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BSI Standards Publication

Footwear — Footwear industry guideline for substances of very high concern (Annex XIV of REACH)

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National foreword

This Published Document is the UK implementation of CEN/TR 16417:2016. It supersedes PD CEN/TR 16417:2012 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TCI/69, Footwear.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Footwear - Footwear industry guideline for substances of very high concern (Annex XIV of REACH)

Chaussures - Lignes directrice de l'industrie de la chaussure concernant les substances extrêmement préoccupantes (annexe XIV de REACH)

Schuhe - Leitfaden für die Schuhindustrie für sehr bedenkliche Substanzen (Anhang XIV von REACH)

This Technical Report was approved by CEN on 24 August 2015. It has been drawn up by the Technical Committee CEN/TC 309.

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European foreword

This document (CEN/TR 16417:2016) has been prepared by Technical Committee CEN/TC 309 “Footwear”, the secretariat of which is held by AENOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 16417:2012.

In comparison with the previous edition, the most significant changes are:

— inclusion of the new substances (Tables 9 to 13) published in the candidate list of Annex XIV of REACH after January 2012;

— substances from Tables 2 to 8 have been transferred to table after their final inclusion in Annex XIV of REACH;

— the new substances of Tables 9 to 13 have been added in the annex.

1 Scope

This Technical Report is intended to provide information on the chemicals listed in the Candidate List / Annex XIV of the Regulation (EC) 1907/2006, also known as REACH (Regulation, Evaluation and Authorisation of Chemicals) and their usage and presence in the footwear industry.

The Annex XIV, overseen by the ECHA (European Chemicals Agency), is a list of substances subject to authorization, substances of very high concern (SVHC). Before the inclusion of a substance in the Annex XIV, the procedure is strictly fixed:

— A European member state shall propose it to ECHA.

— ECHA inform all the members' state and a first enquiry is done in order to include the substance to the candidate list of Annex XIV.

— After the agreement of the member's state, ECHA includes the substances in the candidate list to Annex XIV. As soon as a substance has been included in the candidate list, it should be taken into account exactly as a SVHC.

— ECHA prioritizes the substances from the Candidate List to determine which ones should be included in the Authorisation List (Annex XIV of REACH) and therefore, subject to authorization. ECHA regularly submits recommendations to the European Commission, who will decide on the substances to be included in the Authorisation List.

Following the evaluation of the Annex XIV substances, ECHA can take the decision to restrict the substances. This restriction may take the form of an authorization for use, an authorization only for specific applications in specified fields or, in some cases, a complete ban on the use of the substance.

During the evaluation process, these chemicals are not forbidden or limited in use. The regulation requires that the user shall be informed if one or more of these substances are present in any part of the article in quantity over 0,1 % by weight.

This Technical Report shows which of these chemicals may be present in footwear materials and the footwear industry in order to help shoe manufacturers to collect mandatory information from suppliers regarding the content of these chemicals and, at same time, allow them to provide accurate information to their customers.

The test methods reported in Annex A are informative only to identify where these chemicals may be found and control the use along the supply chain where their suppliers are not under the jurisdiction of the REACH Regulation.

Taking into account final decision of the European Commission, ECHA, implements the Annex XIV and the candidate list to Annex XIV of REACH, regularly. This revision interval is difficult to follow by the standardization procedures.

Therefore this document reflects the situation at the date *of June 2014*. This document will be annually revised.

This Technical Report does not concern the substances for which restriction have been already enacted under Annex XVII of REACH.

NOTE Chemicals that are restricted under Annex XVII, are identified as a category 1 chemical in CEN ISO/TR 16178.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
Very Persistent and Very Bioaccumulative substance
vPvB
substance that fulfils the criteria of both the sections below:

a) Persistence

1) the half-life in marine, fresh- or estuarine water is higher than 60 d, or

2) the half-life in marine, fresh- or estuarine water sediment is higher than 180 d, or

3) the half-life in soil is higher than 180 d

b) Bioaccumulation

1) the bioconcentration factor is greater than 5 000

2.2
Persistent, Bioaccumulative and Toxic substance
PBT
substance that fulfils all three of the criteria of the sections below:

a) Persistence

1) the half-life in marine water is higher than 60 d, or

2) the half-life in fresh- or estuarine water is higher than 40 d, or

3) the half-life in marine sediment is higher than 180 d, or

4) the half-life in fresh- or estuarine water sediment is higher than 120 d, or

5) the half-life in soil is higher than 120 d

b) Bioaccumulation

1) the bioconcentration factor (BCF) is higher than 2 000

c) Toxicity

1) the long-term no-observed effect concentration (Noec) for marine or freshwater organisms is less than 0,01 mg/l, or

2) the substance is classified as carcinogenic (category 1 or 2), mutagenic (category 1 or 2) or toxic for reproduction (category 1, 2, or 3), or

3) there is other evidence of chronic toxicity, as identified by the classifications: T, R48, or Xn, R48 according to Directive 67/548/EEC

3 SVHC potentially present in the footwear industry

3.1 General

The following subclauses contain tables with the substances of very high concern (SVHC) that could be found in the footwear or in the footwear components.

3.2 SVHC included in Annex XIV of REACH

Table 1 includes the substances of very high concern included, at the moment of publication of this Technical Report, in Annex XIV of REACH after the 17th April 2014.

