



RESTRICTED SUBSTANCES LIST (RSL)

Supplier Requirements Manual

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Introduction and scope

This document outlines BRAV's requirements for the chemical substances that are restricted in the production of products and in the final products delivered to BRAV under the brands Swix, Lundhags, Ulvang, Helsport, Toko and BRAV Teamwear.

The restrictions apply to the raw materials, components, intermediates, dyes, printing chemicals etc, and to the finished products for the purpose of protecting the environment throughout the whole lifecycle of the product. In addition, these restrictions are set out to lessen the exposure of hazardous substances for the workers making the products, and to ensure that BRAV products do not contain harmful substances for the well being of the end consumer.

All BRAV suppliers, manufacturers, vendors and subcontractors (hereinafter all referred to as "suppliers") must comply with the requirements and restrictions outlined in this document. Any additional local requirements in the countries of production that are not stipulated in this document must be adhered to.

BRAV sells products world wide, and the chemical restrictions in this document are in line with global regulations and BRAV's own environmental concerns. Our requirements reflect an awareness of how chemicals affect human health and the environment, as well as the constantly increasing quality demands of the end consumer.

BRAV continuously works to improve these processes, to ensure product quality, safety and reduce the environmental impact of the Brand.



Commitment

The chemical restrictions and limits described in this document are applicable to all products ordered by BRAV at all times.

By accepting Brav Standard Purchase Conditions, the Supplier commits to comply with Brav's chemical restrictions.

It is the suppliers responsibility to inform all upstream suppliers and subcontractors of Brav's chemical restrictions and to ensure their compliance.

Each supplier acknowledges that Brav's reserves the right to:

- Inspect and test any product or packaging during any stage of the production process using the listed or appropriate method.
- Cancel the Order or return the products to the Supplier if Brav's chemical restrictions are not met.
- Hold the Supplier responsible for any damage caused if the product, processing or packaging do not meet Brav's chemical restrictions.

Legal background

To reach global statutory (legal) requirements, BRAV has aligned this document with the regulatory entities stated below. It is advised that suppliers stay up to date with these policies to ensure compliance with future changes to chemical restrictions.

UN global treaties on certain hazardous chemicals such as Persistent Organic Pollutants (POPs)

Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

The Rotterdam Convention (formally, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade) is a multilateral treaty to promote shared responsibilities in relation to importation of hazardous chemicals.

The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury.

EU/EEA chemicals regulations

There is a range of chemicals regulations in EU/EEA that cover requirements of articles and/or chemical products depending on to what extent certain hazardous chemicals pose possible unacceptable risk to users and the environment under normal foreseeable conditions/use.

Such regulatory frameworks are:

- REACH (EU Regulation 1907/2006) and related amendments
- EU POP regulation (EU Regulation 2019/1021) and related amendments
- Biocidal Product regulation (EU Regulation 528/2012) and related amendments.
- EU directive concerning packaging materials (94/62/EC) and related amendments.
- RoHS Directive (2011/65 / EU) restricting the presence of hazardous chemical substances in electrical and electronic equipment.
- ETC...

Restrictions (EU/EEA)

Restrictions are regulatory measures to protect human health and the environment from unacceptable risks posed by chemicals. Restrictions may limit or ban the manufacture, placing on the market or use of a substance. A restriction can apply to any substance on its own, in a mixture or in an article, including those that do not require registration. Restrictions setting out conditions for the placing on the market of substances apply to both domestic production and imports.

Duty to inform on SVHC substances on the Candidate list for authorisation (EU/EEA)

Substances of Very High Concern (SVHC) are listed on the Candidate List for authorization of the Regulation (EC) No 1907/2006 (REACH). All professional actors have an obligation to inform their consumers about the content of SVHC (as a minimum the name of the substance(s)) exceeding 0.1 % weight by weight (= 1000 mg/kg) in individual parts of an article, that are defined as articles. If the consumers are professional actors, there is an immediate information duty, but within 45 days for private consumers.

The Toxic Substances Control Act, TSCA, of 1976 (US)

The Toxic Substances Control Act of 1976 is a US Federal law that provides the US EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

The official text of TSCA as amended by the Frank R. Lautenberg Chemical Safety Act of the 21st Century is available in the United States Code, from the U.S. Government Printing Office
TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon and lead-based paint.

California Proposition 65 (US)

California Proposition 65 officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted as a ballot initiative in November 1986. The proposition protects the state's drinking water sources from being contaminated with chemicals known to cause cancer, birth defects or other reproductive harm, and requires businesses to inform Californians about exposures to such chemicals.

Proposition 65 requires the state to maintain and update a list of chemicals known to the state to cause cancer or reproductive toxicity.

