	Usage ban	5.0			mg/kg	CEN ISO/TS 16189 (2013)	
		Leather	Usage ban	5.0			mg/kg	EN ISO 19070 (2016)	
		Fibers/yarn	Usage ban	5.0			mg/kg	EN 17131 (2019)	
N,N-Dimethylformamide (DMF)	68-12-2	Textiles	Usage ban	5.0			mg/kg	EN 17131 (2019)	Several exceptions are defined: Exception is valid for articles produced by solvent coating, lamination or fiber manufacturing - A/B/C 50 mg/kg. Exception is valid for PAN fibers - for special applications BLUESIGN has the right to make an individual decision.
		Metal parts Polymer parts Down/feather articles	Usage ban	5.0			mg/kg	CEN ISO/TS 16189 (2013)	
		Leather	Usage ban	5.0			mg/kg	EN ISO 19070 (2016)	
N-Ethyl-2-pyrrolidone (NEP)	2687-91-4	Leather	Usage ban	10	10	100	mg/kg	EN ISO 19070 (2016)	
		Metal parts Polymer parts Down/feather articles	Usage ban	10	10	100	mg/kg	CEN ISO/TS 16189 (2013)	
		Textiles	Usage ban	10	10	100	mg/kg	EN 17131 (2019)	
N-Methylpyrrolidone (NMP)	872-50-4	Textiles	Usage ban	10	10	100	mg/kg	EN 17131 (2019)	Exception is valid for Aramid fibers: for special applications BLUESIGN has the right to make an individual decision
		Metal parts Polymer parts Down/feather articles	Usage ban	10	10	100	mg/kg	CEN ISO/TS 16189 (2013)	
		Leather	Usage ban	10	10	100	mg/kg	EN ISO 19070 (2016)	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Solvents (continued)									
Tetrachloroethylene	127-18-4	All	Usage ban	1.0			mg/kg	GC-MS // Headspace	
Toluene	108-88-3	All	Limitation	10	50	50	mg/kg	GC-MS // Headspace	
Trichloroethylene	79-01-6	All	Usage ban	5.0			mg/kg	GC-MS // Headspace	
Xylene, all isomers	1330-20-7	Textiles Polymer parts Down/feather articles Leather	Usage ban	10			mg/kg	GC-MS // Headspace	Usage ban 10 mg/kg for sum of all isomers
		Metal parts	Limitation	10			mg/kg	GC-MS // Headspace	Limitation for sum of all isomers
Tin-organic Compounds									
Tin-organic Compounds - asmono-, di- and tri-, tetraalkyltin organics	Several	All	Usage ban					CEN ISO/TS 16179 (2012)	Usage ban for all allocated Members/Substances
Ethyltin compounds	Several		Usage ban						
<i>Tetraethyltin compounds (TET)</i>	Several	All	Usage ban	1.0			mg/kg		
Hexyltin compounds	Several		Usage ban						
<i>Tricyclohexyltin compounds (TCyHT)</i>	Several	All	Usage ban	0.5			mg/kg		
Butyltin compounds	Several		Usage ban						
<i>Dibutyltin compounds (DBT)</i>	Several	All	Usage ban	1.0			mg/kg		
<i>Monobutyltin compounds (MBT)</i>	Several	All	Usage ban	1.0			mg/kg		
<i>Tetrabutyltin compounds (TeBT)</i>	Several	All	Usage ban	0.5			mg/kg		
<i>Tributyltin compounds (TBT)</i>	Several	All	Usage ban	0.5			mg/kg		
Methyltin compounds	Several		Usage ban						
<i>Dimethyltin compounds (DMT)</i>	Several	All	Usage ban	0.5			mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Tin-organic Compounds (continued)									
<i>Monomethyltin compounds (MMT)</i>	Several	All	Usage ban		2.0		mg/kg	CEN ISO/TS 16179 (2012)	Usage ban for all allocated Members/Substances
<i>Trimethyltin compounds (TMT)</i>	Several	All	Usage ban		0.5		mg/kg		
Octyltin compounds	Several		Usage ban						
<i>Diocyltin compounds (DOT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Monooctyltin compounds (MOT)</i>	Several	All	Usage ban		2.0		mg/kg		
<i>Tetraoctyltin compounds (TeOT)</i>	Several	All	Usage ban		0.5		mg/kg		
<i>Triocyltin compounds (TOT)</i>	Several	All	Usage ban		0.5		mg/kg		
Phenyltin compounds	Several		Usage ban						
<i>Diphenyltin compounds (DPhT)</i>	Several	All	Usage ban		2.0		mg/kg		
<i>Monophenyltin compounds (MPhT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Triphenyltin compounds (TPhT)</i>	Several	All	Usage ban		0.5		mg/kg		
Propyltin compounds	Several		Usage ban						
<i>Dipropyltin compounds (DPT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Tripropyltin compounds (TPT)</i>	Several	All	Usage ban		0.5		mg/kg		
UV stabilizers									
2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol	36437-37-3	All	Usage ban		1000		mg/kg	DIN EN 62321-6 (2016) // Extraction with THF	
2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)phenol	25973-55-1	All	Usage ban		1000		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
UV stabilizers (continued)									
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)-phenol	3864-99-1	All	Usage ban		1000		mg/kg	DIN EN 62321-6 (2016) // Extraction with THF	
2-benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	All	Usage ban		1000		mg/kg		

3. Recommendations

- STANDARD 100 by OEKO-TEX®
- bluesign®
- AZO Free certification
- Higg Index Facility Environmental Module (FEM)
- ZDHC

To be filled in by supplier:

We have understood Helinox Restricted Substance List and ensure to meet any of these requirements.

COMPANY NAME	SUNGJIN INC CO.,LTD
DATE SIGNED	Dec 12,2022
SIGNED BY	Jun Kim
EMAIL	jun@sungjininc.com

SIGNATURE