Table 1 — Identification of substances of very high concern included in Annex XIV of REACH — after the 17th April 2014

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
1.1	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4		vPvB (article 57e)	Not used in footwear or footwear components
1.2	4,4'-Diaminodiphenylmethane	101-77-9	202-974-4	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: — azo colorant, see Annex XVII of Reach) — PU material, (false positive result is possible, generated as a marker in testing of PU material)
1.3	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α – HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	247-148-4 and 221-695-9		PBT (article 57d)	Not used in footwear or footwear components (flame retardant for electronics)
1.4 [a]	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
1.5 [a]	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
1.6 [a]	Dibutyl phthalate (DBP)	84-74-2	201-557-4	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
1.7	2,4 – Dinitrotoluene (2,4-DNT)	121-14-2	204-450-0	Aromatic hydrocarbons	Carcinogenic (article 57a)	Not used in footwear or footwear components
1.8	Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	204-118-5	Tris(2-chloroethyl) phosphate (TCEP)	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (flame retardant for furniture, plasticizer for PU-PVC)
1.9	Diarsenic pentaoxide	1303-28-2	215-116-9	Arsenic compounds	Carcinogenic (article 57a)	Not used in footwear or footwear components
1.10	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	215-693-7	Substances containing lead	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Possible pigment in certain surface coating
1.11	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	235-759-9	Substances containing lead	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Possible pigment in certain surface coating
1.12	Diarsenic trioxide	1327-53-3	215-481-4	Arsenic compounds	Carcinogenic (article 57a)	Not used in footwear or footwear components
1.13	Lead chromate	7758-97-6	231-846-0	Substances containing chromate	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Possible pigment in certain surface coating
1.14 [a]	Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
1.15	Trichloroethylene	79-01-6	201-167-4	Chlorinated aliphates	Carcinogenic (article 57a)	Solvent used in not flammable adhesive, volatile product can be present only as a residue More possible to detect in the footwear packaging than in the footwear
1.16	Chromium trioxide	1333-82-0	215-607-8	Substances containing chromium	Carcinogenic and mutagenic (articles 57a and 57b)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.17	Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid	7738-94-5, 13530-68-2, not yet assigned	231-801-5, 236-881-5, not yet assigned	Substances containing chromium	Carcinogenic (article 57a)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.18	Sodium dichromate	7789-12-0 and 10588-01-9	234-190-3	Substances containing chromate	Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.19	Potassium dichromate	7778-50-9	231-906-6	Substances containing chromate	Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.20	Ammonium dichromate	7789-09-5	232-143-1	Substances containing chromate	Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.21	Potassium chromate	7789-00-6	232-140-5	Substances containing chromate	Carcinogenic and mutagenic (articles 57a and 57b)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
1.22	Sodium chromate	7775-11-3	231-889-5	Substances containing chromate	Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.23	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	500-036-1	aldehyde	Carcinogenic (article 57a)	Reaction products Not used in footwear or footwear components
1.24	Arsenic acid	7778-39-4	231-901-9	Arsenic compounds	Carcinogenic article 57a)	Not used in footwear or footwear components
1.25	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	Dihydroxy ether	Carcinogenic (article 57a)	Not used in footwear or footwear components volatile product, traces can be present only as a residue
1.26	1,2-Dichloroethane; ethylene dichloride	107-06-2	203-458-1	Chlorinated aliphate	Carcinogenic (article 57a)	Solvent used in not flammable adhesive, volatile product can be present only as a residue More possible to detect in the packaging of footwear than in the footwear itself
1.27	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	Aryl amine	Carcinogenic (article 57a)	Used as a curing agent in PU industry, Possible in certain technical PU Only low level residue will be expected (less than 0,1 %)
1.28	Dichromium tris(chromate)	24613-89-6	246-356-2	Substances containing chromium	Carcinogenic (article 57a)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
1.29	Strontium chromate	7789-06-2	232-142-6	Substances containing chromate	Carcinogenic (article 57a)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.30	Potassium hydroxyoctaoxodizincatedi chromate	11103-86-9	234-329-8	Substances containing chromate	Carcinogenic (article 57a)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)
1.31	Pentazinc chromate octahydroxide	49663-84-5	256-418-0	Substances containing chromium	Carcinogenic (article 57a)	Not used in footwear or footwear components (Cr VI possible in leather at low concentration)

[a] These substances are especially important for footwear and footwear components.

3.3 SVHC included in the candidate list of Annex XIV of REACH

The following tables include the substances of very high concern included, at the moment of publication of this Technical Report, in the candidate list of Annex XIV of REACH. Different tables have been drafted to identify the date of inclusion in the candidate list.

Table 2 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 28th October 2008

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
2.1	Bis(tributyltin) oxide (TBTO)	56-35-9	200-268-0	Substances containing tin	PBT (article 57d)	Not used in footwear or footwear components Use in the pass as a preservative agent
2.2 [a]	Anthracene	120-12-7	204-371-1	PAHs	PBT (article 57d)	PAH compound Possible contaminant (recycled materials, leather fat liquor, black plastics, rubbers)
2.3	Lead hydrogen arsenate	7784-40-9	232-064-2	Arsenic compounds	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
2.4	Triethyl arsenate	15606-95-8	427-700-2	Arsenic compounds	Carcinogenic (article 57a)	Not used in footwear or footwear components
2.8 [a]	Alkanes, C10-13,chloro [Short Chain Chlorinated paraffins] (SCCP)	85535-84-8	287-476-5	Chlorinated aliphates	PBT and vPvB (articles 57d and 57e)	Possible (flame retardant for textile or fat liquor for leather)
	See Table 1 – 1.3					
	See Table 1 – 1.2					
	See Table 1 – 1.6					
	See Table 1 – 1.18					
	See Table 1 – 1.7					
	See Table 1 – 1.9					
	See Table 1 – 1.4					
	See Table 1 – 1.5					
	See Table 1 – 1.12					

[a] These substances are especially important for footwear and footwear components.

