

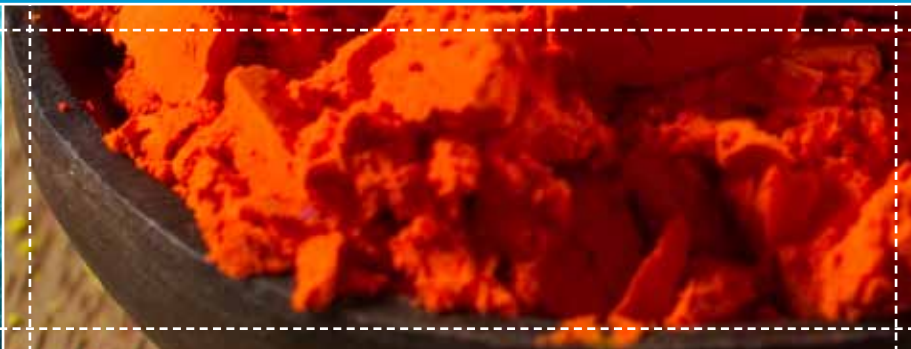
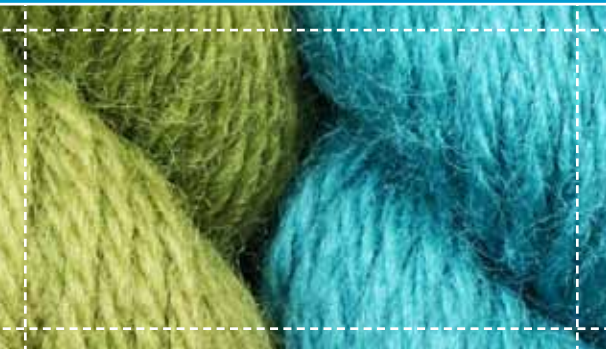


Apparel and Footwear International RSL Management Group



RESTRICTED SUBSTANCES LIST

Version 03 | 2018



New for 2018

- Updates to Test Methods and Limits
- Chemical Information Sheets:
Best Practices for Chemical Management
- Reporting Limits for Data Capture
and Harmonization

Table of Contents

AFIRM Mission 3
 AFIRM Vision 3
 Policy Statement and Uses of This RSL 3

Legal Statement 4

Links and References 5

Additional Substances and Parameters to Consider 6

New in 2018: AFIRM Chemical Information Sheets 7
 New in 2018: Reporting Limits 7

Change Log for the 2018 AFIRM RSL 8

Materials in Which Restricted Substances Are Likely to Be Found 9

Definition of Ages 12

AFIRM Restricted Substances List 13

Appendix A: Pesticides, Agricultural 30

Apparel and Footwear International RSL Management (AFIRM) Group is the author of this work.
 You may reuse or adapt this work, with or without attribution to AFIRM Group.

AFIRM Mission

AFIRM is the Apparel and Footwear International RSL Management (AFIRM) Working Group, established in 2004. AFIRM's mission is “to reduce the use and impact of harmful substances in the apparel and footwear supply chain.” AFIRM's purpose is to provide a forum to advance the global management of restricted substances in apparel and footwear, communicate information about chemical management to the supply chain, discuss concerns, and exchange ideas for improving chemical management.

AFIRM Vision

AFIRM continues to be a recognized global center of excellence, providing resources to enable continuous advancement of chemical management best practices. We do this based on transparency, science, and collaboration with relevant industries and experts to build safer and more sustainable chemistry within the apparel and footwear supply chains. It is understood that in adopting this vision, AFIRM's mission, objectives, and projects will continue to be product-focused or RSL-related.

Policy Statement and Uses of This RSL

AFIRM has created the following Restricted Substances List to assist and guide supply chain participants seeking to increase product quality and safety or reduce their environmental impact by limiting the use of certain substances (“AFIRM RSL”). AFIRM member brands may differ on individual parameters; suppliers are advised to check with the customer regarding brand-specific requirements. The AFIRM RSL should leverage AFIRM's mission – “to reduce the use and impact of harmful substances in the apparel and footwear supply chain” – by providing a single set of information for maximum and in-depth implementation within the supply chain.

Some examples of uses for the AFIRM RSL, depending on the objectives of the user, include:

- Providing a tool for vendors to establish chemical management knowledge and processes.
- Building base compliance with AFIRM member chemical restrictions.
- Providing a common base for testing products, which may be accepted by multiple AFIRM brands.

AFIRM member companies determine and communicate to their vendors their testing requirements and acceptance of test reports.

For more information about AFIRM, visit www.afirm-group.com.

Legal Statement

The AFIRM RSL constitutes information from AFIRM only and does not represent any individual AFIRM member. Individual brand RSLs may differ in specific parameters.

The AFIRM RSL is not intended to and does not establish any industry standard of care. The AFIRM RSL may not always provide the most appropriate approach for any individual company's chemical management program. Many brands have implementation guidelines, and suppliers must follow those guidelines where required. The AFIRM RSL does not constitute legal advice and is not a substitute for legal advice. There is no warranty, express or implied, as to the completeness or utility of the information contained in this AFIRM RSL, including, without limitation, that the information is current and error-free. AFIRM disclaims liability of any kind whatsoever resulting from any use of or reliance on the AFIRM RSL.

Links and References

Be proactive! These links may provide additional important information regarding chemical management and should be visited on a regular basis.

AFIRM Supplier Toolkit

www.afirm-group.com/toolkit/

- Chinese, Vietnamese, and Spanish translations are available.