Severe hazardous substances - PBT, vPvB, CMR and ED substances

PBT, vPvB, CMR or ED Substances are defined as persistent, bioaccumulative and toxic (PBT), very persistent and very bioaccumulative (vPvB), carcinogenic, mutagenic and toxic for reproduction (CMR), and endocrine disruptors (ED) or equivalent concern, cannot exceed 1000 mg/kg in a product. If a specific substance is stated in this document with a stricter limit than is set out in the legal requirements, the requirement in this document must be followed.

Records of chemical substances

All suppliers to BRAV must keep records of all chemical substances used in production and all associated processes. This list shall include name of the chemical product, the purpose/area of use and a reference to a Material Safety Data Sheet (MSDS).

Suppliers can and will be asked to submit this list to BRAV or an accredited auditor for inspection. BRAV reserves the right to ask for additional documentation, showing the chemicals that have been used during production.

Laboratories and Testing

Approved laboratories

The following laboratories are approved:

- Intertek
- SGS
- QIMA
- Bureau Veritas
- UL-STR
- TUV Rheinland

Test reports

All test reports shall be in English language, and include the followings:

- Brand
- Style/item no
- PO-number
- Suppliers name
- Description of the tested item
- Pictures of the tested item
- Pictures of the tested items labels where applicable
- Description of the test performed
- Test result
- Date and signature by an authorised person at the laboratory

Test methods

Tests should be performed according to the latest published European standard (EN) and/or ISO test methods.

In cases where there are no existing EN and/or ISO standards for the specific test/analysis, the test report should include the following:

Sample preparation

- Amount of specimen for preparation, weight and size
- procedure of extraction, solvents used, and equipment used for extraction e.g. Soxhlet

Instrumental performance

- instruments used e.g GC-MS etc.
- lab specific detection limit(s) where preferably LOQ (limit of quantification) are reported
- standard deviation in analytical results

Other information of importance

- describe modified procedures from applied established ISO/EN standard methods if available.
- always present test results in ppm
- description of the recalculation to ppm if the test result is presented in another unit e.g ppm, ppb, ug/kg etc

Instruction to the laboratory

- always present the actual test result of the analysis and not any letter combinations if not properly described e.g N/A
- if not detected, report always below the actual LOQ (< LOQ) values

In case of quality dispute; 3rd party documentation will be required. 3rd party test results will not be required unless requested.

List of Restricted Substances

Table 1 provides a testing matrix of BRAV's restricted substances and the materials in which they are likely to be found. This table has been created for the assistance of both suppliers and testing houses to give an overview of which materials to test for which restricted substance.

Table 2 gives an extensive list of regulated chemicals that show BRAV's restricted substances and the limits in BRAV products. It also shows which tests are to be carried out for each substance

Annex 1 - BRAV's definition of PFC free garments and the chemical restrictions in this instance.

Annex 2 - Suppliers agreement of compliance with the BRAV RSL

General Definitions and abbreviations

CAS Number - For every substance, the list states the identification number (CAS No) according to Chemical Abstract Services

Various – Is stated instead of CAS number, the substance has several substances and CAS numbers covered by the specification.

Detection Limit - Is defined as the lowest possible value that can be found during testing with a specific test method. Whenever test methods have been revised and the detection limit has been



changed, the new detection limit must be followed.

The limits of detection (LOD) and quantification (LOQ) are defined as the lowest concentration of the analyte that can be reliably detected and quantified, respectively. Usually the LOD and LOQ refer to the limits associated with 95% probability of obtaining a correct result.

Not Detected - Substance stated with “Not Detected” as a requirement should not be found above the Detection Limit.

Usage ban - When a substance is defined as “Usage ban” this means that the substance should not be present and used during the production directly or indirectly through transformation in processes. Those substances cannot be present in the product over the Detection Limit.

Limit – the highest allowed content of the substance per kilogram article or part thereof

Units Guide

1000	ppm	equals	1000	mg/kg	(milligram per kilogram)
	(parts per million)		1,000,000	µg/kg	(microgram per kilogram)
			1,000,000	ppb	(parts per billion)
			0.1	% (by weight)	
			x	µg/m ²	x depends on the thickness of the fabric (kg/m ²)
			x	µg/cm ² /week	x is a measure of the release of a substance from a surface, and is only partially dependent on the concentration of the substance

Table 1 - Testing Matrix of the major restricted substances for different materials

