

RESTRICTED SUBSTANCE LIST

V. 4.0

Material Management

June 2023

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 1 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Contents

Ve	sion History	2
Pre	face	3
1	Chemical Compliance List Table	4
	AZO	4
	CARCINOGENIC DYES	4
	ALLERGENIC DISPERSE DYES	5
	METALS	5
	PHTHALATES	6
	PESTICIDES	6
	FLAME RETARDANTS	7
	Organotin	7
	CHLORO-ORGANIC CARRIER	7
	PAH	8
	Extractable Heavy Metals	8
	Solvents/ VOCs	8
	Per- and Polyfluoroalkyl Substances (PFAS)	9
	OTHERS	0
2	Biocides1	2
3	Testing Guideline	5

BOARDRIDERS	Issue By:	Material Management	Version:	4.0	Page 2 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Version History

06/2023 Update PFAS list for DWR treated article Add Total fluorine test for DWR treated article Add Carcinogenic dye substances Add Flame Retardants substances Add Bisphenol S (BPS) Update Organotin restricted limit Update test method: • PCP/TeCP • Chromium VI • DMFu • SCCP Florence Cheung 4.0 01/2022 Update Preface Update Preface Update Preface (P.5) Add Bischenol S (P.8) Update PCP/TeCP test method code (P.8) Update PCP/TeCP test method code (P.8) Update PCP/TeCP test method code (P.9) Update PCP/TeCP test method code (P.12) Update PCP/TeCP test method code (P.13) Update PCP/TeCP test method add two substances Update Corrisonic Test method add two substances Update Corrisonic Test method add two substances Update PCP requirement Update PCP requirement Update PCP requirement Update PCP requirement Update PCP test method Update PCP t	DATE	DESCRIPTION	EDITED BY	VERSION #
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2/2017 Add Sine requirement Florence Cheung 1.1 2/2016 Initial Release Florence Cheung 1.0	2/2017	Add SVHC requirement in Preface	Florence Cheung	1 1
2/2016 Initial Release Florence Cheung 1.0	2/2017	Add Bisphenol A requirement		
	2/2016	Initial Release	Florence Cheung	1.0

BOARDRIDERS	Issue By:	Material Management	Version:	4.0	Page 3 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Preface

Boardriders, Inc. (including its affiliated companies and brands) is committed to doing business in an ethical and socially and environmentally responsible manner to ensure that all of the products sold by its brands are safe for consumers, compliant with all applicable chemical regulations, restrictions and guidelines, are manufactured in environments safe and secure for workers, and are environmentally friendly. Boardriders strives to work with supply chain partners (including vendors, suppliers and factories ("Suppliers") committed to these principles.

To support these objectives, Boardriders maintains a Restricted Substance List ("RSL") specific to its products, which is set forth herein. Boardriders expects the products it purchases from Suppliers to meet global standards for Restricted Substances. Boardriders also expects its Suppliers to make the following commitments:

- Implement chemical management processes in accordance with this RSL
- Ensure that the factories used have adopted and fully implemented a chemical management policy
- Ensure that all materials, components and finished products are in full compliance with the global restricted substances requirements where the products will be sold
- Map the sources of all materials and components in products for full visibility
- Obtain most recent test reports, certifications and/or chemical safety data sheets from material suppliers
- Test high risk materials
- Avoid high risk materials whenever possible
- Reformulate or replace materials not in compliance

Boardriders does not expect Suppliers to test every material, but rather considers material risk, sources from trusted partners, and tests as needed to ensure full compliance with this RSL. Boardriders tests to the strictest global regulations.

This document supersedes and replaces all previous versions with regards to the specific contents herein. This document will be updated from time to time by Boardriders in its discretion to ensure adherence to emerging and evolving regulations and standards.

Boardriders' regional offices will, from time to time, randomly select products for testing to ensure compliance with one or more of the specific chemical requirements stated in this RSL.

All Suppliers must use only Boardriders nominated third party testing labs. In addition, all sample materials submitted for testing must be a true representation of the materials that will be used during production. Passing test results will be accepted by Boardriders, in its sole discretion, for a period of one year from the test date, unless otherwise stated. Boardriders reserves the right to request additional testing at any time on any material.

For products shipped to China for the China market, Suppliers must ensure full compliance with the performance mandatory requirements as stated in the China National GB Standards, including GB 18401, GB 20400, GB 21550, GB 31701, GB/T 22849 (knit t-shirts), as well as all other applicable standards.

Boardriders thanks you for your continued partnership and full cooperation in ensuring that all Boardriders Products are fully compliant as outlined in this RSL.