Overview of legal chemical limits and country of origin

https://www.aafaglobal.org/AAFA/Solutions_Pages/Restricted_Substance_List

Regulated fluorinated greenhouse gases; EC 842/2006

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:161:0001:0011:EN:PDF>

Regulated substances that deplete the ozone layer; EC 1005/2009

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:286:0001:0030:EN:PDF>

Additional Substances and Parameters to Consider

EU REACH Substances of Very High Concern

Based on scientific evidence indicating potential hazards to human health or the environment, the European Commission (EC) and European Union (EU) member states propose substances of very high concern (SVHCs) for placement on the European Chemicals Agency (ECHA) “Candidate List of Substances of Very High Concern for Authorisation.” Placing a substance on the Candidate List triggers specific obligations for importers, producers, and suppliers of any article that contains one or more of these substances above 0.1 percent by weight per component. The obligations include providing sufficient information to allow safe use of the article to brand and retail customers or, upon request, to a consumer within 45 days of receipt of the request.

In addition, ECHA must be notified if the substance(s) are present in article components above 0.1 percent in quantities totaling over one ton per producer or importer per year. Notification is not required if the substance has already been registered for that use or when the producer or importer of an article can exclude exposure of humans and the environment during the use and disposal of the article. In such cases, the producer or importer must supply appropriate instructions to the recipient of the article.

ECHA periodically updates the Candidate List; find the most current version at <https://www.echa.europa.eu/candidate-list-table>.

AFIRM member brands may differ on how they address SVHCs as well as the legal obligations. AFIRM advises suppliers to consult with their customers regarding brand-specific requirements for SVHCs.

California Proposition 65 Substances

Each year, California publishes a list of chemicals known to the state to cause cancer or reproductive toxicity. Businesses that expose individuals to one or more of these chemicals must provide a clear and reasonable warning before the exposure occurs. For consumer products, this is typically through warning labels on the products or retail signage. Note that this warning is not the same as a regulatory requirement indicating that the product is “unsafe” if a specific concentration is exceeded. Enforcement is carried out through civil lawsuits brought by the California attorney general, district attorneys, or private parties acting in the public interest.

Additional information can be found at <https://oehha.ca.gov/proposition-65>.

AFIRM member brands may differ on how they address warning-label requirements. AFIRM advises suppliers to consult with their customers regarding brand-specific requirements for Proposition 65 substances.

Change Log for the 2018 AFIRM RSL





CAS No.	Substance	Modification	Page
Various	Acidic and alkaline substances (pH)	Added pH limits and methods for textiles and leather.	13
Various	Alkylphenols (AP)	Added test method for NP/OP: Extraction: 1 g sample/20 mL THF, sonication for 60 minutes at 70 degrees C	14
Various	Azo-amines	Changed test method for textiles to EN ISO 14362-1:2017 and EN ISO 14362-3:2017 for p-Aminoazobenzene.	15
85535-84-8 85535-84-9	Chlorinated Paraffins	Changed test method to combined CADS/ISO 18219:2015 method V1:06/17 (extraction by ISO 18219 and analysis by GC-NCI-MS).	16
875-40-1 1006-31-1	Chlororganic Carriers	Added 2,3,4,6-Tetrachlorotoluene Corrected CAS number for 2,3,5,6-Tetrachlorotoluene	17
Various	Dyes, Forbidden and Disperse	Changed limit to 50 ppm each.	19–20
118685-33-9 Not Allocated	Dyes, Navy Blue	Changed limit to 50 ppm each.	20
Various	Flame Retardants	Changed method to EN ISO 17881-1, -2:2016; changed limit to 10 ppm each. All organohalogen flame retardants restricted, including all PBDEs.	21
Various	Heavy Metals	Changed extractable methods to Textiles: DIN EN 16711-2:2016; Leather: DIN EN ISO 17072-1:2017 Changed total content methods to Textiles: DIN EN 16711-1:2016; Leather: DIN EN ISO 17072-2:2017	22–24
7440-43-9	Heavy Metals, Cadmium (Cd)	Changed limit to 40 ppm for all ages.	22
7440-47-3	Heavy Metals, Chromium (Cr)	Changed extractable limit for textiles to 2 ppm.	23
18540-29-9	Heavy Metals, Chromium VI	Added leather extractable measurement method EN ISO 17075-2:2015 in cases of color interference. Changed textiles method to DIN EN 16711-2:2016 with EN ISO 17075-1:2017 if Cr is detected.	23
7440-48-4	Heavy Metals, Cobalt (Co)	Changed extractable limit for adults to 4 ppm.	23
7440-50-8	Heavy Metals, Copper (Cu)	Changed extractable limit for adults to 50 ppm.	23
75-01-4	Monomers	Added Vinyl Chloride with a limit of 1 ppm and test method EN ISO 6401:2008.	24
Various	N-Nitrosamines	Added LC/MS/MS verification method if positive GC/MS result. Alternatively, LC/MS/MS may be performed on its own. Added method prEN 19577, 2017.	25
Various	Organotins	Specified Tri-substituted Organotins: TCyHT, TMT, TOT, and TPT.	25
90-43-7	Ortho-phenylphenol (OPP)	Changed method to 1 M KOH extraction, 12-15 hours at 90 degrees C, derivatization and analysis § 64 LFGB B 82.02-08 or DIN EN ISO 17070:2015	25
Various	Ozone-depleting Substances	Added limit of 5 ppm each.	26
Various	Phthalates	Modified list to include restricted Phthalates only. Removed REACH SVHCs Phthalates, which are covered by general provisions. Added DPENP and DCHP based on new regulation by the U.S. CPSC.	27
Various	Volatile Organic Compounds	Added Carbon Disulfide, Cyclohexanone, and Ethylbenzene	29
Various	Pesticides, Agricultural	Removed Hexabromobiphenyl, Parathion, Pentabromobenzene, and Permethrin	30

Materials in Which Restricted Substances Are Likely to Be Found

In the apparel and footwear supply chain, certain types of fibers and materials are more likely to contain restricted substances. Many brands require product or material testing prior to shipment to ensure that articles comply with their RSLs; this information is included in brand-specific requirements.^A

AFIRM Group brands agree on the chemicals included in the AFIRM RSL, the allowable limits, and the test methods. The responsibility for managing testing programs—which specific restricted chemicals should be tested in which specific materials and the frequency of such tests—remains with individual brands.