	MATERIAL																
	Natural Fibres	Synthetic fibres	Natural and Synthetic blended fibres	Artificial Leather	Natural Leather	Other Natural Materials	Metal	Porcelain, Ceramics and Glass	Feather and Down	EVA	PU and TPU	Rubber	Polycarbonate	PVC	Coatings and Prints	Lubricants and Waxes	Glue
Acetophenone and 2-Phenyl-2-Propanol										X						X	
Acidic and Alkaline Substances (pH)	X	X	X	X	X												
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs), including all isomers	X	X	X	X	X	X			X	X	X	X	X	X	X		X
Azo-amines and Aryl Amine salts	X	X	X	X	X	X			X						X		
Bisphenols		X	X		X					X	X	X	X	X			
Chlorinated Paraffins					X					X	X	X	X	X			
Chlorophenols	X	X	X		X												
Chlorinated Benzenes and Toluenes		X	X	X													
Dimethylfumarate (DMFu)					X												
Dyes, Forbidden and Disperse		X	X	X											X		



	MATERIAL																
	Natural Fibres	Synthetic fibres	Natural and Synthetic blended fibres	Artificial Leather	Natural Leather	Other Natural Materials	Metal	Porcelain, Ceramics and Glass	Feather and Down	EVA	PU and TPU	Rubber	Polycarbonate	PVC	Coatings and Prints	Lubricants and Waxes	Glue
Dyes, Navy Blue	x	x	x														
Flame Retardants	x	x	x	x	x	x											
Fluorinated Greenhouse Gases																	
Formaldehyde	x	x	x	x	x	x						x			x		x
Heavy Metals, Chromium VI	x ²				x												
Heavy Metals, Extractable	x	x	x	x	x					x	x	x	x	x			
Heavy Metals, Nickel Release							x										
Heavy Metals, Total				x			x	x		x	x	x	x	x	x		
Monomers, Styrene & Vinyl Chloride														x	x		
N-Nitrosamines												x					
Organotin Compounds	x	x	x	x	x						x	x		x	x		x
Ortho-phenylphenol (OPP)	x	x	x	x	x										x		
Ozone-depleting Substances																	



	MATERIAL																
	Natural Fibres	Synthetic fibres	Natural and Synthetic blended fibres	Artificial Leather	Natural Leather	Other Natural Materials	Metal	Porcelain, Ceramics and Glass	Feather and Down	EVA	PU and TPU	Rubber	Polycarbonate	PVC	Coatings and Prints	Lubricants and Waxes	Glue
Perfluorinated and Polyfluorinated Chemicals (PFCs)	All (where Fluorinated finishes are applied)																
Pesticides, Agricultural																	
Phthalates				x						x	x	x	x	x	x		x
Polycyclic Aromatic Hydrocarbons (PAHs)				x						x	x	x		x	x	x	x
Quinoline		x	x														
Siloxanes																x	
Solvents / Residuals, DMFa				x							x				x ³		x ³
Solvents / Residuals, DMAC and NMP				x							x				x		x
Solvents / Residuals, Formamide										x					x		
UV Absorbers / Stabilisers										x	x	x	x	x			
Volatile Organic Compounds (VOCs)				x						x	x	x	x	x	x	x	x