Remark:

* Substances of Very High Concern (SVHC) are defined in article 57 of the Regulation (EC) No 1907/2006 and include substances which are CMR1, CMR 2, PBT or vPvB or identified. Check the updated list at ECHA website: http://echa.europa.eu/web/guest/candidate-list-table

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 4 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

1 Chemical Compliance List Table

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]
AZO			1
4-Aminodiphenyl	92-67-1		
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-Chloroaniline	106-47-8		
2,4-Diaminoanisole	615-05-4		
4,4'-Diaminodiphenylmethane	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		EN ISO 14362-1 (textiles),
4,4'-Methylene-bis-(2-chloroaniline)	101-14-4	20 mg/kg (each)	EN ISO 14362-3 (textile, p-AAB), ISO 17234-1 (leather)
4,4'-Oxydianiline	101-80-4		ISO 17234-2 (leather, p-AAB)
4,4'-Thiodianiline	139-65-1		[5 mg/kg]
o-Toluidine	95-53-4	-	
2,4-Toluylendiamine	95-80-7		
2,4,5-Trimethylaniline	137-17-7		
4-aminoazobenzene	60-09-3		
o-Anisidine	90-04-0	-	
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	7	
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7		
2,4,5-trimethylaniline hydrochloride	21436-97-5		
CARCINOGENIC DYES			I
C.I. Acid Red 26	3761-53-3	1	
C.I. Basic Red 9	569-61-9	1	
C.I. Basic Violet 14	632-99-5	1	
C.I. Direct Black 38	1937-37-7	7	
C.I. Direct Blue 6	2602-46-2	1	
C.I. Direct Red 28	573-58-0		
C.I. Disperse Blue 1	2475-45-8		
C.I. Disperse Orange 11	82-28-0]	DIN 54231
C.I. Disperse Yellow 3	2832-40-8	50 mg/kg	[5 mg/kg]
C.I. Disperse Yellow 23	6250-23-3		
C.I. Disperse Orange 149	85136-74-9		
C.I. Basic Violet 3 with \geq 0,1 % of	5/18-62-9		
Michler's ketone	348-02-3		
C.I. Basic Green 4	2437-29-8 10309-95-2		
C.I. Basic Blue 23	2580-56-5	1	
C.I. Solvent Blue 4	6786-83-0		
4-4'-bis(dimethylamino)-4"- (methylamino)trityl alcohol	561-41-1		

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 5 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]
ALLERGENIC DISPERSE DYES			
C.I. Disperse Blue 1	2475-45-8		
C.I. Disperse Blue 3	2475-46-9		
C.I. Disperse Blue 7	3179-90-6		
C.I. Disperse Blue 26	3860-63-7		
C.I. Disperse Blue 35	12222-75-2		
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		DIN 54221
C.I. Disperse Orange 3	730-40-5	50 mg/kg	[5 mg/kg]
C.I. Disperse Orange 37	13301-61-6		
C.I. Disperse Orange 76	13301-61-6		
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 Yellow 1	119-15-3	_	
C.I. Disperse Yellow 3	2832-40-8	_	
C.I. Disperse Yellow 9	6373-73-5	_	
C.I. Disperse Yellow 39	12236-29-2	_	
C.I. Disperse Yellow 49	54824-37-2		
METALS			
Chromium VI	18540-29-9	Not Detected	ISO 17075-1 after aging test (80°C, RH <5%, 24 hrs) [3 mg/kg]
Total Cadmium	7440-43-9	Metal: 75 mg/kg Others: 100 mg/kg	Coating: CPSC-CH-E1003-09.1 Substrate: CPSC - CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 [5 mg/kg]
Total Lead	7439-92-1	Substrate: 100 mg/kg Coating and Paints: 90 mg/kg	Coating: CPSC-CH-E1003-09.1 Substrate: CPSC - CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 [20 mg/kg]
Nickel Release	7440-02-0	Sunglasses/ Glasses: 0.5 µg/cm²/week Others: 0.5 µg/cm²/week	Sunglasses/ Glasses: EN 16128:2015 Others: EN 12472 / EN 1811:2011+A1:2015 [0.1 µg/cm ² /week]