The risk matrix shown in Table 1, on the next page, highlights the restricted substance risks associated with different fibers and materials, and is presented as a guidance tool. It is based on our many years of experience in manufacturing and in managing restricted substances across a wide range of materials. The aim is to provide information on those substances that have historically been deliberately used or found as reagent/contaminants in different materials.^B It uses the following color code:

-  Red indicates that a chemical has been in widespread use and/or frequently detected in a particular material.
-  Orange indicates that a chemical has been deliberately used and/or detected in a particular material occasionally.
-  Yellow indicates there is a very low but theoretical chance that a chemical could be used and/or detected.
-  White indicates that we believe there is an almost negligible risk of a chemical being used and/or detected.

In the absence of a brand RSL and testing program, the matrix outlined in Table 1 is a good starting point until you gain a true understanding of the risks within your specific supply chain. Use of this matrix should be accompanied by due diligence across all chemistries of concern.

The unified approach of the AFIRM RSL enables member brands to share test data more easily, and we anticipate that the risk matrix will evolve to reflect realistic risks at any given time.

Individual brand testing programs, to the extent they are different, supersede this guidance tool.

A. See Section 5 of the AFIRM Supplier Toolkit for more information on testing and Appendix C of the AFIRM Supplier Toolkit for a model testing program if your customer does not have one of its own.

B. If a substance is a component of a combined material (for example, a laminated component like polymer material + textile lining), we recommend testing according to different material types.

Materials in Which Restricted Substances Are Likely to Be Found

Table 1. Risk Matrix

Substance	Natural Fibers	Blended Fibers	Synthetic Fibers	Artificial Leather <small>With fiber backing</small>	Natural Leather	Coatings & Prints	Natural Materials <small>Including horns, bones, cork, wood, paper, and straw</small>	Polymers, Plastics, Foams, Natural Rubber & Synthetic Rubber ^C	Metal	Feathers & Down	Glue
Acetophenone and 2-Phenyl-2-Propanol								2 ^A			
Acidic and Alkaline Substances (pH)	1	1	1	1	1						
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs), including all isomers	1	1	1	1	1	1	1	1		3	1
Azo-amines	1	1	1	1	1	1	1			1	
Bisphenol-A								3 ^B			
Chlorinated Paraffins, SCCP (C10-C13) and MCCP (C14-C17)	3	3	3	3	1	3		2			
Chlorophenols (Tri-, Tetra-, and Pentachlorophenols)	3	3		3	3	3				3	
Chlororganic Carriers		2	2		3						
Dimethylformamide (DMFa)				2		2					2
Dimethylfumarate (DMFu)	3	3	3	3	3	3		3			
Dyes, Forbidden and Disperse		2	2	2		2					
Dyes, Navy Blue		3	3	3		3					
Flame Retardants	3 (If finish is applied)										
Fluorinated Greenhouse Gases											
Formaldehyde	1	1	1	1	1	1	1				1

A. *Red Risk-level 1* applies only to Ethylene-Vinyl Acetate (EVA) foam
 B. Polycarbonate only

Substance	Natural Fibers	Blended Fibers	Synthetic Fibers	Artificial Leather <small>With fiber backing</small>	Natural Leather	Coatings & Prints	Natural Materials <small>Including horns, bones, cork, wood, paper, and straw</small>	Polymers, Plastics, Foams, Natural Rubber & Synthetic Rubber ^C	Metal	Feathers & Down	Glue
Heavy Metals, Chromium VI	3				1						
Heavy Metals, Nickel Release									1		
Heavy Metals, Cadmium Total				3		3		3	3		
Heavy Metals, Lead Total				3		3		3 ^C	3		
Heavy Metals, Additional Total (Hg & As)				3		3		3	3		
Heavy Metals, Extractable	2	2	2	2	2	2		2			
N-Nitrosamines								2			
Organotin Compounds	3	3	3	3	3	3		3			3
Ortho-phenylphenol (OPP)	2	2	2	2	2	2					
Ozone-depleting Substances	3										
Perfluorinated and Polyfluorinated Chemicals (PFCs)	2 (If water- or stain-repellant finish is applied)										
Pesticides, Agricultural	3	3			3						
Phthalates				1		1		1			1
Polycyclic Aromatic Hydrocarbons (PAHs)				1		1		1			1
Styrene Monomer								2 ^D			
Vinyl Chloride Monomer						2 ^E		2 ^E			
Volatile Organic Compounds (VOCs)	2	2	2	2	2	2		2			2

C. Total Lead in foams is 'Orange Risk-level 2'
 D. Styrene-based polymers only
 E. PVC only

Definition of Ages

Various countries define the terms “babies,” “children,” and “adults” differently. Based on legislation, the age ranges listed in Table 2 satisfy the most restrictive global requirements.

