



EUROPEAN COMMISSION
 ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL

Sustainable Growth and EU 2020
Sustainable Industrial Policy and Construction

Brussels, 5 December 2012
M/113 Amendment 1 EN

AMENDMENT TO:

**MANDATE TO CEN/CENELEC
 CONCERNING THE EXECUTION OF STANDARDISATION WORK
 FOR HARMONISED STANDARDS ON
 WOOD BASED PANELS (M/113)**

EXPLANATORY NOTE

The Construction Products Directive (89/106/EC) – CPD covers six essential requirements for buildings and civil engineering works which are translated into performance criteria for construction products. In the original mandate and work programme these aspects were only partly taken into consideration, mostly due to a lack of data on existing requirements and/or lack of technical instruments to be harmonised in European standards.

Construction products could emit or contain substances that have been defined as “dangerous substances” under European Directives and national regulations. While the emission (or the content if relevant for the calculation of emissions) shall be below any existing European and/or national threshold values (where the product is placed on the market), manufacturers and authorities need transparent and understandable schemes in place for the declaration of product performance in this respect in order to determine conformance of the product with these regulatory requirements. This requires harmonised standards for the declaration of the potential release of dangerous substances from construction products. The test methods to support this declaration will be provided by CEN TC 351 following the requirements of the Commission’s mandate M 366.

CEN TCs have to consider the current versions of EU Directives and notified national regulations.

Regulatory requirements to be referred to can be found:

- Commission’s database on dangerous substances¹;
- Indicative list indoor air/soil and (ground) water (DS 051)
- Annexes I, II and III of amendment of mandate M/113

¹<http://ec.europa.eu/enterprise/construction/cpd-ds/>

To facilitate the work of CEN product TCs, the attached annexes I and II provide an inventory of substances/materials that are considered as the most relevant² in the first phase for products covered under mandate M/113. It remains to the product TC to select the most efficient approach of cover dangerous substances regulated and relevant for their specific products³.

However, the financial and technical burden of testing could in many cases be avoided if a clear definition and product declaration of a product and/or its intended use is introduced in a product standard. This could allow manufacturers and authorities to avoid any testing or to focus on a few relevant substances/components/materials for testing, while they could exclude certain substances/components/materials from their test schemes⁴.

OBJECTIVE

The objective of this mandate is for CEN to amend existing harmonised product standards (or standards under development)⁵ to cover regulatory requirements on dangerous substances to an extent that will allow CE marked construction products to be placed on national markets without additional national requirements.

Note: It should be stressed that this exercise shall not duplicate the ongoing work in TC 351 and its links to product TCs, but improve the dialogue between specification writers and the Commission/regulators/experts, to avoid later misunderstandings and complications concerning information accompanying CE marking that might lead to delayed publications of harmonised product standards and/or the use of CE marking.

DESCRIPTION OF THE MANDATED WORK

The attached annex provides an overview on national notified regulatory requirements that have been identified by several experts of the Commission's expert group on dangerous substances as relevant for products covered under mandate M/113.

² The term "most relevant" for substances/materials in the inventory as well as in the selection and reply of each product TC highlights the importance of *a fast and pragmatic approach* two step approach for the first generation of product standards covering ER 3. The focus in the inventory as well as in the selection and reply by CEN TCs is on the substances/materials which are

- most likely present in a product or will most likely emit from products;
- have been identified by regulators as risk for health and the environment;

To avoid that the standardisation work will be unnecessarily delayed by trying to cover less likely or less dangerous risks in the first generation, the first generation is supposed to cover the *majority* of risks and substances/materials, but allows for adaptations in subsequent five year reviews of the product standards.

³ However, the manufacturer, or his agent established in the Community, shall be responsible for the attestation that products are in conformity with the requirements of a technical specification. (Art.13 of the CPD)

⁴ Following this approach not all substances listed in a mandate have to be tested. Some substances can be excluded by description (i.e. "substance xy is not used in concentrations above 0.1 % w/w")

⁵ Since only standards already published could be used by the Commission in annex I to identify relevant regulations and dangerous substances, it remains within the responsibility of product TCs to use this information for its work on standards under development, and, in case of doubt contact the Commission for guidance.

CEN has to assess the list and to take it completely into consideration when describing and justifying its selection of substances and their relevance in its work programme, in particular on the following aspects:

- If these substances may be present in products covered by mandate M/113 and in all existing harmonised product standards or harmonised product standards under development;
- If these substances are likely to emit from the above mentioned products and if these emissions are close to existing limit values in regulations referred to in this document⁶;
- If there is available data, particularly where the above mentioned products have been tested in the past on either content or emission of these substances by national authorities/bodies⁷;

Note: The work programme of the product TC will be used for further discussion in the EGDS between the Commission, national experts and experts of the product TC and TC 351.

CEN has to provide in existing harmonised product standards or harmonised product standards under development either

- clear and transparent definitions of products⁸ that will make further requirements for testing for dangerous substances obsolete or/and
- a set of clear and transparent requirements for products (i.e. intended use) with corresponding test and/or verification methods and rules for declaration of performance which will be laid down in product standards for these specific product families or relevant sub-families.

EXECUTION OF THE MANDATE

The standards resulting from this amended mandate will have to be delivered by no later than 12 months after the adoption of the technical specifications developed under mandate M/366.

After formal acceptance of the mandate, CEN will present to the Commission within 6 months a detailed proposal for the Work Programme. Having regard to the scope of this mandate this Work Programme will include

- a selection and clear indication of substances/materials indicated in the annexes of this mandate which are considered as (ER 3) relevant in products covered by mandate M/xxx, or a justification for excluding substances/materials of the attached annex from standardisation work in the relevant product TC;

⁶ The possibility of excluding products, components or substances from testing will be dealt with in detail in another document describing a system of defining products “without testing” or “without further testing”.