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 6 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]
PHTHALATES		•	
DIHP/ 1,2-Benzenedicarboxylic acid, di- C6-8-branced alkyl esters, C7-rich	71888-89-6		
DHNUP / 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4		
BBP / Benzyl butyl phthalate	85-68-7		
DEHP / Bis(2-ethylhexyl)phthalate	117-81-7		
DMEP / Bis(2-methoxyethyl) phthalate	117-82-8		
DBP / Dibutyl phthalate	84-74-2		
DIBP / Diisobutyl phthalate	84-69-5		
DNiPP / 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0		
DIPP / Diisopentylphthalate	605-50-5		
NPiPP / N-Pentyl-isopentylphthalate	776297-69-9		
DPP / Dipentyl phthalate	131-18-0		
DnHP / Di-n-hexyl phthalate	84-75-3	1000 mg/kg (sum)	CPSC-CH-C1001-09.4 [50 mg/kg]
DIDP / Di-isodecyl phthalate	26761-40-0		[
DINP / Di-isononyl pthalate	28553-12-0		
DNOP / Di-n-octyl-phthalate	117-84-0		
DHxP / Di-hexylphthalate branched and linear	68515-50-4		
DIHxP / Di-iso-hexyl phthalate	71850-09-4		
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	68515-51-5 68648-93-1		
DCHP / Di-cyclohexyl phthalate	84-61-7		
DEP / Diethyl phthalate	84-66-2		
DMP / Dimethyl phthalate	131-11-3	-	
DIOP / Di-isoooctyl phthalate	27554-26-3		
PESTICIDES	1	1	Solvent Extraction CC ECD
Dieldrin	60-57-1	30 mg/kg	[0.5 mg/kg]
DTTB/ 4,6-Dichloro-7-(2,4,5- trichlorophenoxy)-2-trifluoromethyl benzimidazole	63405-99-2	30 mg/kg	Solvent Extraction, GC-ECD [0.5 mg/kg]
PCP / Pentachlorophenol	87-86-5	Not Detected	Non-leather: DIN 50009 Leather: With reference to ISO
TeCP / Tetrachlorophenol (2,3,5,6-TeCP, 2,3,4,6-TeCP, 2,3,4,5-TeCP	935-95-5 58-90-2 4901-51-3	0.5 mg/kg	17070. Analysis was conducted by GC-MS with confirmation [0.05 mg/kg]

BOARDRIDERS	Issue By:	Material Management	Version:	4.0	Page 7 of 17
Q UIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit		Method [detection limit]
FLAME RETARDANTS				
PBBs / Polybromobiphenyls	59536-65-1	Not Detected		
TRIS / Tris(2,3 dibromopropyl)phosphate	126-72-7	Not Detected	I	
TEPA / Tris(aziridinyl) phosphineoxide	545-55-1	Not Detected	I	
TDCPP/ Tris(1,3-dichloro-2-propyl) Phosphate	13674-87-8	Not Detected	I	
TCEP/ Tris(2-chloroethyl) Phosphate	115-96-8	Not Detected		
OctaBDE / Octabromodiphenyl Ether	32536-52-0	1000 mg/kg		
Bis-BBPA-BDBPP / Bis-(2,3- dibromopropyl) Phosphate	5412-25-9	Not Detected	I	
HBCDD / Hexabromocyclododecane	5637-99-4 and 3194- 55-6	Not Detected	1	Solvent Extraction, GC-MS [5 mg/kg]
Tetra BDE / Tetrabromodiphenyl ether		10 mg/kg	Articles - 500	
PentaBDE / Pentabromodiphenyl Ethers	32534-81-9	10 mg/kg	mg/kg for	
Hexa DBE / Hexabromodiphenyl ether		10 mg/kg	sum of tetra-,	
Hepta BDE / Heptabromodiphenyl ether		10 mg/kg	penta-,	
DecaBDE / Decabromodiphenyl Ether	1163-19-5	Not Detected	and decaBDE	
TBBP A / Tetrabromobisphenol A	79-94-7	1000 mg/kg		
BBMP / 2,2-bis(bromomethyl)-1,3- propanediol	3296-90-0	1000 mg/kg		
TXP / Trixylyl phosphate	25155-23-1	1000 mg/kg		
Organotin				
TBT / Tributyltin	688-73-3	0.5 mg/kg		
TPhT / Triphenyltin	639-58-7	0.5 mg/kg		
TcyT / Tricyclohexyltin	6056-50-4	1000 mg/kg o	of tin	
TOT / Trioctyltin	2587-76-0	1000 mg/kg o	of tin	Textile: ISO 22744-1
DBT / Dibutyltin	//-58-/	1 mg/kg		IN ON-TEXTILE: CEN ISO/ IS 161/9
DOT / Dioctyltin	16091-18-2	1 mg/kg		[0.03 [10] [6]
TMT / Trimethyltin		1000 mg/kg o	of tin	-
TPT / Tripropyltin		1000 mg/kg o	of tin	
CHLORO-ORGANIC CARRIER	I	1		1
Dichlorobenzenes				
Trichlorobenzenes				
Tetrachlorobenzenes	-			
Pentachlorobenzene				
Hexachlorobenzene				
Chlorotoluenes	Various CAS	4	-)	EN 17137
Dichlorotoluenes	numbers	1 mg/kg (Sun	n)	[0.1 mg/kg]
Trichlorotoluenes	-			
Tetrachlorotoluenes				
Pentachlorotoluene				
α,α,α,4-tetrachlorotoluene				
α,α,α-trichlorotoluene				
α-chlorotoluene				