Table 2. Definition of Ages

	Age Range
Babies	0 to 36 months
Children	36 months to 14 years
Adults	14 years and older

AFIRM Restricted Substances List

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
Acetophenone and 2-Phenyl-2-Propanol †					
98-86-2	Acetophenone	50 ppm each	Potential breakdown products in EVA foam when using dicumyl peroxide as a cross-linking agent.	Extraction in acetone or methanol GC/MS, sonication for 30 minutes at 60 degrees C	25 ppm
617-94-7	2-Phenyl-2-Propanol				
Acidic and Alkaline Substances					
Various	pH value	Textiles: 4.0–7.5 Leather: 3.5–7.0	<p>pH value is a characteristic number, ranging from pH 1 to pH 14, which indirectly shows the content of acidic or alkaline substances in a product.</p> <p>pH values less than 7 indicate sources of acidic substances, and values greater than 7 indicate sources of alkaline substances. To avoid irritation or chemical burns to the skin, the pH value of products must be in the range of human skin—approximately pH 5.5.</p> <p>AFIRM recommends the limits cited to comply with all global regulations for all products.</p>	Textiles: EN ISO 3071:2006 (KCl Solution) Leather: EN ISO 4045:2008	N/A

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Alkylphenols (APs) + Alkylphenol Ethoxylates (APEOs) + including all isomers				
Various	Nonylphenol (NP), mixed isomers	Total: 100 ppm	<p>APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings.</p> <p>APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers. Biodegradation of APEOs into APs is the main source of APs in the environment.</p>	<p>Extraction: 1 g sample/20 mL THF, sonication for 60 minutes at 70 degrees C Analysis: EN ISO 18857-2:2011</p>	Sum of NP & OP: 10 ppm
Various	Octylphenol (OP), mixed isomers				
Various	Nonylphenol ethoxylates (NPEOs)	Total: 100 ppm	<p>APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes. We acknowledge that residual or trace concentrations of APEOs may still be found at levels exceeding 100 ppm and that more time is necessary for the supply chain to phase them out completely. This limit reflects forthcoming EU legislation and was set to provide suppliers with advanced warning and direction for continuous improvement.</p>	<p>Textiles: EN ISO 18254-1:2016 with determination of AP using LC/MS or GC/MS Leather: EN ISO 18218-1:2015</p>	Sum of NPEO & OPEO: 20 ppm
Various	Octylphenol ethoxylates (OPEOs)				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Azo-amines †				
92-67-1	4-Aminobiphenyl	20 ppm each	<p>Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds.</p> <p>Thousands of azo dyes exist, but only those which degrade to form the listed cleavable amines are restricted.</p> <p>Azo dyes that release these amines are regulated and should no longer be used for dyeing textiles.</p>	<p>Textiles: EN ISO 14362-1:2017 Leather: EN ISO 17234-1:2015</p> <p>p-Aminoazobenzene: Textiles: EN ISO 14362-3:2017 Leather: EN ISO 17234-2:2011</p>	5 ppm
92-87-5	Benzidine				
95-69-2	4-Chloro-o-toluidine				
91-59-8	2-Naphthylamine				
97-56-3	o-Aminoazotoluene				
99-55-8	2-Amino-4-nitrotoluene				
106-47-8	p-Chloraniline				
615-05-4	2,4-Diaminoanisole				
101-77-9	4,4'-Diaminodiphenylmethane				
91-94-1	3,3'-Dichlorobenzidine				
119-90-4	3,3'-Dimethoxybenzidine				
119-93-7	3,3'-Dimethylbenzidine				
838-88-0	3,3'-dimethyl-4,4'-diaminodiphenylmethane				
120-71-8	p-Cresidine				
101-14-4	4,4'-Methylen-bis(2-chloraniline)				
101-80-4	4,4'-Oxydianiline				
139-65-1	4,4'-Thiodianiline				
95-53-4	o-Toluidine				
95-80-7	2,4-Toluyldiamine				
137-17-7	2,4,5-Trimethylaniline				
95-68-1	2,4 Xylidine				
87-62-7	2,6 Xylidine				
90-04-0	2-Methoxyaniline (= o-Anisidine)				
60-09-3	p-Aminoazobenzene				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Bisphenol-A †				
80-05-7	Bisphenol-A (BPA)	1 ppm	Used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC. Prohibited from use in food and drink containers, and items intended to come into contact with oral cavity.	Sample preparation: Extraction: 1 g sample/20 ml methanol, sonication for 60 minutes at 70 degrees C Measurement: DIN EN ISO 18857-2:2011 (mod)	1 ppm
	Chlorinated Paraffins †				
85535-84-8	Short-chain Chlorinated Paraffins (SCCPs) (C10-C13)	1000 ppm	May be used as softeners, flame retardants, or fat-liquoring agents in leather production; also as a plasticizer in polymer production.	Combined CADS/ISO 18219:2015 method V1:06/17 Extraction: ISO 18219 and analysis by GC-NCI-MS For more information on the standard method, click here .	100 ppm
85535-85-9	Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17)	1000 ppm			100 ppm
	Chlorophenols †				
15950-66-0	2,3,4-Trichlorophenol	0.5 ppm each	Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) are sometimes used to prevent mould and kill insects when growing cotton and when storing/transporting fabrics. PCP and TeCP can also be used as preservatives in print pastes.	1 M KOH extraction, 12–15 hours at 90 degrees C, derivatization and analysis § 64 LFGB B 82.02-08 or DIN EN ISO 17070:2015	0.5 ppm
933-78-8	2,3,5-Trichlorophenol				
933-75-5	2,3,6-Trichlorophenol				
95-95-4	2,4,5-Trichlorophenol				
88-06-2	2,4,6-Trichlorophenol				