⁷ If products have not been subject to testing for dangerous substances (or specific substances now mentioned in this document have not been assessed in the past) it will be helpful to assess the priority given by regulators or the lack of useful technical instruments for the assessment, but does not necessarily indicate that Member State authorities might not insist on these specific requirements during the development of a standard or *after* it has been finalised. Therefore, each substance should be assessed carefully by the TC and in case of doubt clarification should be requested from the Commission.

⁸ If necessary with regard to materials, constituents, admixtures, etc.

- a list of all product standards considered to require declaration categories for the potential release or content of regulated dangerous substances to enable fulfilment of regulatory requirements;
- the timetable for the development and the publication of each amended standard; if not all regulated dangerous substances can be dealt with in one phase/generation, it should be explained how and when to handle the other substances and which steps still need to be taken.

Note: Due to regulatory requirements (e.g. the content of restricted and banned substances in construction products), content⁹ measurement/test standards may also be considered.

Content may also be used as screening method in FPC or as part of a “Without Further Testing” scenario.

After examination of the Work Programme and consultations with CEN, the Commission will endorse the timetable and the list of measurement/test standards or parts of measurement/test standards, which meet the terms of this mandate.

The terms of reference of the mandate may be subject to modification or addition, if necessary, following the consultation of the Standards and Technical Regulations Committee, where appropriate. Especially, when the Commission has endorsed the Work Programme, the annex will be updated with the corresponding parts of the endorsed Work Programme.

The Commission¹⁰ may participate in standardisation activities as an observer and has the right to receive all relevant documents.

CEN will immediately inform the Commission of any problem relating to the carrying out of the mandate from within the Technical Committees.

In an annual review meeting CEN/CENELEC will inform the Commission about the progress of the work.

The formal acceptance of this mandate by CEN will initiate the standstill procedure referred to in article 7 of the European Parliament and the Council Directive 98/34/EC of 22 June 1998.

CEN will present the final drafts of the harmonised European product standards to the Commission for confirmation of compliance with this mandate at the latest in accordance with the timetable agreed between CEN and the Commission.

The text of the European standards shall be delivered to the Commission in the three working languages of CEN (English, French, German).

CEN will provide the titles of the standards in all the official languages of the European Union.

⁹ For other regulations than the CPD the content of substances in a product/materials is relevant. Therefore the characteristic to be considered can also, as pointed out in the Guidance Paper H, be the content of the dangerous substance in the construction product, when this is the only practicable or legally correct solution (e.g. when waste is used). Although the CPD deals in particular with the emission of dangerous substances, measurement methods based on content may help for example with regard to incoming materials (e.g. any material used in the production process, treated or not, be it raw materials or materials resulting from any previous use or production).

¹⁰ This could also include assistance from the European Commission expert group on regulated dangerous substances.

ORGANISATIONS TO BE INVOLVED

As appropriate, CEN will invite the representative organisations of consumers' interests (ANEC), environmental protection (ECOS), workers (ETUI) and small and medium-size enterprises (NORMAPME) to take part in the standardisation work.

Annex I for an amendment of Mandate M/113 Wood Based Panels with ER3 related requirements, December 2011

NOTE: this is a general list of notified regulations which may relate to regulated dangerous substances and ER 3 but which also deals with other issues. All relevant product TCs are asked to check through these and establish which regulations and which substances or properties are (ER 3) relevant to this specific task and to cover them in its standards¹¹. Further, in the below list of regulations, the different wood based panel types are not always aligned with the definitions of types in the wood based panels product standards so all relevant product TCs are asked to adjust as appropriate.

Wood based panels for buildings					
Standards published in the Official Journal of the European Union					
EN Number	Standard Title	ER 3 requirements ¹²	Indoor use	Outdoor use	Regulations****
EN 13986	Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking	Formaldehyde PCP For products treated with wood preservatives and/or flame retardants: For internal use: emission of VOC (single substances, TVOC, SVOC and carcinogens) and declaration of use of carcinogenic and mutagenic substances	X	X	<ul style="list-style-type: none"> • 2006/32/D Amendments to Building Regulation List A, Parts 1 to 3, Building Regulation List B, Parts 1 and 2 and List C for the 2007/2 edition;¹³ • Ordinance on the management of waste wood (2001/450/D): • Pentachlorophenol Decree

¹¹ The relevant TCs are asked to identify for which substances regulatory requirements for declaration exist (therefore, relevant for annex ZA of specific hENs). TCs could also address in their work programme, if (due to requests for case-by-case testing/control of specific products) references/needs for horizontal test methods would be considered as necessary/needed.

¹² Other substances of potential relevance: see annex II

¹³ EN 13986 is cited on page 6 of the pdf with a reference to Annex 1/3. criteria according to 2009/167/D (indoor use) and 2006/90/D (outdoor use)

		<p>(classes 1A and 1B)</p> <p>For outdoor use: flame retardants, wood preservatives</p> <p>For recycled wood chips used for wood based panels: heavy metals, chloride and fluoride</p> <p>Naphtalene oils</p> <p>Acenaphthene fraction</p> <p>Anthracene, Anthracene oil,</p> <p>Benz(a)anthracene,</p> <p>Benzo(a)pyrene,</p> <p>Benzo[ghi]perylene,</p> <p>Benzo[k]fluoranthene,</p> <p>Chrysene,</p> <p>Fluoranthene, Indeno[1,2,3-cd]pyrene,</p> <p>Phenantrene,</p> <p>Polycyclic Aromatic Hydrocarbons (PAH),</p> <p>Coal tar distillates;</p> <p>Creosote, Creosote oil,</p> <p>Phenols</p> <p>Benzene; Ethylbenzene; Toluene; Xylenes;</p> <p>Trichlorethylene, ethylhexyl phtalate, dibutyl phtalate</p>			<p>(Consumer Goods Act) 97/0144/NL</p> <ul style="list-style-type: none"> • PAH-containing Coatings and Products Decree (Environmental Protection Act) (1995/62/NL) • Ordinance of the Minister of Health and Social Welfare of 12 March 1996** (PL) • Arrrêté of 30 April 2009 (2009/104/FR) • Draft decree relating to the labelling of construction and decoration products on their emission of VOCs (2009/701/FR)
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		acetaldehyde, tetrachloroethylene, trimethylbenzene, dichlorobenzene, butoxyethanol, styrene,			
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** Ordinance of the Minister of Health and Social Welfare of 12 March 1996 on the permitted concentrations and intensities of agents harmful for health emitted by construction materials, facilities and components of furniture in rooms intended for human residence.