Table 3 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Dates of inclusion 13th January 2010

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
3.1	Coal tar pitch, high temperature	65996-93-2	266-028-2	PAHs	Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e)	Not used in footwear or footwear components
3.5	Anthracene oil	90640-80-5	292-602-7	PAHs	Carcinogenic[1], PBT and vPvB (articles 57a, 57d and 57e)	Not used in footwear or footwear components
3.6	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	PAHs	Carcinogenic[2], mutagenic[3], PBT and vPvB (articles 57a, 57b, 57d and 57e)	
3.7	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	PAHs	Carcinogenic[2], mutagenic[3], PBT and vPvB (articles 57a, 57b, 57d and 57e)	
3.8	Anthracene oil, anthracene-low	90640-82-7	292-604-8	PAHs	Carcinogenic[2], mutagenic[3], PBT and vPvB (articles 57a, 57b, 57d and 57e)	
3.9	Anthracene oil, anthracene paste	90640-81-6	292-603-2	PAHs	Carcinogenic[2], mutagenic[3], PBT and vPvB (articles 57a, 57b, 57d and 57e)	
3.10	Aluminosilicate Refractory Ceramic Fibres	—	—	Refractory Ceramic Fibres	Carcinogenic (article 57a)	Not used in footwear or footwear components
3.11	Zirconia Aluminosilicate Refractory Ceramic Fibres	—	—	Refractory Ceramic Fibres	Carcinogenic (article 57a)	Not used in footwear or footwear components
	See Table 1 – 1.7					
	See Table 1 – 1.8					
	See Table 1 – 1.10					
	See Table 1 – 1.11					
	See Table 1 – 1.13					
	See Table 1 – 1.14					

Table 4 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Dates of inclusion 30th March 2010

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
4.1	Acrylamide	79-06-1	201-173-7	Amides	Carcinogenic and mutagenic (articles 57a and 57b)	Not used in footwear or footwear components (possible in polymers not fully polymerized)

Table 5 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 18th June 2010

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
5.2	Disodium tetraborate anhydrous	1303-96-4, 1330-43-4, 12179-04-3	215-540-4	Substances containing boron	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (leather: possible traces, use for the preservation of raw hides Flame retardant for plastics)
5.3	Boric acid	10043-35-3, 11113-50-1	233-139-2, 234-343-4	Substances containing boron	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (leather: possible traces, use for the preservation of raw hides Flame retardant for plastics)
5.8	Tetraboron disodium heptaoxide hydrate	12267-73-1	235-541-3	Substances containing boron	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (leather : possible traces, use for the preservation of raw hides Flame retardant for plastics)
	See Table 1 – 1.15					
	See Table 1 – 1.19					
	See Table 1 – 1.20					
	See Table 1 – 1.21					
	See Table 1 – 1.22					

Table 6 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 15th December 2010

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
6.3	2-Ethoxyethanol; Ethylene glycol monoethyl ether (EGEE)	110-80-5	203-804-1	Dihydroxy ethers	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (possible in certain leather finishing at low levels)
6.4	2-Methoxyethanol; Ethylene glycol monomethyl ether (EGME)	109-86-4	203-713-7	Dihydroxy ethers	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (possible in certain leather finishing at low levels)
6.5	Cobalt (di)acetate	71-48-7	200-755-8	Substances containing cobalt	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
6.6	Cobalt carbonate	513-79-1	208-169-4	Substances containing cobalt	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
6.7	Cobalt dinitrate	10141-05-6	233-402-1	Substances containing cobalt	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
6.8	Cobalt sulphate	10124-43-3	233-334-2	Substances containing cobalt	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
	See Table 1 – 1.16					
	See Table 1 – 1.17					

Table 7 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 20th June 2011

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
7.1 [a]	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1	Phthalates	Toxic for reproduction (article 57c)	Theoretically possible Practically never has been detected in footwear or footwear components
7.2	1,2,3-trichloropropane	96-18-4	202-486-1	Chlorinated aliphates	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Solvent in rubber industry volatile product, traces can be present only as a residue
7.3 [a]	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone	872-50-4	212-828-1	Nitrogen containing heterocycles	Toxic for reproduction (article 57c)	Solvent used in leather industry (concentration higher than 0,1 % possible)
7.4	Hydrazine	302-01-2	206-114-9	Other substances	Carcinogenic (article 57a)	Basic chemical for synthesis Not used in footwear or footwear components
7.5	Cobalt dichloride	7646-79-9	231-589-4	Substances containing cobalt	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
7.6 [a]	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	271-084-6	Phthalates	Toxic for reproduction (article 57c)	Theoretically possible Practically never has been detected in footwear or footwear components
7.8	2-Ethoxyethyl acetate	111-15-9	203-839-2	Dihydroxy ethers	Toxic for reproduction (article 57c)	Solvent volatile product, traces can be present only as a residue

[a] These substances are especially important for footwear and footwear components.

Table 8 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 20th December 2011

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
8.1 [a]	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	205-426-2	Alkyl phenols and their ethoxylates	Toxic for reproduction (article 57c)	Used as surfactant in leather and textile industry Only low level residue will be expected (less than 0,1 %)
8.2	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	Aryl amine	Carcinogen, cat. 2	Not used as a free compound This substance can be detected after the degradation of: azo colorant, see Annex XVII of Reach Only low level residue will be expected (less than 0,1 %)
8.4	Calcium arsenate	7778-44-1	231-904-5	Arsenic compounds	Carcinogenic (article 57a)	Not used in footwear or footwear components
8.5	Trilead diarsenate	3687-31-8	222-979-5	Arsenic compounds	Carcinogenic (article 57a)	Not used in footwear or footwear components
8.8 [a]	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
8.9	N,N-dimethylacetamide (DMAC)	127-19-5	204-826-4	Amide	Carcinogenic (article 57a)	Solvent used in synthetic textile industry and in leather finishing Only low level residue will be expected (less than 0,1 %)
8.11	Lead diazide; Lead azide	13424-46-9	236-542-1	Substances containing lead	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
8.12	Lead styphnate	15245-44-0	239-290-0	Substances containing lead	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
8.17	Phenolphthalein	77-09-8	201-004-7	Aromatic hydrocarbons	Carcinogenic (article 57a)	Not used in footwear or footwear components
8.18	Aluminosilicate Refractory Ceramic Fibres	—	—	Refractory Ceramic Fibres	Carcinogenic (article 57a)	Not used in footwear or footwear components