²Wool only ³Containing PU only

Table 2 - Restricted Substances List

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Acetophenone and 2-Phenyl-2-Propanol				
Acetophenone	98-86-2	Extraction in acetone or methanol GC/MS, sonication for 30 minutes at 60 degrees C	Usage Ban 50ppm each	25ppm each
2-Phenyl-2-Propanol	617-94-7			
Acidic and Alkaline Substances				
PH Value	N/A	Textiles and Artificial Leather: EN ISO 3071 Leather: EN ISO 4045	Textiles: 4.0–7.5 Leather: 3.2–7.5	N/A
Alkylphenols (APs), Alkylphenol Ethoxylates (APEOs), including all isomers				
Nonylphenol (NP), mixed isomers	Various	Textiles and Leather: EN ISO 21084. 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	Usage Ban Total APs: 10 ppm Total APs + APEOs: 100 ppm	Total of NP + OP: 3 ppm
Octylphenol (OP), mixed isomers	Various			
Nonylphenol ethoxylates (NPEOs)	Various	All materials except Leather: EN ISO 18254-1 with determination of APEO using LC/MS or LC/MS/MS Leather: Sample prep and analysis using EN ISO 18218-1 with quantification according to EN ISO 18254-1		Total of NPEOs + OPEOs: 20 ppm
Octylphenol ethoxylates (OPEOs)	Various			
Azo-amines and Arylamine Salts				
4-Aminobiphenyl	92-67-1	All materials except Leather: EN ISO 14362-1 Leather: EN ISO 17234-1 p-Aminoazobenzene: All materials except Leather: EN ISO 14362-3 Leather: EN ISO 17234-2	Usage Ban 20 ppm each	5 ppm each
Benzidine	92-87-5			
4-Chloro-o-toluidine	95-69-2			
2-Naphthylamine	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			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
4,4'-Diaminodiphenylmethane	101-77-9	All materials except Leather: EN ISO 14362-1 Leather: EN ISO 17234-1 p-Aminoazobenzene: All materials except Leather: EN ISO 14362-3 Leather: EN ISO 17234-2	Usage Ban 20 ppm each	5 ppm each
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-Toluenediamine	95-80-7			
2,4,5-Trimethylaniline	137-17-7			
1,2,4 Xylidine	95-68-1			
2,6 Xylidine	87-62-7			
2-Methoxyaniline(=o-Anisidine)	90-04-0			
p-Aminoazobenzene	60-09-3			
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 Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Bisphenols				
Bisphenol-A (BPA)	80-05-7	All materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, analysis with LC/MS	Not Detected	1 ppm
Bisphenol S (BPS)	80-09-1		Usage Ban 10 ppm	1 ppm each
Bisphenol F (BPF)	620-92-8			
Bisphenol AF (BPAF)	1478-61-1			
Chlorinated Paraffins				
Short-chain Chlorinated Paraffins (SCCPs) (C10-C13)	85535-84-8	Leather: ISO 18219-1 (SCCP) ISO 18219-2 (MCCP) Textiles: ISO 22818 (SCCP + MCCP)	Usage Ban 1000 ppm	100 ppm
Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17)	85535-85-9			
Chlorophenols				
2,3,4-Trichlorophenol (TriCP)	15950-66-0	All materials: DIN 50009	Not detected	0.5 ppm each
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 3			
2,3,4,5-Tetrachlorophenol (TeCP)	4901-51-3			
2,3,4,6-Tetrachlorophenol (TeCP)	58-90-2			
2,3,5,6-Tetrachlorophenol (TeCP)	935-95-5			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Pentachlorophenol (PCP) and its salts and esters	87-86-5	All materials: DIN 50009	Not detected	0.5 ppm each
Chlorinated Benzenes and Toluenes				
2-Chlorotoluene	95-49-8	All materials: EN 17137	Usage Ban Total: 1 ppm	0.2 ppm each
3-Chlorotoluene	108-41-8			
4-Chlorotoluene	106-43-4			
2,3-Dichlorotoluene	32768-54-0			
2,4-Dichlorotoluene	95-73-8			
2,5-Dichlorotoluene	19398-61-9			
2,6-Dichlorotoluene	118-69-4			
3,4-Dichlorotoluene	95-75-0			
2,3,6-Trichlorotoluene	2077-46-5 2			
2,4,5-Trichlorotoluene	6639-30-1			
2,3,4,5-Tetrachlorotoluene	76057-12-0			
2,3,4,6-Tetrachlorotoluene	875-40-1			
2,3,5,6-Tetrachlorotoluene	1006-31-1			
Pentachlorotoluene	877-11-2			
1,3-Dichlorobenzene	541-73-1			
1,4-Dichlorobenzene	106-46-7			
1,2,3-Trichlorobenzene	87-61-6 1			
1,2,4-Trichlorobenzene	120-82-1			
1,3,5-Trichlorobenzene	108-70-3			
1,2,3,4-Tetrachlorobenzene	634-66-2			
1,2,3,5-Tetrachlorobenzene	634-90-2			