BOARDRIDERS. DUKATUYER BILLABONG ROXY DOSMOES RVCA ELEMENT VONZIPPER	Issue By:	Material Management	Version:	4.0	Page 8 of 17
	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]	
PAH Polycyclic Aromatic Hydrocarbons			·	
Acenaphthene	83-32-9			
Acenaphthylene	208-96-8			
Anthracene	120-12-7			
Benzo(a)anthracène (BaA)	56-55-3			
Benzo(a)pyrène (BaP)	50-32-8			
Benzo(b)fluoranthène (BbFA)	205-99-2			
Benzo(e)pyrène (BeP)	192-97-2	Sum of 18 PAHs: 10 mg/kg		
Benzo(g,h, i)perylene	191-24-2	Sum of ANA, ANY, ANT, FLU, PHE,		
Benzo(j)fluoranthène (BjFA)	205-82-3	FLT, PYR: 10 mg/kg	AfPS GS 2019:01 PAK, GC-MS	
Benzo(k)fluoranthène (BkFA)	207-08-9	BaP, BeP, BaA, CHR, BbF, BjF, BkF,	anaiysis [0.1 mg/kg]	
Chrysène (CHR)	218-01-9	DBA, IPY, BPE : 0.5 mg/kg (each)		
Dibenzo(a, h)anthracène (DBAhA)	53-70-3	NAP· 2 mg/kg		
Fluoranthene	206-44-0	- ···· - ·····························		
Fluorene	86-73-7]		
Indeno (1,2,3-cd)pyrene	193-39-5]		
Naphthalene	91-20-3			
Phenanthrene	1985/1/8			
Pyrene	129-00-0			
Extractable Heavy Metals				
Extractable Cadmium and its compounds		1 mg/kg		
Extractable Chromium VI	-	1 mg/kg	EN 16711-2	
Extractable Arsenic		1 mg/kg		
Extractable Lead and its compounds		1 mg/kg		
Solvents/ VOCs				
BENZENE	71-43-2	5 mg/kg		
N,N-DIMETHYLACETAMIDE (DMAC)	872-50-4	1000 mg/kg	ISO/TS 16189	
N-METHYL-2-PYRROLIDONE (NMP)	127-19-5	1000 mg/kg	130/13 10103	
DIMETHYLFORMAMIDE (DMFA)	68-12-2	1000 mg/kg]	