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
8.19	Zirconia Aluminosilicate Refractory Ceramic Fibres	—	—	Refractory Ceramic Fibres	Carcinogenic (article 57a)	Not used in footwear or footwear components
8.20	Lead dipicrate	6477-64-1	229-335-2	Substances containing lead	Carcinogenic and toxic for reproduction (articles 57a and 57c)	Not used in footwear or footwear components
	See Table 1 – 1.23					
	See Table 1 – 1.24					
	See Table 1 – 1.25					
	See Table 1 – 1.26					
	See Table 1 – 1.27					
	See Table 1 – 1.28					
	See Table 1 – 1.30					

[a] These substances are especially important for footwear and footwear components.

Table 9 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 18th June 2012

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
9.1	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0,1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	229-851-8	Colorant	Carcinogenic (article 57a)	Complex mixture not used in footwear or footwear components (However C.I. Solvent Blue 4 can be found in plastics, paper, paperboard)
9.2	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	423-400-0		Mutagenic (article 57b)	Not used in footwear or footwear components
9.3	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2		Carcinogenic (article 57a)	Not used in footwear or footwear components
9.4	Diboron trioxide	1303-86-2	215-125-8	Substances containing boron	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
9.5	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	Solvant	Toxic for reproduction (article 57c)	Used as a solvent for certain dyes Only low level residue will be expected (less than 0,1 %)
9.6 [a]	Formamide	75-12-7	200-842-0		Toxic for reproduction (article 57c)	Possible at more than 0,1 % for EVA materials
9.7	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] (solvent violet 8)	561-41-1	209-218-2	Colorant	Carcinogenic (article 57a)	Complex mixture not used in footwear or footwear components (However C.I. Solvent Blue 4 can be found in plastics, paper, paperboard)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
9.8	Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
9.9	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	208-953-6	Colorant	Carcinogenic (article 57a)	Complex mixture not used in footwear or footwear components (However C.I. Solvent Blue 4 can be found in plastics, paper, paperboard)
9.10	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	Solvent	Toxic for reproduction (article 57c)	Used as a solvent for certain dyes Only low level residue will be expected (less than 0,1 %)
9.11	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	219-943-6	Colorant	Carcinogenic (article 57a)	Complex mixture not used in footwear or footwear components (However C.I. Basic Blue 26 can be found in textile)
9.12	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	219-514-3		Mutagenic (article 57b)	Not used in footwear or footwear components
9.13	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	202-027-5		Carcinogenic (article 57a)	Not used in footwear or footwear components

[a] These substances are especially important for footwear and footwear components.

Table 10 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — Date of inclusion 19th December 2012

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
10.1	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1		Equivalent level of concern having probable serious effects to human health (article 57f)	Not used in footwear or footwear components
10.2	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, see Annex XVII of Reach Only low level residue will be expected (less than 0,1 %)
10.3	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9		Equivalent level of concern having probable serious effects to human health (article 57f)	Not used in footwear or footwear components
10.4	Pyrochlore, antimony lead yellow	8012-00-8	232-382-1	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.5	Henicosafluoroundecanoic acid	2058-94-8	218-165-4		vPvB (article 57e)	Not used in footwear or footwear components
10.6	4-Aminoazobenzene	60-09-3	200-453-6	Aryl amine	Carcinogenic (article 57a)	Used as colorant (Solvent Yellow 1) and can be detected after the degradation of azo colorants Only low level residue will be expected (less than 0,1 %)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
10.7	Silicic acid, lead salt	11120-22-2	234-363-3	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.8	Lead titanium zirconium oxide	12626-81-2	235-727-4	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.9	Lead monoxide (lead oxide)	1317-36-8	215-267-0		Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.10	o-Toluidine	95-53-4	202-429-0	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, see Annex XVII of Reach Only low level residue will be expected (less than 0,1 %)
10.11 [a]	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7		Toxic for reproduction (article 57c)	Possible at more than 0,1 % for Polyurethane materials
10.12 [a]	Dibutyltin dichloride (DBTC)	683-18-1	211-670-0	Organotin	Toxic for reproduction (article 57c)	Stabiliser or catalyst of polymers
10.13	Lead bis(tetrafluoroborate)	13814-96-5	237-486-0	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.14	Lead dinitrate	10099-74-8	233-245-9	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.15	Silicic acid (H2Si2O5), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	272-271-5	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.16	Trilead bis(carbonate)dihydroxide	1319-46-6	215-290-6	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
10.17	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, see Annex XVII of Reach Only low level residue will be expected (less than 0,1 %)
10.18	Diethyl sulphate	64-67-5	200-589-6		Carcinogenic (article 57a); Mutagenic (article 57b)	Not used in footwear or footwear components
10.19	Dimethyl sulphate	77-78-1	201-058-1		Carcinogenic (article 57a)	Not used in footwear or footwear components
10.20 [a]	N,N-dimethylformamide	68-12-2	200-679-5	Solvent	Toxic for reproduction (article 57c)	Possible for PU coated material obtained by dipping
10.21	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	—	—	Surfactant	Equivalent level of concern having probable serious effects to the environment (article 57f)	Used in the past in the textile industry see Annex XVII of Reach can be found at residual levels
10.22 [a]	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	—	—	Surfactant	Equivalent level of concern having probable serious effects to the environment (article 57f)	Possible in the textile industry see Annex XVII of Reach can be found at residual levels
10.23	Furan	110-00-9	203-727-3	Solvent	Carcinogenic (article 57a)	Not used in footwear or footwear components
10.24	Lead oxide sulfate	12036-76-9	234-853-7	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.25	Lead titanium trioxide	12060-00-3	235-038-9	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.26	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9	Brominated flame retardant	PBT (article 57d); vPvB (article 57e)	Not used in footwear or footwear components