1,2,4,5-Tetrachlorobenzene	95-94-3			
Pentachlorobenzene	608-93-5			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Hexachlorobenzene	118-74-1	All materials: EN 17137	Usage Ban Total: 1 ppm	0.2 ppm each
p-Chlorobenzotrithloride	5216-25-1			
Benzotrithloride	98-07-7			
Benzyl Chloride	100-44-7		Usage Ban 10 ppm	1 ppm
1,2-Dichlorobenzene	95-50-1			
Dimethylfumarate				
Dimethylfumarate (DMFu)	624-49-7	All materials: ISO 16186	Usage Ban 0.1 ppm	0.05 ppm
Dyes - Forbidden and Disperse				
C.I. Disperse Blue 1	2475-45-8	All materials: DIN 54231	Usage Ban 30 ppm each	15 ppm each
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 37/76/59	12223-33-5			
	13301-61-6			
	51811-42-8			
C.I. Disperse Orange 149	85136-74-9			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
C.I. Disperse Red 1	2872-52-8	All materials: DIN 54231	Usage Ban 30 ppm each	15 ppm each
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			
C.I. Disperse Yellow 56	54077-16-6			
C.I. Acid Red 26	3761-53-3			
C.I. Basic Red 9	569-61-9			
C.I. Basic Green 4	569-64-2			
	2437-29-8			
	10309-95-2			
C.I. Basic Violet 3	548-62-9			
C.I. Basic Violet 14	632-99-5			
C.I. Basic Blue 26	2580-56-5			
C.I. Direct Black 38	1937-37-7			
C.I. Direct Blue 6	2602-46-2			
C.I. Direct Red 28	573-58-0			
C.I. Direct Brown 95	16071-86-6			
4-Dimethylaminoazobenzene (Solvent Yellow 2)	60-11-7			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
C.I. Solvent Blue 4	6786-83-0	All materials: DIN 54231	Usage Ban 30 ppm each	15 ppm each
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1			
Dyes, Navy Blue				
Component 1: C39H23ClCrN7O12S.2Na	118685-33-9	All materials: DIN 54231	Usage Ban 30 ppm each	15 ppm each
Component 2: C46H30CrN10O20S2.3Na	Not allocated			
Flame Retardants				
Decabromodiphenyl ethane (DBDPE)	84852-53-9	All materials: EN ISO 17881-1	Usage Ban 10 ppm each	5 ppm each
Pentabromodiphenyl ether (PentaBDE)	32534-81-9			
Octabromodiphenyl ether (OctaBDE)	32536-52-0			
Decabromodiphenyl ether (DecaBDE)	1163-19-5			
All other Polybrominated diphenyl ethers (PBDEs)	Various			
Tetrabromobisphenol A (TBBP A)	79-94-7			
Polybromobiphenyls (PBB)	59536-65-1			
Hexabromocyclododecane (HBCDD)	3194-55-6			
2,2-bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0			
Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)	13674-87-8	All materials: EN ISO 17881-2		
1 Trixylyl phosphate (TXP)	25155-23-1			
Tris(2,3,-dibromopropyl) phosphate (TRIS)	126-72-7			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Tris(1-aziridinyl)phosphine oxide (TEPA)	545-55-1	All materials: EN ISO 17881-2	Usage Ban 10 ppm each	5 ppm each
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8			
Bis(2,3-dibromopropyl)phosphate (BDBPP)	5412-25-9			
Fluorinated Greenhouse Gases				
Various	See Regulation (EU) No 517/2014 for a complete list.	Sample preparation: Purge and trap — thermal desorption or SPME Measurement: GC/MS	Not Detected	0.1 ppm each
Formaldehyde				
Formaldehyde	50-00-00	All materials except Leather: EN ISO 14184-1 Leather: EN ISO 17226-2 with EN ISO 17226-1 confirmation method in case of interferences.	Usage Ban 75 ppm	16 ppm
Heavy Metals, Extractable and Total Content				
Antimony (Sb)	7440-36-0	All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1	Usage Ban Extractable: 30 ppm	Extractable : 3 ppm
Arsenic (As)	7440-38-2	Extractable: All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1 Total: All materials except Leather: DIN EN 16711-1 Leather: DIN EN ISO 17072-2	Usage Ban Extractable: 0.2 ppm Total: 25 ppm	Extractable : 0.1 ppm Total: 10 ppm
Barium (Ba)	7440-39-3	All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1	Usage Ban Extractable: 1000 ppm	Extractable : 100 ppm
Cadmium (Cd)	7440-43-9	Extractable: All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1 Total: All materials except Leather: DIN EN 16711-1 Leather: DIN EN ISO 17072-2	Usage Ban Extractable: 0.1 ppm Total: 40 ppm	Extractable : 0.05 ppm Total: 5 ppm