609-19-8	3,4,5-Trichlorophenol				
4901-51-3	2,3,4,5-Tetrachlorophenol (TeCP)				
58-90-2	2,3,4,6-Tetrachlorophenol (TeCP)				
935-95-5	2,3,5,6-Tetrachlorophenol (TeCP)				
87-86-5	Pentachlorophenol (PCP)				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Chlororganic Carriers †				
95-49-8	2-Chlorotoluene	Total: 1 ppm	Chlorobenzenes and Chlorotoluenes (chlorinated aromatic hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/polyester fibers. They can also be used as solvents.	DIN 54232:2010	0.2 ppm
108-41-8	3-Chlorotoluene				
106-43-4	4-Chlorotoluene				
32768-54-0	2,3-Dichlorotoluene				
95-73-8	2,4-Dichlorotoluene				
19398-61-9	2,5-Dichlorotoluene				
118-69-4	2,6-Dichlorotoluene				
95-75-0	3,4-Dichlorotoluene				
2077-46-5	2,3,6-Trichlorotoluene				
6639-30-1	2,4,5-Trichlorotoluene				
76057-12-0	2,3,4,5-Tetrachlorotoluene				
875-40-1	2,3,4,6-Tetrachlorotoluene				
1006-31-1	2,3,5,6-Tetrachlorotoluene				
877-11-2	Pentachlorotoluene				
541-73-1	1,3-Dichlorobenzene				
106-46-7	1,4-Dichlorobenzene				
87-61-6	1,2,3-Trichlorobenzene				
120-82-1	1,2,4-Trichlorobenzene				
108-70-3	1,3,5-Trichlorobenzene				
634-66-2	1,2,3,4-Tetrachlorobenzene				
634-90-2	1,2,3,5-Tetrachlorobenzene				
95-94-3	1,2,4,5-Tetrachlorobenzene				
608-93-5	Pentachlorobenzene				
118-74-1	Hexachlorobenzene				
95-50-1	1,2-Dichlorobenzene	10 ppm			1 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Dimethylformamide +				
68-12-2	Dimethylformamide (DMFa)	500 ppm	DMFa is a solvent used in plastics, rubber, and polyurethane (PU) coating. Water-based PU does not contain DMFa and is therefore preferable.	DIN CEN ISO/TS 16189:2013	50 ppm
	Dimethylfumarate +				
624-49-7	Dimethylfumarate (DMFu)	0.1 ppm	DMFu is an anti-mold agent used in sachets in packaging to prevent the buildup of mold, especially during shipping.	CEN ISO/TS 16186:2012	0.05 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Dyes (Forbidden + and Disperse +)				
2475-45-8	C.I. Disperse Blue 1	50 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g., polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles.	DIN 54231:2005	15 ppm
2475-46-9	C.I. Disperse Blue 3				
3179-90-6	C.I. Disperse Blue 7				
3860-63-7	C.I. Disperse Blue 26				
56524-77-7	C.I. Disperse Blue 35A				
56524-76-6	C.I. Disperse Blue 35B				
12222-97-8	C.I. Disperse Blue 102				
12223-01-7	C.I. Disperse Blue 106				
61951-51-7	C.I. Disperse Blue 124				
23355-64-8	C.I. Disperse Brown 1				
2581-69-3	C.I. Disperse Orange 1				
730-40-5	C.I. Disperse Orange 3				
82-28-0	C.I. Disperse Orange 11				
12223-33-5	C.I. Disperse Orange 37/76/59				
13301-61-6					
51811-42-8					
85136-74-9	C.I. Disperse Orange 149				
2872-52-8	C.I. Disperse Red 1				
2872-48-2	C.I. Disperse Red 11				
3179-89-3	C.I. Disperse Red 17				
61968-47-6	C.I. Disperse Red 151				
119-15-3	C.I. Disperse Yellow 1				
2832-40-8	C.I. Disperse Yellow 3				
6300-37-4	C.I. Disperse Yellow 7				
6373-73-5	C.I. Disperse Yellow 9				
6250-23-3	C.I. Disperse Yellow 23				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
Dyes, Forbidden and Disperse, continued					
12236-29-2	C.I. Disperse Yellow 39				
54824-37-2	C.I. Disperse Yellow 49				
54077-16-6	C.I. Disperse Yellow 56				
3761-53-3	C.I. Acid Red 26				
569-61-9	C.I. Basic Red 9				
569-64-2	C.I. Basic Green 4				
2437-29-8					
10309-95-2					
548-62-9	C.I. Basic Violet 3				
632-99-5	C.I. Basic Violet 14				
2580-56-5	C.I. Basic Blue 26				
1937-37-7	C.I. Direct Black 38				
2602-46-2	C.I. Direct Blue 6				
573-58-0	C.I. Direct Red 28				
16071-86-6	C.I. Direct Brown 95				
60-11-7	4-Dimethylaminoazobenzene (Solvent Yellow 2)				
6786-83-0	C.I. Solvent Blue 4				
561-41-1	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol				
Dyes, Navy Blue †					
118685-33-9	Component 1: C ₃₉ H ₂₃ ClCrN ₇ O ₁₂ S ₂ ·2Na	50 ppm each	Navy blue colorants are regulated and prohibited from use for dyeing of textiles. Index 611-070-00-2	DIN 54231:2005	15 ppm
Not allocated	Component 2: C ₄₆ H ₃₀ CrN ₁₀ O ₂₀ S ₂ ·3Na				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Flame Retardants +				
32534-81-9	Pentabromodiphenyl ether (PentaBDE)	10 ppm each	Flame-retardant chemicals, including the entire class of Organohalogen flame retardants, should no longer be used.	EN ISO 17881-1:2016	5 ppm
32536-52-0	Octabromodiphenyl ether (OctaBDE)				
1163-19-5	Decabromodiphenyl ether (DecaBDE)				
Various	All other Polybrominated diphenyl ethers (PBDEs)				
79-94-7	Tetrabromobisphenol A (TBBP A)				
59536-65-1	Polybromobiphenyls (PBB)				
3194-55-6	Hexabromocyclododecane (HBCDD)			EN ISO 17881-2:2016	
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)				
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)				
25155-23-1	Trixylyl phosphate (TXP)				
126-72-7	Tris(2,3,-dibromopropyl) phosphate (TRIS)				
545-55-1	Tris(1-aziridinyl)phosphine oxide (TEPA)				
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)				
5412-25-9	Bis(2,3-dibromopropyl) phosphate (BDBPP)				
	Fluorinated Greenhouse Gases +				
Various	See Regulation (EC) No 842/2006 for a complete list.	0.1 ppm each		Sample preparation: Purge and trap — thermal desorption or SPME Measurement: GC/MS	0.1 ppm each