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
10.27	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	201-861-7	Pesticide	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.28	1,2-Diethoxyethane	629-14-1	211-076-1	Solvent	Toxic for reproduction (article 57c)	Used as a solvent for leather finishing Only low level residue will be expected (less than 0,1 %)
10.29	N-methylacetamide	79-16-3	201-182-6	Solvent	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.30	Tetralead trioxide sulphate	12202-17-4	235-380-9	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.31	Acetic acid, lead salt, basic	51404-69-4	257-175-3	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.32	[Phthalato(2-)]dioxotrilead	69011-06-9	273-688-5	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.33	Tetraethyllead	78-00-2	201-075-4	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.34 [a]	N-pentyl-isopentylphthalate	776297-69-9	—	Phthalates	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
10.35	Pentalead tetraoxide sulphate	12065-90-6	235-067-7	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.36	Heptacosafluorotetradecanoic acid	376-06-7	206-803-4		vPvB (article 57e)	Not used in footwear or footwear components
10.37	Tricosafluorododecanoic acid	307-55-1	206-203-2		vPvB (article 57e)	Not used in footwear or footwear components
10.38	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0		Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.39	Dioxobis(stearato)trilead	12578-12-0	235-702-8	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.40	Pentacosafluorotridecanoic acid	72629-94-8	276-745-2		vPvB (article 57e)	Not used in footwear or footwear components

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
10.41	Methoxyacetic acid	625-45-6	210-894-6		Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.42	Methyloxirane (Propylene oxide)	75-56-9	200-879-2		Carcinogenic (article 57a); Mutagenic (article 57b)	Not used in footwear or footwear components
10.43	Trilead dioxide phosphonate	12141-20-7	235-252-2	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.44	o-aminoazotoluene	97-56-3	202-591-2	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, (see Annex XVII of Reach) Only low level residue will be expected (less than 0,1 %)
10.45	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, (see Annex XVII of Reach) Only low level residue will be expected (less than 0,1 %)
10.46 [a]	Diisopentylphthalate	605-50-5	210-088-4	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
10.47 [a]	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
10.48	Biphenyl-4-ylamine	92-67-1	202-177-1	Aryl amine	Carcinogenic (article 57a)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, see Annex XVII of Reach) Only low level residue will be expected (less than 0,1 %)

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
10.49	Fatty acids, C16-18, lead salts	91031-62-8	292-966-7	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.50	Orange lead (lead tetroxide)	1314-41-6	215-235-6	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.51	4,4'-oxydianiline and its salts	101-80-4	202-977-0	Aryl amine	Carcinogenic (article 57a); Mutagenic (article 57b)	Not used as a free compound This substance can be detected after the degradation of: azo colorant, see Annex XVII of Reach Only low level residue will be expected (less than 0,1 %)
10.52	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8		Equivalent level of concern having probable serious effects to human health (article 57f)	Blowing agent for foam Only low level residue will be expected (less than 0,1 %)
10.53	Sulfurous acid, lead salt, dibasic	62229-08-7	263-467-1	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components
10.54	Lead cyanamidate	20837-86-9	244-073-9	Substances containing lead	Toxic for reproduction (article 57c)	Not used in footwear or footwear components

[a] These substances are especially important for footwear and footwear components.

Table 11 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — included the 20th June 2013

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
11.1 [a]	Cadmium	7440-43-9	231-152-8	Substances containing cadmium	Carcinogenic (article 57a); Equivalent level of concern having probable serious effects to human health (article 57f)	Possible See Annex XVII of Reach (concentration higher than 0,1 % possible)
11.2	Cadmium oxide	1306-19-0	215-146-2	Substances containing cadmium	Carcinogenic (article 57a); Equivalent level of concern having probable serious effects to human health (article 57f)	Not used in footwear or footwear components
11.3 [a]	Dipentyl phthalate (DPP)	131-18-0	205-017-9	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
11.4 [a]	4-Nonylphenol, branched and linear, ethoxylated [*substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof*]	—	—	Surfactant	Equivalent level of concern having probable serious effects to the environment (article 57f)	Possible in the textile industry see Annex XVII of Reach can be found at residual levels
11.5	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	223-320-4		Toxic for reproduction (article 57c); PBT (article 57d)	Used for the substitution of PFOS Rarely level higher than 0,1 %
11.6	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9		Toxic for reproduction (article 57c); PBT (article 57d)	Unwanted byproducts Rarely level higher than 0,1 %

[a] These substances are especially important for footwear and footwear components.