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Chromium (Cr)	7440-47-3	Textiles: DIN EN 16711-2 Leather: EN ISO 17072-1	Usage Ban Extractable: Textiles: 2 ppm	Extractable : 0.5 ppm
Chromium VI	18540-29-9	Textiles: DIN EN 16711-2 with EN ISO 17075-1 if Cr is detected Leather: EN ISO 17075-1 and EN ISO 17075-2 for confirmation in case the extract causes interference.	Usage Ban Extractable: Leather: 3 ppm Textiles 1 ppm	Extractable : Leather: 3 ppm Textiles: 0.5 ppm
Cobalt (Co)	7440-48-4	All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1	Usage Ban Extractable: 1 ppm	Extractable : 0.5 ppm
Copper (Cu)	7440-50-8	Not including metal parts. Leather: DIN EN ISO 17072-1 Other materials: DIN EN 16711-2	Usage Ban Extractable: 25 ppm	Extractable : 5 ppm
Lead (Pb)	7439-92-1	Extractable: All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1 Total: Non-metal: CPSC-CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3	Usage Ban Extractable: 0.2 ppm Total: 90 ppm	Extractable : 0.2 ppm Total: 10 ppm
Mercury (Hg)	7439-97-6	Extractable: All materials except Leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2019 Total: All materials except Leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2019	Usage Ban Extractable: 0.02 ppm Total: 0.5 ppm	Extractable : 0.02 ppm Total: 0.1 ppm
Nickel (Ni)	7440-02-0	Extractable: All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1 Release: EN 12472 and EN 1811:2011+A1	Usage Ban Extractable: 1 ppm Release (metal parts): Prolonged skin contact: 0.5 µg/cm ² /week	Extractable : 0.1 ppm Release: 0.5 µg/cm ² /week
Selenium (Se)	7782-49-2	All materials except Leather: DIN EN 16711-2 Leather: DIN EN ISO 17072-1	Usage ban Extractable: 500 ppm	Extractable : 50 ppm
Monomers				
Styrene, Free	100-42-5	Extraction in Methanol GC/MS, sonication at 60 degrees C for 60 minutes	Usage ban 500 ppm	50 ppm