BOARDRIDERS. OUKSILVER - BILLABONG - ROXY OCSHOES - RVCA - ELEMENT - VONZIPPER	Issue By:	Material Management	Version:	4.0	Page 9 of 17
	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]
PFAS Per- and Polyfluoroalkyl Substances (required if sample declared with stain and wate	r repellent finishing)		
Total Fluorine	-	100 mg/kg as measured in total organic fluorine.	EN 14582:2016 / ASTM D7359:2018 50 mg/kg
PFOS and its salts	1	1	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	Substance/ Mixture: 10 mg/kg Semi-finished product or article: 1000 mg/kg Textile/Coated material: 1µg/m ²	
Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3	As group of PFOS	-
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5	As group of PFOS	ISO 23702-1
Perfluorooctanesulfonic acid, ammomium salt (PFOS-NH ₄)	29081-56-9	As group of PFOS	1 μg/m² and 1 mg/kg
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8	As group of PFOS	
Perfluorooctanesulfonic acid, tetraethylammomium salt (PFOS-N(C_2H_5) ₄)	56773-42-3	As group of PFOS	
Didecyldimethylammonium perfluorooctane sulfonate (PFOS-N(C ₁₀ H ₂₁) ₂ (CH ₃) ₂)	251099-16-8	As group of PFOS	
PFOS-related substances			
Perfluorooctane sulfonamide (PFOSA)	754-91-6	Substance/ Mixture: 10 mg/kg Semi-finished product or article: 1000 mg/kg Textile/-Coated material: 1µg/m ²	
N-Ethylperfluoro-1-octanesulfonamide (N-Et- FOSA)	4151-50-2	Substance/ Mixture: 10 mg/kg Semi-finished product or article: 1000 mg/kg Textile/-Coated material: 1µg/m ²	
N-Methylperfluoro-1-octanesulfonamide (N- Me-FOSA)	31506-32-8	Substance/ Mixture: 10 mg/kg Semi-finished product or article: 1000 mg/kg Textile/Coated material: 1µg/m ²	ISO 23702-1 1 μg/m ² and 1 mg/kg
2-(N-Ethylperfluoro-1-octanesulfonamido)- ethanol (N-Et-FOSE)	1691-99-2	Substance/ Mixture: 10 mg/kg Semi-finished product or article: 1000 mg/kg Textile/Coated material: 1µg/m ²	
Perfluoro-1-octanesulfonyl fluoride (POSF)	307-35-7	As group of PFOS	
2-(N-Methylperfluoro-1-octanesulfonamido)- ethanol (N-Me-FOSE)	24448-09-7	Substance/ Mixture: 10 mg/kg Semi-finished product or article: 1000 mg/kg Textile/Coated material: 1µg/m ²	
PFOA and its salts	1	1	
Perfluorooctanoic Acid (PFOA)	335-67-1	0.025 mg/kg	-
Sodium perfluorooctanoate (PFOA-Na)	335-95-5	As group of PFOA	150 22702 1
Potassium perfluorooctanoate (PFOA-K)	2395-00-8	As group of PFOA	0.025 mg/kg
Silver perfluorooctanoate (PFOA-Ag)	335-93-3	As group of PFOA	
Perfluorooctanoyl fluoride (PFOA-F)	335-66-0	As group of PFOA	-
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	As group of PFOA	
PFOA-related substances			

BOARDRIDERS. GUIKSILVER - BILLABONG - ROAY DESMOES - RYCA - ELEMENT - YONZIPPER IS	Issue By:	Material Management	Version:	4.0	Page 10 of 17
	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]	
1H,1H,2H,2H-Perfluorodecan-1-ol (8:2 FTOH)	678-39-7			
1H,1H,2H,2H-Perfluorodecylacrylate (8:2 FTA)	27905-45-9			
Methyl perfluorooctanoate (Me-PFOA)	376-27-2	-		
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	1 mg/kg (each or sum)	ISO 23702-1 1 mg/kg	
Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5			
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4			
2H,2H Perfluorodecane Acid (H2PFDA / 8:2 FTCA)	27854-31-5			
C9-C14 Perfluorocarboxylic acids (PFCA) and i	ts salts			
Perfluorononane Acid (PFNA)	375-95-1			
Perfluorodecane Acid (PFDA)	335-76-2			
Perfluoroundecanoic Acid (PFUnA)	2058-94-8		1 100 22702 1	
Perfluorododecanoic Acid (PFDoA)	307-55-1	C9-C14 PECA and its salts:	C9-C14 PECA and its salts	
Ammonium Perfluorododecanoate (PFDoA)	3793-74-6	25 ppb (0.025 mg/kg) (sum)	25 ppb (0.025 mg/kg)	
Perfluorotridecanoic Acid (PFTrA)	72629-94-8		(sum)	
Perfluorotetradecanoic Acid (PFTeA)	376-06-7			
Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)	172155-07-6			
C9-C14 Perfluorocarboxylic acids (PFCA) relate	ed substances			
1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	17741-60-5			
1H,1H,2H,2H-Perfluorododecyl methacrylate	2144-54-9			
1H,1H,2H,2H-Perfluoro-1-dodecaol (10:2 FTOH)	865-86-1			
2H,2H,3H,3H-Perufloroundecanoic acid	34598-33-9		ISO 23702-1	
Perfluorocylethanol 8:2 (8:2 FTOH)	678-39-7	C9-C14 PFCA related	C9-C14 PFCA related	
1H,1H,2H,2H-perfluorotetrad1H,1H,2H,2H- perfluorotetradecan-1-ol (12:2 FTOH)ecan-1-ol (12:2 FTOH)	39239-77-5	substances: 260 ppb (0.26 mg/kg) (sum)	substances: 260 ppb (0.26 mg/kg) (sum)	
1H,1H,2H,2H-Perfluorododecanesulphonic acid (10:2 FTS)	120226-60-0			
1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI)	2043-54-1	_		
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)	30046-31-2			
PFHxS and its Salts				
Perfluorohexane sulfonic acid (PFHxS)	355-46-4			
Perfluorohexanesulfonic acid, potassium salt (PFHxS-K)	3871-99-6			
Perfluorohexanesulfonic acid, lithium salt (PFHxS-Li)	55120-77-9	25 ppb (0.025 mg/kg)(each)		
Perfluorohexanesulfonic acid, ammonium salt (PFHxS-NH4)	68259-08-5	-	ISO 23702-1	
Perfluoronexanesulfonic acid, sodium salt (PFHxS-Na)	82382-12-5		FTTIX5. 0.025 Hig/kg	
PFHxS related substance				
N-Methylperfluoro-1-hexanesulfonamide (N- Me-FHxSA)	68259-15-4	1 mg/kg (each)		
Perfluorohexane sulfonamide (PFHxSA)	41997-13-1			
Other Perfluoroalkyl Carboxylic Acids (PFCAs)		I		
Perfluorohexane Acid (PFHxA)	307-24-4	100 ppb (0.1 mg/kg)	ISO 23702-1	
OTHERS				
FORMALDEHYDE	50-00-0	Adult: < 75 mg/kg Children: Not detected	ISO 17226-2 (leather) EN ISO 14184-1 (textile) EN 717-3 (wood) [16 mg/kg]	