**** Product TCs should beware of many regulations that include general requirements on dangerous substances, not mentioned in annex I because they are amply met by these products and because they do not require product performance declaration. Therefore, such regulations are not included in this table but can be found in annex II.

ANNEX II

Brussels, 9 March 2012
DS 041/051rev.12

INDICATIVE LIST OF REGULATED DANGEROUS SUBSTANCES POSSIBLY ASSOCIATED WITH CONSTRUCTION PRODUCTS UNDER THE CPD

1. BACKGROUND/PURPOSE OF THIS LIST

Construction products could emit or contain substances that have been defined as “dangerous substances” under Commission Directives and national regulations. While the **emission (or the content** – whenever this is the most practicable solution or required by regulations) of any such substances **from construction products (or in construction products)** must be below all relevant European and national threshold values, manufacturers and authorities profit from a transparent performance information in the CE marking of the product.

With this document the Commission and its Expert Group on Dangerous Substances in the field of Construction Products (EGDS) provide guidance as foreseen in [Mandate M/366](#) for CEN TC 351 and all product TCs and EOTA WGs in the construction sector concerning substances and parameters, which CEN TC 351 **should focus on, when assessing the availability of test methods and the need for developing harmonised test methods**. This updated document substitutes the previous publicly available version of the indicative list (**DS 041/051 rev.9**) of **29th May 2009**.

The list is based on the database on legislation on dangerous substances relevant for construction products developed by the Commission in cooperation with Member States. This database (available at: <http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm>) should also be used by CEN TC 351, the product TCs and EOTA WGs. Also the TRIS database on national technical regulations (http://ec.europa.eu/enterprise/tris/index_en.htm) and the EUR-LEX database on European Union law (<http://eur-lex.europa.eu/en/index.htm>) as well as the list of derogations from EU chemical legislation by the Member states (http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/derogations/index_en.htm) have been consulted when preparing this list, because the cpd-ds database does not yet contain information from all Member states.

On the EU level, in particular the following regulations and directives from the fields of chemical and environmental policy have direct interfaces with construction products and have to be taken into consideration when drafting standards for test methods and / or for construction products:

- [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/EC¹⁴
- [COMMISSION REGULATION \(EC\) No 552/2009](#) of 22 June 2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards **Annex XVII**
- [Commission Regulation \(EU\) No 276/2010 of 31 March 2010](#) amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards **Annex XVII** (dichloromethane, lamp oils and grill lighter fluids and organostannic compounds)
- [Commission Regulation \(EU\) No 366/2011 of 14 April 2011](#) amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards **Annex XVII** (Acrylamide)
- [Commission Regulation \(EU\) No 494/2011 of 20 May 2011](#) amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards **Annex XVII** (Cadmium)
- [REGULATION \(EC\) No 850/2004](#) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on **persistent organic pollutants** and amending Directive 79/117/EEC
- [COMMISSION REGULATION \(EU\) No 757/2010](#) of 24 August 2010 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards **Annexes I and III**
- [REGULATION \(EC\) No 1272/2008](#) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on **classification, labelling and packaging** of

¹⁴The REACH-Regulation includes restrictions for substances (Annex XVII), authorisation duties for substances (Annex XIV) and communication duties for substances, substances in mixtures (Art. 31) and articles (Art. 33). The last mentioned include the following obligations: EU or EEA suppliers of articles which contain substances on the [Candidate List](#) in a concentration above 0.1% (w/w) **have to provide sufficient information**, available to them, **to their customers or upon requests, to a consumer within 45 days of the receipt of the request**. This information must ensure safe use of the article and as minimum contain the name of the substance.

substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006¹⁵

- The [Consolidated list](#) of existing active substances for which a decision of non-inclusion into Annex I or IA of [Directive 98/8/EC](#) of the European Parliament and of the Council on the placing on the market of **biocidal products** has been adopted and which may no longer be placed on the market¹⁶
- [Directive 2000/60/EC](#) of the European Parliament and of the Council of 23 October 2000 establishing a **framework for Community action in the field of water policy**
- [DIRECTIVE 2008/105/EC](#) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on **environmental quality standards** in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council
- [Directive 2006/118/EC](#) of the European Parliament and of the Council of 12 December 2006 on the **protection of groundwater** against pollution and deterioration
- [Council Directive 80/68/EEC](#) of 17 December 1979 on the **protection of groundwater** against pollution by certain dangerous substances¹⁷
- [Directive 2004/42/EC](#) of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC

Note. The indicative list is intended to be used as a reference and guidance document by standard developers. Not all substances on the list have to be tested by the producer nor has CEN to develop new test methods for every substance or parameter. Firstly, test methods for a large number of substances/materials already exist and have only to be harmonised. Secondly, substances can be arranged in groups and analysed using the same method. Substances not used may be closed out in the product description or in a substance declaration.