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Formaldehyde †				
50-00-0	Formaldehyde	Adults and children: 75 ppm Babies: 16 ppm	Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins. Although very rare in Apparel and Footwear, composite wood materials (such as particle board and plywood) must comply with existing California and forthcoming U.S. formaldehyde emission requirements (40 CFR 770). Suppliers are advised to refer to brand-specific requirements for these materials.	Textiles, wood, and paper: JIS L 1041-1983 A (Japan Law 112) or EN ISO 14184-1:2011 Leather: ISO 17226-1:2008 with ISO 17226-2:2008 confirmation method in case of interferences	16 ppm
	Heavy Metals (Extractable † and Total Content †)				
7440-36-0	Antimony (Sb)	Extractable: 30 ppm	Found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments, and alloys.	Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 3 ppm
7440-38-2	Arsenic (As)	Extractable: 0.2 ppm Total: 100 ppm	Arsenic and its compounds can be used in preservatives, pesticides, and defoliants for cotton, synthetic fibers, paints, inks, trims, and plastics.	Extractable: Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: Textiles: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	Extractable: 0.1 ppm Total: 10 ppm
7440-39-3	Barium (Ba)	Extractable: 1000 ppm	Barium and its compounds can be used in pigments for inks, plastics, and surface coatings, as well as in dyeing, mordants, filler in plastics, textile finishes, and leather tanning.	Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 100 ppm
7440-43-9	Cadmium (Cd)	Extractable: 0.1 ppm Total: 40 ppm	Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides, and paints.	Extractable: Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: Textiles, plastics, and metal: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	Extractable: 0.05 ppm Total: 5 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
Heavy Metals, continued					
7440-47-3	Chromium (Cr)	Extractable for textiles: 2 ppm Leather footwear for babies: 60 ppm	Chromium compounds can be used as dyeing additives; dye-fixing agents; color-fastness after- treatmnts; dyes for wool, silk, and polyamide (especially dark shades); and leather tanning.	Textiles: DIN EN 16711-2:2016 Leather: EN ISO 17072-1:2017	Extractable: 0.5 ppm
18540-29-9	Chromium VI †	Extractable: Leather: 3 ppm Knitted textiles for babies: 0.5 ppm	Though typically associated with leather tanning, Chromium VI also may be used in the dyeing of wool (after the chroming process).	Textiles: DIN EN 16711-2:2016 with EN ISO 17075-1:2017 if Cr is detected Leather: EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case the extract causes interference Conditions for leather ageing: 24 hours, 80 degrees C, maximum 5% relative humidity, no ventilation Ageing test is used at brand discretion.	Extractable: Leather: 3 ppm Textiles: 0.5 ppm
7440-48-4	Cobalt (Co)	Extractable: Adults: 4 ppm Children and babies: 1 ppm	Cobalt and its compounds can be used in alloys, pigments, dyestuff, and the production of plastic buttons.	Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 0.5 ppm
7440-50-8	Copper (Cu)	Extractable: Adults: 50 ppm Children and babies: 25 ppm	Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent.	Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 5 ppm
7439-92-1	Lead (Pb)	Extractable: Adults and children: 1 ppm Babies: 0.2 ppm Total: 90 ppm	May be associated with plastics, paints, inks, pigments and surface coatings.	Extractable: Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: Non-metal: CPSC-CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 Lead in paint and surface coating: CPSIA Section 101 16 CFR 1303	Extractable: 0.1 ppm Total: 10 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Heavy Metals, continued				
7439-97-6	Mercury (Hg)	Extractable: 0.02 ppm Total: 0.5 ppm	Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.	Extractable: Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: Textiles, plastics, metal: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	Extractable: 0.02 ppm Total: 0.1 ppm
7440-02-0	Nickel (Ni) †	Extractable: 1 ppm Release (metal parts): Prolonged skin contact: 0.5 µg/cm ² /week Pierced part: 0.2 µg/cm ² /week	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.	Extractable: Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Release: EN 12472:2005+ A1:2009 and EN 1811:2015	Extractable and Release: 0.1 ppm
7782-49-2	Selenium (Se)	Extractable: 500 ppm	May be found in synthetic fibres, paints, inks, plastics and metal trims.	Textiles: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 50 ppm
	Monomers †				
100-42-5	Styrene	500 ppm	Styrene is a precursor for polymerization and may be present in various Styrene copolymers like plastic buttons.	GC/MS Headspace 120 degrees C for 45 minutes or Extraction in Methanol GC/MS, sonication at 60 degrees C for 60 minutes	50 ppm
75-01-4	Vinyl Chloride	1 ppm	Vinyl Chloride is a precursor for polymerization and may be present in various PVC materials like prints, coatings, flip flops, and synthetic leather.	EN ISO 6401:2008	1 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	N-Nitrosamines +				
62-75-9	N-nitrosodimethylamine (NDMA)	0.5 ppm each	Can be formed as by-product in the production of rubber.	GB/T 24153-2009: determination using GC/MS, with LC/MS/MS verification if positive. Alternatively, LC/MS/MS may be performed on its own. prEN 19577:2017	0.5 ppm
55-18-5	N-nitrosodiethylamine (NDEA)				
621-64-7	N-nitrosodipropylamine (NDPA)				
924-16-3	N-nitrosodibutylamine (NDBA)				
100-75-4	N-nitrosopiperidine (NPIP)				
930-55-2	N-nitrosopyrrolidine (NPYR)				
59-89-2	N-nitrosomorpholine (NMOR)				
614-00-6	N-nitroso N-methyl N-phenylamine (NMPHA)				
612-64-6	N-nitroso N-ethyl N-phenylamine (NEPHA)				
	Organotin Compounds +				