BOARDRIDERS. OUKSILVER - BILLABONG - ROXY OCSHOES - RVCA - ELEMENT - VONZIPPER	Issue By:	Material Management	Version:	4.0	Page 11 of 17
	Issue Date:	June 2023	Replaces:	3.0	

Chemical Substances	CAS #	Restricted Limit	Method [detection limit]
SCCP Short Chain Chlorinated Paraffins - Alkane, C10-13 chloro	85535-84-8	1000 mg/kg	Leather: ISO 18219-1 Textiles: ISO 22818 [50 mg/kg]
DMFu Dimethyl Fumarate	624-49-7	Not Detected	ISO 16186 [0.1 mg/kg]
pH VALUE	-	4 - 7.5	ISO 3071 (textile) ISO 4045 (leather)
NP/NPEO Nonylphenol/ Nonylphenol ethoxylates	-	100 mg/kg (each)	NP: Textile / 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 NPEO: Non-leather: ISO 18254-1:2016 with determination of APEO Leather: ISO 18218-1:2015
BHT 2,6-Di-tert-butyl-p-kresol	128-37-0	3 mg/kg	Solvent extraction, GC-MS [1 mg/kg]
PHENOL	108-95-2	3 mg/kg	Solvent extraction, LC-MS [1 mg/kg]
HEAVY METALS for PACKAGING Chromium VI + Lead + Mercury + Cadmium	-	Sum of each Heavy Metal < 100 mg/kg	Total Digestion, ICP-OES [5 mg/kg]
BISPHENOL A (BPA) 4,4'-isopropylidenediphenol	80-05-7	1 mg/kg	Solvent extraction, LC-MS
BISPHENOL S (BPS) 4,4'-sulphonyldiphenol	80-09-1	1 mg/kg	Solvent extraction, LC-MS
BISPHENOL B (BPB) 4,4'-(1-methylpropylidene)bisphenol	77-40-7	1 mg/kg	Solvent extraction, LC-MS
QUINOLINE	91-22-5	50 mg/kg	DIN 54231

BOARDRIDERS. Issue By:	Issue By:	Material Management	Version:	4.0	Page 12 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

2 Biocides

Biocides are chemical substances that are used to suppress or control biological organisms such as mold and bacteria. Products are typically treated with biocides to preserve the product itself or to create a function such as odor control or insect repellency.

An article treated with biocides to suppress, control or kill biological organisms such as mold and bacteria must fully comply with The Biocidal Products Regulation (BPR, Regulation (EU) 528/2012) and US Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

EU The Biocidal Products Regulation (BPR, Regulation (EU) 528/2012)

Biocidal products containing active substances are regulated in the European Union by EU Biocide Product Regulation (EU) 528/2012. All biocidal products require an authorization, and the active substances contained in that biocidal product must be approved by EU. List of authorized biocidal products and approved active substances may be found at https://echa.europa.eu/information-on-chemicals/biocidal-active-substances

Treated articles containing a biocidal product require labelling if:

• a claim is made by the manufacturer of that treated article regarding the biocidal properties of the article, or

• in relation to the active substance(s) and the substance potential to contact humans or release into the environment, specific authorisations may require associated labelling.