¹⁵ The new rules for classification and labelling substituting the former classifications under Directive 67/548/EEC and 1999/45/EC apply in respect of substances from 1 December 2010 and in respect of mixtures from 1 June 2015.

¹⁶ The [Consolidated list](#) includes the Commission Decisions: [Commission Decision 2007/565/EC of 14 August 2007](#), [Commission Decision 2007/598/EC of 27 August 2007](#), [Commission Decision 2008/681/EC of 28 July 2008](#), [Commission Decision 2008/809/EC of 14 October 2008](#), [Commission Decision 2009/322/EC of 8 April 2008](#), [Commission Decision 2009/324/EC of 14 April 2009](#), [Commission Decision 2010/72/EU of 8 February 2010](#), [Commission Decision 2010/71/EU of 8 February 2010](#) and may be updated, if needed.

¹⁷ repealed by the Directive 2006/118/EC with effect from 22 December 2013

2. SELECTION OF SUBSTANCES: GUIDANCE FROM THE EXPERT GROUP

The main focus of current work on dangerous substances in CEN/TC 351 is the finalisation and validation of test methods for the different release scenarios. The substances to be taken into account in product standards are / will be specified in amendments of product mandates.

The attached lists are based on the [Mandate M/366](#), on European Regulations (see above) and related national legislation. Further substances may be added after the database “Legislation on substances in construction products” has received contributions of further member states. The attached lists should be considered as an updated orientation for the work of CEN/TC 351. The lists are open and can be updated again if needed.

The lists presented here are based on the assumption of a specified quality of raw materials and specified product formulations, or on ‘good housekeeping’. The listed substances / parameters were chosen because they:

- are regulated on EU or national level (scope includes mandated construction products)
- are used for manufacturing construction products (included in raw materials)
- could be emitted or released from construction products into indoor air
- could be released from construction products into soil, surface water and ground water
- are used in regulations to characterise products or their environmental impact

The indicative list is subdivided into the following subchapters:

Annex A: List A “Soil and water”

A-1. Regulated dangerous substances in main pollutant categories of Directive 2000/60/EC (Water Framework Directive)

A-2. Further regulated substances and parameters

A-3. Other substances deemed relevant

Annex B: List B “Indoor air”

B-1. Regulated dangerous substances and further associated parameters: overview

B-2. Regulated volatile organic compounds (VVOC, VOC, SVOC)

B-3. Carcinogenic VOC

Annex C: List of consulted notifications and national derogations from Community Law confirmed by Commission Decisions

In development of product standards, ETAGs and CUAPs and test methods, the EU and national regulations are the basic reference. Information on construction products and substances / components / materials related to regulations is available in (in descending order of priority):

- The amended product mandate including detailed guidance on dangerous substances (as soon as available)
- The Commission's database on dangerous substances (providing information on European and national regulations of dangerous substances in or emitting from construction products at: <http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm>)
- [Mandate M/366](#)
- The attached list for soil, surface water and groundwater (List A) and for indoor air (List B)

3. USE OF THE INDICATIVE LIST

CEN is encouraged to use the attached list and further support from the Expert Group to provide the methods necessary for the implementation of ER3 in technical specifications. The methods should be suitable to support the already issued and forthcoming amendments of product mandates on dangerous substances. The construction product TCs and EOTA WGs are asked to co-operate with CEN/TC 351 in order to provide for the test methods needed for dangerous substances in the future.

In the first two columns of the following tables chemicals are described as groups and single substances respectively. For single substances the corresponding CAS Number is mentioned in the third column. The last column is reserved for regulatory observations (regulatory classifications and references to European or national provisions). The harmonised classifications have been derived from Annex VI, Table 3.1, of [REGULATION \(EC\) No 1272/2008](#). For the meaning of the classifications given in this column Parts 2 to 5 of Annex I of [REGULATION \(EC\) No 1272/2008](#) may be consulted. The user should note that the classifications are regularly adapted to technical and scientific progress and that the classification given in this list refers to the harmonised classifications issued until March 2011. The available classifications may be consulted at: <http://ecb.jrc.ec.europa.eu/classification-labelling/clp/> (search function and download possibility). ECHA provides information on classifications at: <http://echa.europa.eu/clp/c l inventory en.asp>. In the ECHA database also the non-harmonised classifications by manufacturers, for which only a few examples are included in the following tables, can be consulted.

CEN/TC 351 is asked to identify, if test methods¹⁸ for the listed substances and parameters are available, and make recommendations for the choice of appropriate methods to be used in hEN, ETAGs and CUAPs.

¹⁸ The term "test methods" refers to the whole assessment scheme of specific construction products. Therefore, it should include:

- sampling plan, sampling and transport and storage of a construction product (see mandate M/366, annex 2 on sampling),
- test portion or test specimen preparation,
- digestion/extraction, leaching or emission procedure
- analysis on the regulated dangerous substances concentration
- overall measurement/test report (see mandate M366)

ANNEX A

List A “Soil/Water”

This annex summarizes dangerous substances (A-1) and other associated parameters (A-2) which are regulated in provisions for the protection of soil and water that address construction products. Please note that not all notified regulations can be cited for each substance (the aim is to give an overview of the substances covered by regulations and not a complete list of regulations and administrative provisions). The cited provisions sometimes refer to the release of substances (or other parameters) from construction products into soil or water, sometimes to the content of dangerous substances (or other parameters) in construction products, sometimes to both of these. Additionally European environmental quality standards for substances in surface water and groundwater have been included for information, when these are considered relevant for construction products. The cited provisions are highlighted in the tables in different colours in order to make it easy for the user to recognise the type of provision quickly. Furthermore substances of very high concern (SVHC) are also highlighted in the tables.