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Vinyl Chloride	75-01-4	EN ISO 6401:2008	Not Detected	1 ppm
N-Nitrosamines				
N-nitrosodimethylamine (NDMA)	62-75-9	EN ISO 19577	Not Detected	0.5 ppm each
N-nitrosodiethylamine (NDEA)	55-18-5			
N-nitrosodipropylamine (NDPA)	621-64-7			
N-nitrosodibutylamine (NDBA)	924-16-3			
N-nitrosopiperidine (NPIP)	100-75-4			
N-nitrosopyrrolidine (NPYR)	930-55-2			
N-nitrosomorpholine (NMOR)	59-89-2			
N-nitroso N-methyl N-phenylamine (NMPHA)	614-00-6			
N-nitroso N-ethyl N-phenylamine (NEPHA)	612-64-6			
Organotin Compounds				
Dibutyltin (DBT)	Various	All materials: CEN ISO/TS 16179	Usage Ban 1 ppm each	0.1 ppm each
Dioctyltin (DOT)	Various			
Monobutyltin (MBT)	Various			
Tricyclohexyltin (TCyHT)	Various			
Trimethyltin (TMT)	Various			
Trioctyltin (TOT)	Various		Usage Ban 0.5 ppm each	
Tripolytin (TPT)	Various			
Tributyltin (TBT)	Various			
Triphenyltin (TPhT)	Various			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Ortho-phenylphenol				
Ortho-phenylphenol (OPP)	90-43-7	All materials: DIN 50009	Usage Ban 1000 ppm	100 ppm
Ozone-depleting Substances				
See regulation (EC) No 1005/2009 for a complete list	Various	All materials: GC/MS headspace 120 degrees C for 45 minutes	Not Detected	5 ppm
Perfluorinated and Polyfluorinated Chemicals (Regulated PFCs or PFAS)				
PFOS and Related Substances				
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	All materials: EN ISO 23702-1	Not Detected	1 µg/m ² total
Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3			
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5			
Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9			
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8			
Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H ₅) ₄)	56773-42-3			
N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2			
N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8			
2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2			
2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Perfluoro-1-octanesulfonyl fluoride (POSF)	307-35-7	All materials: EN ISO 23702-1	Not Detected	1 µg/m ² total
Perfluorooctane sulfonamide (PFOSA)	754-91-6			
Perfluorooctanoic Acid (PFOA) and its Salts				
Perfluorooctanoic acid (PFOA)	335-67-1	All materials: EN ISO 23702-1	Not Detected	0.025 ppm total
Sodium perfluorooctanoate (PFOA-Na)	335-95-5			
Potassium perfluorooctanoate (PFOA-K)	2395-00-8			
Silver perfluorooctanoate (PFOA-Ag)	335-93-3			
Perfluorooctanoyl fluoride (PFOA-F)	335-66-0			
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1			
PFOA-related substances				
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	All materials: EN ISO 23702-1	Not Detected	1 ppm total
Methyl perfluorooctanoate (Me-PFOA)	376-27-2			
Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5			
2-Perfluorooctylethanol (8:2 FTOH)	678-39-7			
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9			
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Pesticides and Herbicides, Agricultural				
2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds; 2,4,5-TP	93-72-1	All materials: ISO 15913/DIN 38407 F2	Not Detected	0.5 ppm each
2,4,5-T	93-76-5			
2,4-D	94-75-7			
Aldrine	309-00-2			
Azinophosmethy	86-50-0			
Azinophosethyl	2642-71-9			
Bromophos-ethyl	4824-78-6			
Captafol	2425-06-1			
Carbaryl	63-25-2			
Chlorbenzilat	510-15-6			
Chlordane	57-74-9			
Chlordimeform	6164-98-3			
Chlorfenvinphos	470-90-6			
Chlorthalonil	1897-45-6			
Coumaphos	56-72-4			
Cyfluthrin	68359-37-5			
Cyhalothrin	91465-08-6			
Cypermethrin	52315-07-8			
S,S,S-Tributyl phosphorotrithioate (Tribufos)	78-48-8			
Deltamethrin	52918-63-5			
DDD	53-19-0			
	72-54-8			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
DDE	3424-82-6	All materials: ISO 15913/DIN 38407 F2	Not Detected	0.5 ppm each
	72-55-9			
DDT	50-29-3			
	789-02-6			
Diazinone	333-41-5			
Dichlofluanide	1085-98-9			
Dichloroprop	120-36-5			
Dicofol	115-32-2			
Dicrotophos	141-66-2			
Dieldrine	60-57-1			
Dimethoate	60-51-5			
Dinoseb, its salts and acetate	88-85-7			
DTTB (4, 6-Dichloro-7 (2,4,5-trichlorophenoxy) -2-Trifluoro methyl benzimidazole)	63405-99-2			
Endosulfan	115-29-7			
Endosulfan I (alpha)	959-98-8			
Endosulfan II (beta)	33213-65-9			
Endrine	72-20-8			
Esfenvalerate	66230-04-4			
Ethylendibromid	106-93-4			
Ethylparathione; Parathion	56-38-2			
Fenvalerate	51630-58-1			
Halogenated naphthalenes, including polychlorinated naphthalenes (PCNs)	Various			
Heptachlor	76-44-8			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Heptachloroepoxide	1024-57-3	All materials: ISO 15913/DIN 38407 F2	Not Detected	0.5 ppm each
a-Hexachlorocyclohexane with & without Lindane	319-84-6			
b-Hexachlorocyclohexane with & without Lindane	319-85-7			
g-Hexachlorocyclohexane with & without Lindane 1	319-86-8			
Hexachlorobenzene	118-74-1			
Isodrine	465-73-6			
Kelevane	4234-79-1			
Kepone	143-50-0			
Lindane	58-89-9			
Malathione	121-75-5			
MCPA	94-74-6			
MCPB	94-81-5			
Mecoprop	93-65-2			
Metamidophos	10265-92-6			
Methoxychlor	72-43-5			
Mirex	2385-85-5			
Monocrotophos	6923-22-4			
Parathion-methyl	298-00-0			
Pentachloroanisole	1825-21-4			
Phosdrin/Mevinphos	7786-34-7			
Perthane	72-56-0			
Propethamphos	31218-83-4			
Profenophos	41198-08-7			
Quinalphos	13593-03-8			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Quintozene	82-68-8	All materials: ISO 15913/DIN 38407 F2	Not Detected	0.5 ppm each
Strobane	8001-50-1			
Telodrine	297-78-9			
Toxaphene	8001-35-2			
Tolyfluanide	731-27-1			
Trifluraline	1582-09-8			
Pthalates				
Di-Iso-nonylphthalate (DINP)	28553-12-0	<p>Sample preparation for all materials: CPSC-CH-C1001-09.4</p> <p>Measurement:</p> <p>Textiles: EN ISO 14389 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed).</p> <p>All materials except textiles: GC/MS</p>	Usage Ban 500 ppm each Total: 1000 ppm	50 ppm each
Di-n-octylphthalate (DNOP)	117-84-0			
Di(2-ethylhexyl)-phthalate (DEHP)	117-81-7			
Diisodecylphthalate (DIDP)	26761-40-0			
Butylbenzylphthalate (BBP)	85-68-7			
Dibutylphthalate (DBP)	84-74-2			
Diisobutylphthalate (DIBP)	84-69-5			
Di-n-hexylphthalate (DnHP)	84-75-3			
Diethylphthalate (DEP)	84-66-2			
Dimethylphthalate (DMP)	131-11-3			
Di-n-pentyl phthalate (DPENP)	131-18-0			
Dicyclohexyl phthalate (DCHP)	84-61-7			
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	<p>Sample preparation for all materials: CPSC-CH-C1001-09.4</p> <p>Measurement:</p> <p>Textiles: EN ISO 14389</p> <p>All materials except textiles: GC/MS</p>	Usage Ban 500 ppm each Total: 1000 ppm	50 ppm each