Table 12 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — included the 16th December 2013

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
12.1	Cadmium sulphide	1306-23-6	215-147-8	Pigment	Carcinogenic (article 57a)	Pigment for polymers and synthetic textiles Preservative for certain polymers
12.2	Colorant C.I. Direct Red 28	573-58-0	209-358-4	Colorant	Carcinogenic (article 57a)	Use in leather, textile and polymer (can release aromatic amines concerned by Reach Annex XVII) Possible to be found at trace level
12.3	Colorant C.I. Direct Black 38	1937-37-7	217-710-3	Colorant	Carcinogenic (article 57a)	Use in leather, textile and polymer (can release aromatic amines concerned by Reach Annex XVII) Possible to be found at trace level
12.4 [a]	Dihexyl phtalate	84-75-3	201-559-5	Phthalate	Toxic for reproduction (article 57c)	Possible (concentration higher than 0,1 % possible)
12.5	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	206-104-4		Toxic for reproduction (article 57c)	Vulcanization accelerator of rubber
12.6	Lead di(acetate)	301-04-2	206-104-4	Substances containing lead	Toxic for reproduction (article 57c)	Possible in certain paintings
12.7	Trixylyl phosphate	25155-23-1	246-677-8	Flame retardant	Toxic for reproduction (article 57c)	Flame retardant for polymer and textile

[a] These substances are especially important for footwear and footwear components.

Table 13 — Identification of substances of very high concern included in the candidate list for Annex XIV of REACH — included the 16th June 2014

ID	Substance name	CAS number	EC number	Group	Reason for inclusion	Occurrence in footwear
13.1 [a]	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5	Phthalate	Toxic for reproduction (article 57 c)	Possible (concentration higher than 0,1 % possible)
13.2	Sodium perborate; perboric acid, sodium salt	—	239-172-9; 234-390-0	Substances containing boron	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (leather: possible traces, use for the preservation of raw hides)
13.3	Sodium peroxometaborate	7632-04-4	231-556-4	Substances containing boron	Toxic for reproduction (article 57c)	Not used in footwear or footwear components (leather: possible traces, use for the preservation of raw hides)
13.4	Cadmium chloride	10108-64-2	233-296-7	Substances containing cadmium	Carcinogenic (article 57a); Mutagenic (article 57b); Toxic for reproduction (article 57c); Equivalent level of concern having probable serious effects to human health (article 57f)	Pigment for polymers and synthetic textiles Preservative for PVC

[a] These substances are especially important for footwear and footwear components.

Annex A
(informative)

Available test methods for the identification of the substances of very high concern given in the future REACH — Annex XIV

This annex contains information about the standardized test method available, at the moment of publication of this Technical Report, for the identification of some of the substances present in the tables of this report.

Table A.1 — Possible test methods for the determination of SVHC included in Annex XIV of REACH

ID	Substance name	CAS number	Test method
1.1	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	
1.2	4,4'- Diaminodiphenylmethane	101-77-9	EN 71-11
1.3	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α – HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	
1.4	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	CEN ISO/TS 16181
1.5	Benzyl butyl phthalate (BBP)	85-68-7	CEN ISO/TS 16181
1.6	Dibutyl phthalate (DBP)	84-74-2	CEN ISO/TS 16181
1.7	2,4 – Dinitrotoluene (2,4-DNT)	121-14-2	
1.8	Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	EN 71-11, prEN ISO 17881-2
1.9	Diarsenic pentaoxide	1303-28-2	Easily determined with total heavy metals screening EN ISO 17072-2
1.10 [a]	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Easily determined with total heavy metals screening EN ISO 17072-2
1.11 [a]	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.12	Diarsenic trioxide	1327-53-3	Easily determined with total heavy metals screening EN ISO 17072-2

ID	Substance name	CAS number	Test method
1.13 [a]	Lead chromate	7758-97-6	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.14 [a]	Diisobutyl phthalate (DIBP)	84-69-5	CEN ISO/TS 16181
1.15	Trichloroethylene	79-01-6	EN 71-9, EN 71-10 and EN 71-11
1.16	Chromium trioxide	1333-82-0	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.17	Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid	7738-94-5, 13530-68-2, not yet assigned	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.18	Sodium dichromate	7789-12-0 and 10588-01-9	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.19	Potassium dichromate	7778-50-9	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.20	Ammonium dichromate	7789-09-5	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.21	Potassium chromate	7789-00-6	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.22	Sodium chromate	7775-11-3	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.23	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	

ID	Substance name	CAS number	Test method
1.24	Arsenic acid	7778-39-4	Easily determined with total heavy metals screening EN ISO 17072-2
1.25	Bis(2-methoxyethyl) ether	111-96-6	
1.26	1,2-Dichloroethane; ethylene dichloride	107-06-2	
1.27	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	
1.28	Dichromium tris(chromate)	24613-89-6	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.29	Strontium chromate	7789-06-2	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075
1.30	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	Easily determined with total heavy metals screening EN ISO 17072-2
1.31	Pentazinc chromate octahydroxide	49663-84-5	Easily determined with total heavy metals EN ISO 17072-2 For chromium tanned leather it is recommended to proceed directly with EN ISO 17075

[a] These substances are especially important for footwear and footwear components.

Table A.2 — Possible test methods for the determination of SVHC included in the candidate list of Annex XIV of REACH

ID	Substance name	CAS number	Test method
9.11	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	EN ISO 16373-2
9.9	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	EN ISO 16373-2
10.32	[Phthalato(2-)]dioxotrilead	69011-06-9	Easily determined with total heavy metals EN ISO 17072-2
7.2	1,2,3-trichloropropane	96-18-4	
7.1	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	CEN ISO/TS 16181
7.6	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	CEN ISO/TS 16181
13.1 [a]	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	CEN ISO/TS 16181
10.47	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	CEN ISO/TS 16181
9.5	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	
10.28	1,2-Diethoxyethane	629-14-1	
9.10	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	
9.12	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	
9.2	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	
10.38	1-bromopropane (n-propyl bromide)	106-94-5	
6.3	2-Ethoxyethanol; Ethylene glycol monoethyl ether (EGEE)	110-80-5	
7.8	2-Ethoxyethyl acetate	111-15-9	
8.2	2-Methoxyaniline; o-Anisidine	90-04-0	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
6.4	2-Methoxyethanol; Ethylene glycol monomethyl ether (EGME)	109-86-4	
10.11	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	