The label shall provide the following information:

- a statement that the treated article incorporates biocidal products;
- where substantiated, the biocidal property attributed to the treated article;
- the name of all active substances contained in the biocidal products;
- the name of all nanomaterials contained in the biocidal products, followed by the word 'nano' in brackets; and
- any relevant instructions for use, including any precautions

US biocide regulation: Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Antimicrobial chemicals used in any treated article bearing implied or explicit "public health claims," such as killing pathogens or bacteria, must be registered with the U.S. Environmental Protection Agency (EPA) before the articles can be sold.

EPA policy, 40 CFR 152.25, states an exemption for an antimicrobial treated article if it bears "non-public health claims." This exemption covers qualifying an article with, or containing, a pesticide to protect the treated article or substances itself. Example of "non-public health claims" are "odor–resistant," "antibacterial deodorizing function," etc.

To qualify for an exemption for an antimicrobial treated article, both conditions stated below must be met.

- 1. the incorporated pesticide is registered for use in or on the article or substance, and;
- 2. the sole purpose of the treatment is to protect the article or substance itself.

All references to the anti-microbial properties and the required qualifying statements (e.g., "to protect the product") should be located together, should be printed in type of the same size, style, and color, and should be given equal prominence. Anti-microbial references on a label should not be given any greater prominence than any other described product feature.

BOARDRIDERS.	Issue By:	sue By: Material Management		4.0	Page 13 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

Examples of labelling claims, the Agency is likely to consider **Acceptable** under the exemption for Odor Resistant Claims:

- This product contains an antimicrobial agent to control odors.
- This product contains an antimicrobial agent to prevent microorganisms from degrading the product.
- Resists Odors This product has been treated to resist bacterial odors.
- Inhibits the growth of bacterial odors.
- Resists microbial odor development.
- Retards the growth and action of bacterial odors.
- Guards against the growth of odors from microbial causes.
- Guards against degradation from microorganisms.
- Reduces odors from microorganisms.
- Odor-resistant.
- Acts to mitigate the development of odors.

Examples of labelling claims, the Agency is likely to consider **Acceptable** under the exemption for Mold and Mildew Resistant Claims:

- This article has been treated with a fungistatic agent to protect the product from fungal growth.
- Mildew Resistant treated with a fungistatic agent to protect the paint itself from the growth of
- mildew.
- Mildew Resistant This paint contains a preservative which inhibits the growth of mildew on the
- surface of this paint film.
- Mildew Resistant Extends useful life of article by controlling deterioration caused by
- mildew.
- Algae Resistant This article contains a preservative to prevent discoloration by algae.
- A fungistatic agent has been incorporated into the article to make it resistant to stain
- caused by mildew.
- Article treated to resist deterioration by mold fungus.
- Article treated to resist deterioration from mildew.
- The fungistatic agent in this article makes it especially useful for resisting deterioration
- caused by mildew.
- Dry enamel coating resists discoloration from mildew.
- Cured sealant is mildew resistant.
- Dried film resists stains by mold.
- A mold or mildew resisting component has been incorporated in this article to make its dry
- film mildew resistant.
- Specially formulated to resist mildew growth on the paint film.
- Gives mildew-resistant coating.

These examples, instead, represent examples of labelling claims that the Agency is likely to consider **Unacceptable** under the exemption for a treated article and that would lead to a requirement to register the article as a pesticide product:

- Antibacterial.
- Bactericidal.
- Germicidal.
- Kills pathogenic bacteria.
- Effective against E. coli and Staphylococcus.
- Provides a germ-resistant surface.

BOARDRIDERS	Issue By:	Material Management	Version:	4.0	Page 14 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

- Provides a bacteria-resistant surface.
- Surface kills common gram positive and negative bacteria.
- Surface controls both gram positive and negative bacteria.
- Surface minimizes the growth of both gram positive and negative bacteria.
- Reduces risk of cross-contamination from bacteria.
- Controls allergy causing microorganisms.

Suppliers Must Provide:

- Biocidal / active substances MSDS
- US EPA Reg. No. and EU BPR Confirmation Letter
- Active substances Technical Data Sheet/ Activity Data
- Test Report of treated article (acc. to chemical supplier's test method and conditions)
- Chemical Supplier Hangtag (Preferrable. Brand designed hangtag is also allowable, but need to conform with legal requirements on labelling)

Useful Links:

** EU The Biocidal Products Regulation (BPR):

https://echa.europa.eu/regulations/biocidal-products-regulation/legislation

*** US Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):

https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 15 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

3 Testing Guideline

The chart set forth below includes suggestions for chemicals testing on components. The chart is for <u>reference</u> only. Suppliers are solely responsible for selecting materials and chemical tests to ensure products meet international regulations and may choose to include additional tests not listed below.