Explanation of used colours:

blue = regulation for content

yellow = regulation for release

purple = regulation for content and release

grey = regulation for environmental quality

green = substance recognised as “PBT” (persistent, bioaccumulative and toxic), vPvB (very persistent and very bioaccumulative) or “POP” (persistent organic pollutant)

red = substance recognised as “CMR” (carcinogenic, mutagenic or toxic for reproduction of EU categories 1A and 1B)

A-1. Regulated dangerous substances

The structure of the table follows the main pollutant groups defined in Annex VIII of [DIRECTIVE 2000/60/EC](#) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2000 establishing a framework for Community action in the field of water policy.

Tab. A.1 Regulated dangerous substances in context of release into soil, surface water and groundwater

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
Organohalogen compounds			
Chlorobenzenes	Trichlorobenzenes	12002-48-1	Directive 2008/105/EC
	Trichlorobenzenes	87-61-6 120-82-1 108-70-3	2006-557-NL 1,2,3-trichlorobenzene: (n.c.) Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1; Aquatic Chronic 2; Aquatic Chronic 1 1,2,4-trichlorobenzene: Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1 1,3,5-trichlorobenzene: (n.c.): Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 3
	∑ Chlorobenzenes	[108-90-7] [95-50-1] [541-73-1] [106-46-7] [87-61-6]	2006-90-D, 2006-557-NL Classification examples: - Chlorobenzene: Acute Tox. 4 *; Aquatic Chronic 2 - 1,2-dichlorobenzene: Acute Tox. 4 *; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1 - 1,3-dichlorobenzene: Acute Tox. 4 *; Aquatic Chronic 2 - 1,4-dichlorobenzene: Carc. 2; Aquatic Acute 1; Aquatic Chronic 1 - 1,2,3-trichlorobenzene: fulfilling PBT criteria
	Tetrachlorobenzenes	634-66-2 634-90-2 95-94-3	2006-557-NL... 1,2,3,4-tetrachlorobenzene, (n.c.) 1,2,3,5-tetrachlorobenzene, (n.c.) 1,2,4,5-tetrachlorobenzene (n.c.)
	Pentachlorobenzene	[608-93-5]	Regulation (EC) No. 850/2004; Directive 2008/105/EC; priority hazardous substance in the field of water policy
	Hexachlorobenzene	[118-74-1]	Regulation (EC) No. 850/2004, 2006-90-D; Directive 2008/105/EC Carc. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; fulfilling POP criteria; priority hazardous substance in the field of water policy; Evidence for endocrine disruption in living organisms
	∑ Chlorinated phenols	[95-57-8] [108-43-0] [106-48-9] [120-83-2] [576-24-9] [583-78-8] [87-65-0] [95-77-2] [591-35-5] [95-95-4] [88-06-2] [15950-66-0] [933-78-8] [933-75-5]	2006-90-D, 2006-557-NL Classification examples: 2-chlorophenol: Aquatic Chronic 2 3-chlorophenol: Aquatic Chronic 2 4-chlorophenol: Acute Tox. 4 *; Aquatic Chronic 2 2,4-dichlorophenol: Acute Tox. 3 *; Aquatic Chronic 2; Evidence of potential to cause endocrine disruption 2,3-dichlorophenol: (n.c.) 2,5-dichlorophenol: (n.c.) 2,6-dichlorophenol: (n.c.) 3,4-dichlorophenol: (n.c.) 3,5-dichlorophenol: (n.c.) 2,4,5-trichlorophenol: Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1 2,4,6-trichlorophenol: Carc. 2; Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1 2,3,4-trichlorophenol: (n.c.)

¹⁹ Chemical Abstracts Service Registry Number

²⁰ The harmonised classifications were derived from Annex VI, Table 3.1, of REGULATION (EC) No 1272/2008 (see also chapter 3 in the introductory part of this document). The letters n.c. refer to self-classifications by manufacturers not included in the CLP Regulation (few examples are included). In the table A.1 the following categories are included: Acute toxicity, Carcinogenicity, Germ cell mutagenicity, Reproductive toxicity, Specific target organ toxicity, Hazardous to the aquatic environment, Hazardous to the ozone layer. The letters XX show that a classification for a substance included as part of a substance group is available already for the individual substance elsewhere on the indicative list.