Various	Dibutyltin (DBT)	1 ppm each	Class of chemicals combining tin and organics such as butyl and phenyl groups. Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilizers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.	CEN ISO/TS 16179:2012	0.1 ppm each
Various	Dioctyltin (DOT)				
Various	Monobutyltin (MBT)				
Various	Tricyclohexyltin (TCyHT)				
Various	Trimethyltin (TMT)				
Various	Trioctyltin (TOT)				
Various	Tripolybutyltin (TPT)	0.5 ppm each			
Various	Tributyltin (TBT)				
Various	Triphenyltin (TPHT)				
	Ortho-phenylphenol +				
90-43-7	Ortho-phenylphenol (OPP)	1000 ppm	OPP can be used for its preservative properties in leather or as a carrier in dyeing processes.	1 M KOH extraction, 12 to 15 hours at 90 degrees C, derivatization and analysis § 64 LFGB B 82.02-08 or DIN EN ISO 17070:2015	100 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Ozone-depleting Substances †				
Various	See Regulation (EC) No 1005/2009 for a complete list.	5 ppm	Ozone-depleting substances are Ozone depleting substances have been used as a foaming agent in PU foams as well as a dry-cleaning agent. They are prohibited from use.	GC/MS headspace 120 degrees C for 45 minutes	5 ppm
	Perfluorinated and Polyfluorinated Chemicals (PFCs) †				
Various	Perfluorooctane Sulfonate (PFOS) and related substances	1 µg/m ² each	PFOA and PFOS may be present as unintended byproducts in long-chain and short-chain commercial water-, oil-, and stain-repellent agents. PFOA may also be used in polymers like polytetrafluoroethylene (PTFE). Long-chain PFC technology is restricted from use, with a 25-ppb limit on PFOA and its salts and a 1000 ppb total limit on PFOA-related substances in all materials. See Commission Regulation (EU) 2017/1000. This is effective 04 July 2020. RSL limits will be revised in a subsequent update.	CEN/TS 15968:2014	1 µg/m ² each
Various	Perfluorooctanoic Acid (PFOA) and related substances				
	Pesticides, Agricultural †				
Various	See Appendix A for a complete list.	0.5 ppm each	May be found in natural fibers, primarily cotton.	Natural fibers: ISO 15913/DIN 38407 F2 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09	0.5 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Phthalates +				
28553-12-0	Di-Iso-nonylphthalate (DINP)	500 ppm each Total: 1000 ppm	<p>Esters of ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the moulding of plastic by decreasing its melting temperature.</p> <p>Phthalates can be found in:</p> <ul style="list-style-type: none"> • Flexible plastic components (e.g., PVC) • Print pastes • Adhesives • Plastic buttons • Plastic sleeveings • Polymeric coatings <p>The listed Phthalates are those most commonly used and regulated across industry sectors.</p> <p>Find more information about additional Phthalates on the REACH substances of very high concern (SVHC) candidate list, which is updated frequently.</p>	<p>Sample preparation: CPSC-CH-C1001-09.3</p> <p>Measurement: Textile: GC-MS, EN ISO 14389:2014 Leather: GC-MS</p>	50 ppm each
117-84-0	Di-n-octylphthalate (DNOP)				
117-81-7	Di(2-ethylhexyl)-phthalate (DEHP)				
26761-40-0	Diisodecylphthalate (DIDP)				
85-68-7	Butylbenzylphthalate (BBP)				
84-74-2	Dibutylphthalate (DBP)				
84-69-5	Diisobutylphthalate (DIBP)				
84-75-3	Di-n-hexylphthalate (DnHP)				
84-66-2	Diethylphthalate (DEP)				
131-11-3	Dimethylphthalate (DMP)				
131-18-0	Di-n-pentyl phthalate (DPENP)				
84-61-7	Dicyclohexyl phthalate (DCHP)				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Polycyclic Aromatic Hydrocarbons (PAHs) †				
83-32-9	Acenaphtene	No individual restriction	PAHs are natural components of crude oil and are common residues from oil refining. PAHs have a characteristic smell similar to that of car tires or asphalt. Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers and coatings. PAHs are often found in the outsoles of footwear and in printing pastes for screen prints. PAHs can be present as impurities in Carbon Black. They also may be formed from thermal decomposition of recycled materials during reprocessing	AFPS GS 2014	0.2 ppm each
208-96-8	Acenaphthylene				
120-12-7	Anthracene				
191-24-2	Benzo(g,h,i)perylene				
86-73-7	Fluorene				
206-44-0	Fluoranthene				
193-39-5	Indeno(1,2,3-cd)pyrene				
91-20-3	Naphthalene**				
85-01-8	Phenanthrene				
129-00-0	Pyrene	Total: 10 ppm	**Naphthalene: Dispersing agents for textile dyes may contain high residual naphthalene concentrations due to the use of low-quality Naphthalene derivatives (e.g., poor-quality Naphthalene Sulphonate Formaldehyde condensation products).		
56-55-3	Benzo(a)anthracene				
50-32-8	Benzo(a)pyrene				
205-99-2	Benzo(b)fluoranthene				
192-97-2	Benzo[e]pyrene				
205-82-3	Benzo[j]fluoranthene				
207-08-9	Benzo(k)fluoranthene				
218-01-9	Chrysene	1 ppm each Child care articles: 0.5 ppm each			
53-70-3	Dibenzo(a,h)anthracene				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit Limits above which test results should be reported
	Volatile Organic Compounds (VOCs) †				
71-43-2	Benzene	5 ppm	<p>These VOCs should not be used in textile auxiliary chemical preparations. They are also associated with solvent-based processes such as solvent-based polyurethane coatings and glues/adhesives.</p> <p>They should not be used for any kind of facility cleaning or spot cleaning.</p>	<p>For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C</p> <p>For DMAC: DIN CEN ISO/TS 16189:2013</p>	<p>Benzene: 5 ppm Other: 20 ppm each</p>
75-15-0	Carbon Disulfide	Total: 1000 ppm			
56-23-5	Carbon Tetrachloride				
67-66-3	Chloroform				
108-94-1	Cyclohexanone				
107-06-2	1,2-Dichloroethane				
75-35-4	1,1-Dichloroethylene				
127-19-5	Dimethylacetamide (DMAC)				
100-41-4	Ethylbenzene				
76-01-7	Pentachloroethane				
630-20-6	1,1,1,2- Tetrachloroethane				
79-34-5	1,1,2,2- Tetrachloroethane				
127-18-4	Tetrachloroethylene (PERC)				
108-88-3	Toluene				
71-55-6	1,1,1- Trichloroethane				
79-00-5	1,1,2- Trichloroethane				
79-01-6	Trichloroethylene				
1330-20-7	Xylenes (meta-, ortho-, para-)				
108-38-3					
95-47-6					
106-42-3					