ID	Substance name	CAS number	Test method
8.1	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	EN ISO 18218-1 or EN ISO 18218-2
10.21	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	—	EN ISO 18218-1 or EN ISO 18218-2
9.7	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	EN ISO 16373-2
9.13	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	
10.17	4,4'-methylenedi-o-toluidine	838-88-0	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.51	4,4'-oxydianiline and its salts	101-80-4	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.6	4-Aminoazobenzene	60-09-3	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.45	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.22	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	—	EN ISO 18218-1 or EN ISO 18218-2
11.4	4-Nonylphenol, branched and linear, ethoxylated [*substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof*]	—	EN ISO 18218-1 or EN ISO 18218-2
10.2	6-methoxy-m-toluidine (p-cresidine)	120-71-8	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.31	Acetic acid, lead salt, basic	51404-69-4	Easily determined with total heavy metals EN ISO 17072-2
4.1	Acrylamide	79-06-1	
2.8	Alkanes, C10-13,chloro [Short Chain Chlorinated paraffins] (SCCP)	85535-84-8	EN ISO 18219
8.18	Aluminosilicate Refractory Ceramic Fibres	—	

ID	Substance name	CAS number	Test method
3.10	Aluminosilicate Refractory Ceramic Fibres	—	
11.9	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	CEN/TS 15968
11.5	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	CEN/TS 15968
2.2	Anthracene	120-12-7	CEN ISO/TS 16190
3.5	Anthracene oil	90640-80-5	CEN ISO/TS 16190
3.9	Anthracene oil, anthracene paste	90640-81-6	CEN ISO/TS 16190
3.7	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	CEN ISO/TS 16190
3.6	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	CEN ISO/TS 16190
3.8	Anthracene oil, anthracene-low	90640-82-7	CEN ISO/TS 16190
10.48	Biphenyl-4-ylamine	92-67-1	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
8.8	Bis(2-methoxyethyl) phthalate	117-82-8	CEN ISO/TS 16181
10.26	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	based on ISO 22032 or IEC 62321 prEN ISO 17881-1
2.1	Bis(tributyltin) oxide (TBTO)	56-35-9	Easily determined with total heavy metals EN ISO 17072-2
5.3	Boric acid	10043-35-3, 11113-50-1	Easily determined with total heavy metals screening EN ISO 17072-2
11.1	Cadmium	7440-43-9	EN 1122
13.4 [a]	Cadmium chloride	10108-64-2	Easily determined with total heavy metals EN ISO 17072-2
11.2	Cadmium oxide	1306-19-0	Easily determined with total heavy metals EN ISO 17072-2
12.1	Cadmium sulphide	1306-23-6	Easily determined with total heavy metals EN ISO 17072-2
8.4	Calcium arsenate	7778-44-1	Easily determined with total heavy metals screening EN ISO 17072-2
3.1	Coal tar pitch, high temperature	65996-93-2	
6.5	Cobalt (di)acetate	71-48-7	Easily determined with total heavy metals screening EN ISO 17072-2
6.6	Cobalt carbonate	513-79-1	Easily determined with total heavy metals screening EN ISO 17072-2

ID	Substance name	CAS number	Test method
7.5	Cobalt dichloride	7646-79-9	Easily determined with total heavy metals screening EN ISO 17072-2
6.7	Cobalt dinitrate	10141-05-6	Easily determined with total heavy metals screening EN ISO 17072-2
6.8	Cobalt sulphate	10124-43-3	Easily determined with total heavy metals screening EN ISO 17072-2
12.3 [a]	Colorant C.I. Direct Black 38	1937-37-7	EN ISO 16373-2
12.2 [a]	Colorant C.I. Direct Red 28	573-58-0	EN ISO 16373-2
10.3	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	
10.52	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	
9.4	Diboron trioxide	1303-86-2	Easily determined with total heavy metals EN ISO 17072-2
10.12	Dibutyltin dichloride (DBTC)	683-18-1	CEN ISO/TS 16179
10.18	Diethyl sulphate	64-67-5	
12.4 [a]	Dihexyl phtalate	84-75-3	CEN ISO/TS 16181
10.46	Diisopentylphthalate	605-50-5	CEN ISO/TS 16181
10.19	Dimethyl sulphate	77-78-1	
10.27	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	
10.39	Dioxobis(stearato)trilead	12578-12-0	Easily determined with total heavy metals EN ISO 17072-2
11.3	Dipentyl phthalate (DPP)	131-18-0	CEN ISO/TS 16181
5.2	Disodium tetraborate anhydrous	1303-96-4, 1330-43-4, 12179-04-3	Easily determined with total heavy metals screening EN ISO 17072-2
10.49	Fatty acids, C16-18, lead salts	91031-62-8	Easily determined with total heavy metals EN ISO 17072-2
9.6	Formamide	75-12-7	
10.23	Furan	110-00-9	
10.5	Henicosafluoroundecanoic acid	2058-94-8	CEN/TS 15968
10.36	Heptacosafluorotetradecanoic acid	376-06-7	CEN/TS 15968