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰	
		[609-19-18] [935-95-5] [4901-51-3] [58-90-2] [87-86-5]	2,3,5-trichlorophenol: (n.c.) 2,3,6-trichlorophenol: (n.c.) 3,4,5-trichlorophenol: (n.c.) 2,3,5,6-tetrachlorophenol: Acute Tox. 3 *; Aquatic Acute 1; Aquatic Chronic 1 2,3,4,5-tetrachlorophenol, Acute Tox. 3 *, Aquatic Acute 1, Aquatic Chronic 1 2,3,4,6-tetrachlorophenol: (n.c.) Pentachlorophenol: Carc. 2; Acute Tox. 2 *; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1 (see also Pentachlorophenol under biocides)	
Volatile halogenated hydrocarbons	Halogenated and hydrocarbons, including trihalogenated methane	C1- C2- [74-87-3] [74-83-9] [74-95-3] [75-34-3] [75-00-3] [106-93-4] [75-25-2]	2006-90-D - Methyl chloride: Carc. 2; STOT RE 2 * - Bromomethane: Muta. 2; Acute Tox. 3 *; STOT RE 2 *; STOT SE 3; Aquatic Acute 1; Ozone - Dibromomethane: Acute Tox. 4 *; Aquatic Chronic 3 - 1,1-dichloroethane: Acute Tox. 4 *; STOT SE 3; Aquatic Chronic 3 - Chloroethane: Carc. 2; Aquatic Chronic 3 - 1,2-dibromoethane: Carc. 1B; Acute Tox. 3 *; STOT SE 3; Aquatic Chronic 2 - Tribromomethane: Acute Tox. 3 *; Acute Tox. 4 *; Aquatic Chronic 2	
		Methylene chloride	75-09-2	Directive 2008/105/EC, 2006-557-NL, 2006-90-D Carc. 2
		Ethylene dichloride	107-06-2	Directive 2008/105/EC, 2006-90-D Carc. 1B; Acute Tox. 4 *; STOT SE 3
		Chloroform	67-66-3	Directive 2008/105/EC, 2006-557-NL, 2006-90-D Carc. 2; Acute Tox. 4 *; STOT RE 2 *
		Vinyl chloride	75-01-4	2006-90-D, 2006-557-NL Carc. 1A
		1,1-dichloroethene	75-35-4	2006-557-NL 1,1-dichloroethene: Carc. 2, Acute Tox. 4 *
		1,2-dichloroethene (sum cis and trans)	156-59-2 156-60-5	2006-557-NL Cis-1,2-dichloroethene: Acute Tox. 4*; Aquatic Chronic 3 Trans-1,2-dichloroethene: Acute Tox. 4 *, Aquatic Chronic 3
	dichloropropanes (sum)	78-99-9 78-87-5 142-28-9	2006-557-NL 1,1-dichloropropane: (n.c.) 1,2-dichloropropane: Acute Tox. 4 *; Acute Tox. 4 * 1,3-dichloropropane: (n.c.)	
	trichloroethanes	71-55-6 79-00-5	2006-557-NL 1,1,1-trichloroethane: Acute Tox. 4 *, Ozone 1,1,2-trichloroethane: Carc. 2, Acute Tox. 4 *	
	Other volatile halogenated hydrocarbons	79-01-6 56-23-5 127-18-4 75-25-2	2006-557-NL trichloroethene (Tri): Carc. 1B; Muta. 2; STOT SE 3; Aquatic Chronic 3 tetrachloromethane (Tetra): Carc. 2; Acute Tox. 3 *; STOT RE 1; Aquatic Chronic 3 tetrachloroethene (Per): Carc. 2, Aquatic Chronic 2; Evidence of potential to cause endocrine disruption tribromomethane (bromoform): Acute Tox. 3 * Aquatic Chronic 2	
	C10-13-chloroalkanes (short chained chlorinated paraffins)	85535-84-8	Directive 2008/105/EC, Commission Decision 2004/1/EC, 1999/103/NL Carc. 2; Aquatic Acute 1; Aquatic Chronic 1; fulfilling PBT criteria; priority hazardous substance in the field of water policy	
	C14-17-chloroalkanes (medium-chained chlorinated	85535-85-9	2010/9018/N Lact.; Aquatic Acute 1; Aquatic Chronic 1	

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
paraffins)			
	Polyhalogenated dibenzo-p-dioxins and polyhalogenated dibenzofurans	1746-01-6 40321-76-4 57653-85-7 19408-74-3 39227-28-6 35822-46-9 3268-87-9 51207-31-9 57117-41-6 57117-31-4 57117-44-9 72918-21-9 70648-26-9 60851-34-5 67562-39-4 55673-89-7 39001-02-0 50585-41-6 109333-34-8 67763-97-7 131166-92-2 110999-44-5 110999-46-7 110999-45-6 107555-93-1	Regulation (EC) No. 850/2004, 1993/141/D, 2006-557-NL 2,3,7,8-TCDD: Evidence for endocrine disruption in living organisms 1,2,3,7,8-PeCDD: Evidence for endocrine disruption in living organisms 1,2,3,6,7,8-HxCDD: (n.c.) 1,2,3,7,8,9-HxCDD: (n.c.) 1,2,3,4,7,8-HxCDD: (n.c.) 1,2,3,4,6,7,8-HpCDD: (n.c.) 1,2,3,4,6,7,8,9-OCDD: (n.c.) 2,3,7,8-TCDF: Evidence of potential to cause endocrine disruption 1,2,3,7,8-PeCDF: Evidence of potential to cause endocrine disruption 2,3,4,7,8-PeCDF: Evidence of potential to cause endocrine disruption 1,2,3,6,7,8-HxCDF: (n.c.) 1,2,3,7,8,9-HxCDF: (n.c.) 1,2,3,4,7,8-HxCDF: (n.c.) 2,3,4,6,7,8-HxCDF: (n.c.) 1,2,3,4,6,7,8-HpCDF: (n.c.) 1,2,3,4,7,8,9-HpCDF: (n.c.) 1,2,3,4,6,7,8,9-OCDF: (n.c.) 2,3,7,8-tetrabromo-dibenzo-p-dioxin: (n.c.) 1,2,3,7,8-pentabromo-dibenzo-p-dioxin: (n.c.) 2,3,7,8-tetrabromo-dibenzofuran: (n.c.) 2,3,4,7,8-pentabromo-dibenzofuran: (n.c.) 1,2,3,4,7,8-hexabromo-dibenzo-p-dioxin: (n.c.) 1,2,3,7,8,9-hexabromo-dibenzo-p-dioxin: (n.c.) 1,2,3,6,7,8-hexabromo-dibenzo-p-dioxin: (n.c.) 1,2,3,7,8-pentabromo-dibenzofuran: (n.c.)
	Polychlorinated biphenyls (PCB), including coplanar polychlorinated biphenyls (PCB 81, 126, 169) and mono-ortho-substituted polychlorinated biphenyls (PCB 105, 118, 156, 157, 167, 189)	1336-36-3 7012-37-5 35065-29-3 37680-37-2 31508-00-6 35065-28-2 35065-27-1 35065-29-3 32598-13-3 70362-50-4 32598-14-4 74472-37-0 65510-44-3 57465-28-8 38380-08-4 69782-90-7 52663-72-6 32774-16-6 39635-31-9	Regulation (EC) No 850/2004, 2006-90-D, 2005-735-FIN, 2006-557-NL Regulations based e.g. on the sum of seven PCB congeners (28, 52, 101, 118, 138, 153 and 180) or on the sum of 6 PCB congeners (28, 52, 101, 138, 153, 180). STOT RE 2 *; Aquatic Acute 1; Aquatic Chronic 1; Evidence for endocrine disruption in living organisms
Other chlorinated hydrocarbons	monochloroanilines (sum)	95-51-2 108-42-9 106-47-8	2006-557-NL 95-51-2 (n.c.) 108-42-9 (n.c.) 4-chloroaniline: Carc. 1B; Acute Tox. 3*; Aquatic Acute 1, Aquatic Chronic 1
	pentachloroaniline	527-20-8	2006-557-NL pentachloroaniline (n.c.)