Appendix A: Pesticides, Agricultural

CAS No.	Pesticide Name	CAS No.	Pesticide Name	CAS No.	Pesticide Name
93-72-1	2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds; 2,4,5-TP	120-36-5	Dichloroprop	319-86-8	g-Hexachlorocyclohexane with and without Lindane
		115-32-2	Dicofol		
93-76-5	2,4,5-T	141-66-2	Dicrotophos	118-74-1	Hexachlorobenzene
94-75-7	2,4-D	60-57-1	Dieldrine	465-73-6	Isodrine
309-00-2	Aldrine	60-51-5	Dimethoate	4234-79-1	Kelevane
86-50-0	Azinophosmethyl	88-85-7	Dinoseb, its salts and acetate	143-50-0	Kepone
2642-71-9	Azinophosethyl	63405-99-2	DTTB (4, 6-Dichloro-7 (2,4,5-trichloro-phenoxy) -2-Trifluoro methyl benz imidazole)	7784-40-9	Lead hydrogen arsenate
4824-78-6	Bromophos-ethyl			58-89-9	Lindane
2425-06-1	Captafol	115-29-7	Endosulfan	121-75-5	Malathione
63-25-2	Carbaryl	959-98-8	Endosulfan I (alpha)	94-74-6	MCPA
510-15-6	Chlorbenzilat	33213-65-9	Endosulfan II (beta)	94-81-5	MCPB
57-74-9	Chlordane	72-20-8	Endrine	93-65-2	Mecoprop
6164-98-3	Chlordimeform	66230-04-4	Esfenvalerate	10265-92-6	Metamidophos
470-90-6	Chlorfenvinphos	106-93-4	Ethylendibromid	72-43-5	Methoxychlor
1897-45-6	Chlorthalonil	56-38-2	Ethylparathione; Parathion	2385-85-5	Mirex
56-72-4	Coumaphos	51630-58-1	Fenvalerate	6923-22-4	Monocrotophos
68359-37-5	Cyfluthrin	Various	Halogenated terphenols, including polychlorinated terphenyl (PCT)	298-00-0	Parathion-methyl
91465-08-6	Cyhalothrin			1825-21-4	Pentachloroanisole
52315-07-8	Cypermethrin	Various	Halogenated diarylalkanes	7786-34-7	Phosdrin/Mevinphos
78-48-8	S,S,S-Tributyl phosphorotrithioate (Tribufos)	99688-47-8	Halogenated diphenyl methanes, including Monomethyl-dibromo-diphenyl methane, Monomethyl-dichloro-diphenyl methane, and Monomethyl-tetrachloro-diphenyl methane	72-56-0	Perthane
52918-63-5	Deltamethrin	81161-70-8		31218-83-4	Propethamphos
53-19-0	DDD	76253-60-6		41198-08-7	Profenophos
72-54-8		76-44-8	13593-03-8	Quinalphos	
3424-82-6	DDE	1024-57-3	Heptachloroepoxide	82-68-8	Quintozene
72-55-9		319-84-6	a-Hexachlorocyclohexane with and without Lindane	8001-50-1	Strobane
50-29-3	DDT	319-85-7	b-Hexachlorocyclohexane with and without Lindane	297-78-9	Telodrine
789-02-6				8001-35-2	Toxaphene
333-41-5	Diazinone			731-27-1	Tolyfluanide
1085-98-9	Dichlofluanide			1582-09-8	Trifluraline



www.afirm-group.com