ID	Substance name	CAS number	Test method
10.1	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	
7.4	Hydrazine	302-01-2	
12.5	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	
10.13	Lead bis(tetrafluoroborate)	13814-96-5	Easily determined with total heavy metals EN ISO 17072-2
10.54	Lead cyanamidate	20837-86-9	Easily determined with total heavy metals EN ISO 17072-2
12.6	Lead di(acetate)	301-04-2	Easily determined with total heavy metals EN ISO 17072-2
8.11	Lead diazide; Lead azide	13424-46-9	Easily determined with total heavy metals screening EN ISO 17072-2
10.14	Lead dinitrate	10099-74-8	Easily determined with total heavy metals EN ISO 17072-2
8.20	Lead dipicrate	6477-64-1	Easily determined with total heavy metals screening EN ISO 17072-2
2.3	Lead hydrogen arsenate	7784-40-9	Easily determined with total heavy metals EN ISO 17072-2
10.9	Lead monoxide (lead oxide)	1317-36-8	Easily determined with total heavy metals EN ISO 17072-2
10.24	Lead oxide sulfate	12036-76-9	Easily determined with total heavy metals EN ISO 17072-2
8.12	Lead styphnate	15245-44-0	Easily determined with total heavy metals screening EN ISO 17072-2
10.25	Lead titanium trioxide	12060-00-3	Easily determined with total heavy metals EN ISO 17072-2
10.8	Lead titanium zirconium oxide	12626-81-2	Easily determined with total heavy metals EN ISO 17072-2
9.8	Lead(II) bis(methanesulfonate)	17570-76-2	Easily determined with total heavy metals EN ISO 17072-2
10.41	Methoxyacetic acid	625-45-6	

ID	Substance name	CAS number	Test method
10.42	Methyloxirane (Propylene oxide)	75-56-9	
9.3	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	
8.9	N,N-dimethylacetamide (DMAC)	127-19-5	
10.20	N,N-dimethylformamide	68-12-2	CEN ISO/TS 16189
7.3	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone	872-50-4	ISO/FDIS 19070
10.29	N-methylacetamide	79-16-3	
10.34	N-pentyl-isopentylphthalate	776297-69-9	CEN ISO/TS 16181
10.44	o-aminoazotoluene	97-56-3	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.50	Orange lead (lead tetroxide)	1314-41-6	Easily determined with total heavy metals EN ISO 17072-2
10.10	o-Toluidine	95-53-4	EN ISO 17234-1 and EN ISO 17234-2 EN 14362-1 and EN 14362-3 For PU EN 71-11
10.40	Pentacosafluorotridecanoic acid	72629-94-8	CEN/TS 15968
11.10	Pentadecafluorooctanoic acid (PFOA)	335-67-1	CEN/TS 15968
11.6	Pentadecafluorooctanoic acid (PFOA)	335-67-1	CEN/TS 15968
10.35	Pentalead tetraoxide sulphate	12065-90-6	Easily determined with total heavy metals EN ISO 17072-2
8.17	Phenolphthalein	77-09-8	
10.4	Pyrochlore, antimony lead yellow	8012-00-8	Easily determined with total heavy metals EN ISO 17072-2
10.15	Silicic acid (H2Si2O5), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	Easily determined with total heavy metals EN ISO 17072-2
10.7	Silicic acid, lead salt	11120-22-2	Easily determined with total heavy metals EN ISO 17072-2
13.2	Sodium perborate; perboric acid, sodium salt	—	Easily determined with total heavy metals EN ISO 17072-2
13.3 [a]	Sodium peroxometaborate	7632-04-4	Easily determined with total heavy metals

ID	Substance name	CAS number	Test method
			EN ISO 17072-2
10.53	Sulfurous acid, lead salt, dibasic	62229-08-7	Easily determined with total heavy metals EN ISO 17072-2
5.8	Tetraboron disodium heptaoxide hydrate	12267-73-1	Easily determined with total heavy metals screening EN ISO 17072-2
10.33	Tetraethyllead	78-00-2	Easily determined with total heavy metals EN ISO 17072-2
10.30	Tetralead trioxide sulphate	12202-17-4	Easily determined with total heavy metals EN ISO 17072-2
10.37	Tricosafluorododecanoic acid	307-55-1	CEN/TS 15968
2.4	Triethyl arsenate	15606-95-8	Easily determined with total heavy metals EN ISO 17072-2
10.16	Trilead bis(carbonate)dihydroxide	1319-46-6	Easily determined with total heavy metals EN ISO 17072-2
8.5	Trilead diarsenate	3687-31-8	Easily determined with total heavy metals screening EN ISO 17072-2
10.43	Trilead dioxide phosphonate	12141-20-7	Easily determined with total heavy metals EN ISO 17072-2
12.7	Trixylyl phosphate	25155-23-1	
3.11	Zirconia Aluminosilicate Refractory Ceramic Fibres	—	Easily determined with total heavy metals EN ISO 17072-2
8.19	Zirconia Aluminosilicate Refractory Ceramic Fibres	—	Easily determined with total heavy metals EN ISO 17072-2
9.1	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0,1 % of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	EN ISO 16373-2

[a] These substances are especially important for footwear and footwear components.

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[3] EN 71-11, *Safety of toys — Part 11: Organic chemical compounds — Methods of analysis*

[4] EN 1122, *Plastics — Determination of cadmium — Wet decomposition method*

[5] EN 14362-1, *Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres*

[6] EN 14362-3, *Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 3: Detection of the use of certain azo colorants, which may release 4-aminoazobenzene*

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[16] CEN ISO/TS 16189, *Footwear — Critical substances potentially present in footwear and footwear components — Test method to quantitatively determine dimethylformamide in footwear materials (ISO/TS 16189)*

[17] CEN ISO/TS 16190, *Footwear — Critical substances potentially present in footwear and footwear components — Test method to quantitatively determine polycyclic aromatic hydrocarbons (PAH) in footwear materials (ISO/TS 16190)*

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[21] IEC 62321, *Electrotechnical products — Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)*

[22] REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

[23] Echa internet address: http://echa.europa.eu

[24] Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances

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