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
	chloronaphthalene (sum α , β)	90-13-1 91-58-7	2006-557-NL α - chloronaphthalene (n.c.) β - chloronaphthalene (n.c.)
Partially and fully fluorinated hydrocarbons, perfluorocarbons (HFCs, FCs, PFCs)		[811-97-2] [75-37-6] [406-58-6] [431-89-0] [460-73-1]	2001-121-DK , 2002-37-A R-134a (Global warming potential 1 430), R-152a (GWP 124), R-365mfc (GWP 794), R-227ea (GWP 3 220), R-245fa (GWP 1 030)
Brominated diphenylethers	Commercial pentabromodiphenyl ether (mainly tetra- and pentabromodiphenyl ether)	32534-81-9 5436-43-1 60348-60-9	Regulation (EC) 850/2004 Diphenylether, pentabromo derivative : STOT RE 2 *; Lact.; Aquatic Acute 1; Aquatic Chronic 1; Evidence of potential to cause endocrine disruption
	Commercial octabromodiphenyl ether (mainly hexa- and heptabromodiphenyl ether)	68631-49-2 207122-15-4 446255-22-7 207122-16-5 32536-52-0	Regulation (EC) No 850/2004 , COMMISSION REGULATION (EC) No 552/2009 Diphenylether, octabromo derivative: Repr. 1B ; fulfilling PBT criteria ; Evidence of potential to cause endocrine disruption
	Decabromo-diphenylether	1163-19-5	2005-9020-N Evidence of potential to cause endocrine disruption
	Brominated diphenylethers (group)	32534-81-9	Directive 2008/105/EC Priority hazardous substance in the field of water policy
	Hexabromocyclodecane (HBCDD)	3194-55-6 25637-99-4 134237-50-6 134237-51-7 134237-52-8	Commission Regulation (EU) No 143/2011
organic halides	AOX: Adsorbable organic halides		2004-71-D
	EOX: Extractable organic halides		2004-71-D , 2006-557-NL
Organophosphorus compounds			
Organophosphorus compounds as a group			Directive 2000/60/EC
Organotin Compounds			
Dibutyltin (DBT) compounds; Tri-substituted organostannic compounds such as tributyltin (TBT) compounds and triphenyltin (TPT) compounds; Dioctyltin (DOT) compounds			Directive 2008/105/EC , COMMISSION REGULATION (EU) No 276/2010 Classification example for tributyltin compounds Bis(tributyltin)oxide (TBTO) : Acute Tox. 3 *; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1, fulfilling PBT criteria; priority hazardous substance in the field of water policy; Evidence for endocrine
Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment			
Volatile aromatic hydrocarbons	Σ Alkylated benzenes	[71-43-2] [108-88-3] [100-41-4] [95-47-6] [108-38-3] [106-42-3]	2006-90-D , 2006-557-NL - Benzene : Carc. 1A; Muta. 1B; STOT RE 1 - Toluene: Repr. 2; STOT RE 2 * - Ethylbenzene: Acute Tox. 4 * - Xylenes: Acute Tox. 4 * - meta-xylene: Acute Tox. 4 * - para-xylene: Acute Tox. 4 *
	Benzene	71-43-2	Directive 2008/105/EC , 2006-90-D , 2006-557-NL Carc. 1A; Muta. 1B; STOT RE 1