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Bis(2-methoxyethyl) phthalate	117-82-8	<p>Sample preparation for all materials: CPSC-CH-C1001-09.4 Measurement: Textiles: EN ISO 14389 All materials except textiles: GC/MS</p>	<p>Usage Ban 500 ppm each Total: 1000 ppm</p>	<p>50 ppm each</p>
Diisopentyl phthalate (DIPP)	605-50-5			
Dipropyl phthalate (DPRP)	131-16-8			
Diisooctyl phthalate (DIOP)	27554-26-3			
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4			
Diisohexyl phthalate (DIHxP)	71850-09-4 D			
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4			
1,2-Benzenedicarboxylic acid Dipentyl ester, branched and linear	84777-06-0			
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate; 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters; 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	68648-93-1			
	68515-51-5			
n-Pentyl-isopentylphthalate (nPIPP)	776297-69-9			
Polycyclic Aromatic Hydrocarbons (PAHs)				
Acenaphthene	83-32-9	<p>All materials: AFPS GS 2019</p>	<p>Usage Ban Total: 10 ppm</p>	<p>0.2 ppm each</p>
Acenaphthylene	208-96-8			
Anthracene	120-12-7			
Benzo(g,h,i)perylene	191-24-2			

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Fluorene	86-73-7	All materials: AFPS GS 2019	Usage Ban Total: 10 ppm	0.2 ppm each
Fluoranthene	206-44-0			
Indeno(1,2,3-cd)pyrene	193-39-5			
Naphthalene	91-20-3			
Phenanthrene	85-01-8			
Pyrene	129-00-0			
Benzo(a)anthracene	56-55-3		Usage Ban 0.5 ppm each Total: 10ppm	
Benzo(a)pyrene	50-32-8			
Benzo(b)fluoranthene	205-99-2			
Benzo[e]pyrene	192-97-2			
Benzo[j]fluoranthene	205-82-3			
Benzo(k)fluoranthene	207-08-9			
Chrysene	218-01-9			
Dibenzo(a,h)anthracene	53-70-3			
Quinoline				
Quinoline	91-22-5	All materials: DIN 54231 with methanol extraction at 70 degrees C	Usage Ban 50 ppm	10 ppm
Siloxanes				
Octamethylcyclotetrasiloxane (D4)	556-67-2	GC-MS	Usage Ban 1000 ppm	100 ppm
Decamethylcyclopentasiloxane (D5)	541-02-6			
Dodecamethylcyclohexasiloxane (D6)	540-97-6			
Solvents and Residuals				
Dimethylformamide (DMFa)	68-12-2	Textiles: EN 17131 All other materials: DIN CEN ISO/TS 16189	Usage Ban 500 ppm	50 ppm each

Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Formamide	75-12-7	Textiles: EN 17131 All other materials: DIN CEN ISO/TS 16189	Usage Ban 1000 ppm each	50 ppm each
Dimethylacetamide (DMAC)	127-19-5			
N-Methyl-2-pyrrolidone (NMP)	872-50-4			
UV Absorbers/ Stabilisers				
UV 320	3846-71-7	DIN EN 62321-6-05 (Extraction in THF, analysis by GC/MS)	Usage Ban 1000 ppm each	100 ppm each
UV 327	3864-99-1	DIN EN 62321-6-05 (Extraction in THF, analysis by GC/MS)	Usage Ban 1000 ppm each	100 ppm each
UV 328	25973-55-1			
UV 350	36437-37-3			
Volatile Organic Compounds (VOCs)				
Benzene	71-43-2	For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C	Not Detected	5 ppm
Carbon Disulfide	75-15-0		Usage Ban Total: 1000 ppm	20 ppm each
Carbon Tetrachloride	56-23-5			
Chloroform	67-66-3			
Cyclohexanone	108-94-1			
1,2-Dichloroethane	107-06-2			
1,1-Dichloroethylene	75-35-4			
Ethylbenzene	100-41-4			
Pentachloroethane	76-01-7			
1,1,1,2- Tetrachloroethane	630-20-6			
1,1,2,2- Tetrachloroethane	79-34-5			
Tetrachloroethylene (PERC)	127-18-4			
Toluene	108-88-3			
1,1,1- Trichloroethane	71-55-6			
1,1,2- Trichloroethane	79-00-5			



Restricted Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Trichloroethylene	79-01-6	For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C	Usage Ban Total: 1000 ppm	20 ppm each
Xylenes (meta-, ortho-, para-)	1330-20-7			
	108-38-3			
	95-47-6			
	106-42-3			



Annex 1 - PFC free product testing requirements and Exemptions

BRAV is restricting the use of all Per- and Polyfluoro-chemicals within its products.

For all legally restricted PFOS, PFOAs and related substances suppliers must comply with the BRAV RSL above.

For all additional restrictions, beyond the legal limits, the supplier is required to follow the restrictions and limits below.

When agreed with the Product Development team and specified in the Tech Pack, exceptions may be granted to waive the additional restrictions below (beyond legal). Any exemption must be requested by the supplier for each material affected and must be agreed in writing by Brav.

Substance	CAS No.	Test method	Requirement and Limit	Detection Limit
Per- and polyfluorinated compounds (PFC/PFAS)				
All per- and polyfluorinated compounds	Various	All other products - ISO 23702-1A Hardware - as specified in Eco-Passport by OekoTex® method 9	Not Detected	All other product: 1 ppm Hardware: 25ppb



Annex 2 - Suppliers Compliance Certificate

Company Name:

Address:

Telephone:

Fax:

Contact Person:

MRSL/RSL Compliance

We certify that all materials supplied to BRAV (under the brands Swix, Lundhags, Ulvang, Helsport, Toko and BRAV Teamwear) will meet the requirements as outlined in the attached Restricted Substance List including all appendices. Our signature guarantees compliance of all current and future materials supplied to BRAV.

Signature

Date

Printed Name

Title