					Packaging										
Testing item	Textile (Natura I fiber)	Textile (Synthetic fiber)	Leather	Rubber, PVC, Plastic	Coated item, Paint, Print	Screen Print (Plastisol)	Metal	DWR coated item	Wood	Glas s	Sticker	Cardboard / Paper/ Hand tag	Polybag	Silica gel /Micropack	Others (e.g. Tape/ Inks/ Labels, etc)
AZO	x	x	x		x	×									
CARCINOGENIC DYES	(x)	(x)	(x)		(x)	(x)									
ALLERGENIC DISPERSE DYES		x													
METALS															
Chromium VI			x												
Total Cadmium				x	x	x	x				x				
Total Lead			x	x	x	x	x		x	x	x				
Nickel Release							x prolong with skin contact only								
PHTHALATES				×	(x)	x						x	x		x
PESTICIDES								· ·							
Dieldrin	(x)		(x)												
DTTB/ 4,6-Dichloro-7- (2,4,5- trichlorophenoxy)-2- trifluoromethyl benzimidazole	(x)		(x)												

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 16 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

					Packaging										
Testing item	Textile (Natura I fiber)	Textile (Synthetic fiber)	Leather	Rubber, PVC, Plastic	Coated item, Paint, Print	Screen Print (Plastisol)	Metal	DWR coated item	Wood	Glas s	Sticker	Cardboard / Paper/ Hand tag	Polybag	Silica gel /Micropack	Others (e.g. Tape/ Inks/ Labels, etc)
PCP / Pentachlorophenol	(x)	(x)	(x)		(x)				x						
TeCP / Tetrachlorophenol (2,3,5,6-TeCP, 2,3,4,6-TeCP, 2,3,4,5-TeCP	(x)	(x)	(x)		(x)				x						
FLAME RETARDANTS		Special	finishes												
Organotin	(x)		(x)	x	(x)	x									
CHLORO-ORGANIC CARRIER		x													
PAH Polycyclic Aromatic Hydrocarbons		(x)		x	(x)	x									
Total Organic Florine								x				x (required if sample declared with stain and water repellent finishing)	x (required if sample declared with stain and water repellent finishing		x (required if sample declared with stain and water repellent finishing
PFAS Per- and Polyfluoroalkyl Substances								X				x (required if sample declared with stain and water repellent finishing)	x (required if sample declared with stain and water repellent finishing		x (required if sample declared with stain and water repellent finishing
OTHERS				-					-	T		. <u>-</u> ,	3		
FORMALDEHYDE	x	x	x		(x)				x			x			

BOARDRIDERS.	Issue By:	Material Management	Version:	4.0	Page 17 of 17
QUIKSILVER - BILLABONG - ROXY DCSHOES - RVCA - ELEMENT - VONZIPPER	Issue Date:	June 2023	Replaces:	3.0	

					Ma	terials						Packaging				
Testing item	Textile (Natura I fiber)	Textile (Synthetic fiber)	Leather	Rubber, PVC, Plastic	Coated item, Paint, Print	Screen Print (Plastisol)	Metal	DWR coated item	Wood	Glas s	Sticker	Cardboard / Paper/ Hand tag	Polybag	Silica gel /Micropack	Others (e.g. Tape/ Inks/ Labels, etc)	
SCCP Short Chain Chlorinated Paraffins - Alkane, C10-13 chloro			(x)	(x)	(x)	(x)										
DMFu Dimethyl Fumarate			(x)											x		
pH VALUE	(x)	(x)	(x)													
NP/NPEO Nonylphenol/ Nonylphenol ethoxylates	(x)	(x)	(x)	(x)												
BHT 2,6-Di-tert-butyl-p- kresol											x		x			
PHENOL											x					
HEAVY METALS for PACKAGING Chromium VI + Lead + Mercury + Cadmium												x	x	x	х	
BISPHENOL A (BPA) BISPHENOL S (BPS) BISPHENOL B (BPB)		(x)		(x) Poly- carbonate and epoxy resin only												
EXTRACTION HEAVY METAL	(x)	(x)	(x)		(x)	(x)										
SOLVENT/ VOCS				x Synthetic leather	(x)	(x)										
QUINOLINE	(x)	(x)	(x)		(x)	(x)										

Remarks:

x - Core Test

(x) - Supplementary Test for specified material and/or specific condition