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
	Aromatic solvents (sum, in addition to the substances listed under Σ alkylated benzenes)	100-42-5 526-73-8 95-63-6 108-67-8 611-14-3 620-14-4 622-96-8 98-82-8 103-65-1 123-01-3	2006-557-NL styrene (XX) Evidence for endocrine disruption in living organisms 1, 2, 3-trimethyl-benzene, (n.c.) 1, 2, 4-trimethylbenzene, (XX) 1, 3, 5-trimethylbenzene, (XX) 2-ethyltoluene, (n.c.) 3-ethyltoluene, (n.c.) 4-ethyltoluene, (n.c.) isopropylbenzene, (XX) propylbenzene, (XX) n-dodecylbenzene (n.c.)
	Epichlorohydrine	106-89-8	2006-90-D Carc. 1B; Acute Tox. 3 *
Phenols	Nonylphenols	25154-52-3	Directive 2008/105/EC, 2006-90-D Repr. 2; Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1; priority hazardous substance in the field of water policy; Evidence for endocrine disruption in living organisms
	4,4'-Isopropylidene-diphenol, Bisphenol A	80-05-7	2007-9016-N Repr. 2; STOT SE 3; Evidence for endocrine disruption in living organisms
	Phenol	108-95-2	2006-557-NL Muta. 2; Acute Tox. 3 *; Acute Tox. 3 *; STOT RE 2 *
	Phenol index as a sum parameter		2004-71-D , 2006-90-D , Water extractable phenols: COMMISSION REGULATION (EC) No 552/2009 (creosote) Classification example: Phenols (C9-11) : Carc. 1B; Muta. 1B
Phthalates	Phthalates classified as toxic for reproduction	117-81-7	Directive 2008/105/EC, Commission Regulations (EU) Nos. 143/2011 and 125/2012, 2006-557-NL Di-iso-octyl phthalate; Bis-(2-ethylhexyl)-phthalate (DEHP): Repr. 1B ; Evidence for endocrine disruption in living organisms
		84-74-2	dibutyl phthalate: Repr. 1B , Aquatic Acute 1; Evidence for endocrine disruption in living organisms
		85-68-7	butyl benzyl phthalate: Repr. 1B , Aquatic Acute 1, Aquatic Chronic 1; Evidence for endocrine disruption in living organisms
		84-69-5	di-isobutyl phthalate: Repr. 1B
	Phthalates (total, including also the single substances listed above)	131-11-3 84-66-2 84-75-3	2006-557-NL dimethyl phthalate (n.c.) diethyl phthalate (n.c.) dihexyl phthalate (n.c.)
Asbestos	Actinolite	77536-66-4	COMMISSION REGULATION (EC) No 552/2009 , 2004-294-NL ,
	Amosite	12172-73-5	2004-410-NL , 2006-557-NL
	Anthophyllite	77536-67-5	Carc. 1A; STOT RE 1
	Chrysotile	12001-29-5	
	Crocidolite	12001-28-4	
	Tremolite	77536-68-6	
Acrylamide		79-06-1	Commission Regulation 366/2011 , 1998-9024-N , 1996-PL Carc. 1B; Muta. 1B; Repr. 2; Acute Tox. 3 *; STOT RE 1
Methyoacrylamide		924-42-5	1998-9024-N
Persistent hydrocarbons and persistent and bioaccumulable organic toxic compounds			

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
Polycyclic aromatic hydrocarbons (PAH)	PAH as a group		Directive 2008/105/EC, 2006-90-D, 2004-71-D, 2006-557-NL, 2005-735-FIN, 1999-263-A, 2009-485-A, Regulation (EC) No. 850/2004 The individual substances which are considered differ in the different member states. PAH are priority hazardous substances in the field of water policy.
	Anthracene	120-12-7	Directive 2008/105/EC, 2006-90-D, 2006-557-NL fulfilling PBT & vPvB criteria
	Benzo[a]pyrene	50-32-8	Directive 2008/105/EC, 2006-90-D, 2006-557-NL, COMMISSION REGULATION (EC) No 552/2009 (creosote) Carc. 1B; Muta. 1B; Repr. 1B
	Dibenz[a,h]anthracene	53-70-3	2006-90-D Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1
	benz(a)anthracene	56-55-3	2006-557-NL Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1
	Benz(e)acephenanthrylene	205-99-2	Directive 2008/105/EC, 2006-90-D Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1
	Benzo[k]-fluoranthene	207-08-9	Directive 2008/105/EC, 2006-90-D, 2006-557-NL Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1
	Benzo[ghi]perylene	191-24-2	Directive 2008/105/EC, 2006-90-D, 2006-557-NL
	Fluoranthene	206-44-0	Directive 2008/105/EC, 2006-90-D, 2006-557-NL
	Indeno(123-cd)pyrene	193-39-5	Directive 2008/105/EC, 2006-90-D, 2006-557-NL
	Σ Naphthalene and methylnaphthalenes		2006-90-D
	Naphthalene	91-20-3	Directive 2008/105/EC, 2006-557-NL, 2006-90-D Carc. 2; Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1
	Phenanthrene	85-01-8	2006-557-NL, 2006-90-D
Chrysene	218-01-9	2006-557-NL, 2006-90-D Carc. 1B; Muta. 2; Aquatic Acute 1; Aquatic Chronic 1	
Hydrocarbons (petroleum)		Directive 80/68/EEC (List 1), 2006-90-D, 2006-557-NL, 1999-263-A, 2009-485-A Classification example: hydrocarbons C26-55, arom-rich Carc. 1B	
Cyanides			
Cyanides		Directive 80/68/EEC (List 1), Directive 2000/60/EC, 2006-557-NL, 2004-71-D, 2006-90-D Classification example for hydrogen cyanide: Acute Tox. 2 *; Aquatic Acute 1; Aquatic Chronic 1	
Metals and their compounds			
Heavy metals	Chromium (VI) compounds	(18540-29-9)	Directive, 2003/53/EC, 2004-71-D, 2006-90-D Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1
	Chromium	(7440-47-3)	Directive 80/68/EEC, 2009-485-A, 2004-71-D, 2005-735-FIN, 2006-90-D, 2006-223-E, 2006-557-NL, 2006-557-NL,
	Copper	(7440-50-8)	Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2009-485-A, 2006-557-NL,
	Cobalt	(7440-48-4)	Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2006-557-NL, Aquatic Chronic 4
	Molybdenum	(7439-98-7)	Directive 80/68/EEC, 2006-557-NL, 2005-735-FIN, 2006-223-E, 2006-90-D, 2006-557-NL,
	Selenium	(7782-49-2)	Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2006-557-NL, 2005-735-FIN, 2006-223-E Acute Tox. 3 *; STOT RE 2 *; Aquatic Chronic 4
	Vanadium	(7440-62-2)	Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2006-557-NL, 2005-735-FIN, 2004-71-D

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
	Zinc	(7440-66-6)	Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2005-735-FIN, 2004-71-D, 2006-223-E 2006-557-NL, Classification example for zinc powder: <i>Aquatic Acute 1; Aquatic Chronic 1</i>
	Thallium	7440-28-0	Directive 80/68/EEC, 2006-90-D Acute Tox. 2 *; Acute Tox. 2 *; STOT RE 2 *; Aquatic Chronic 4
	Lead and its compounds	(7439-92-1)	Directive 2008/105/EC, Directive 80/68/EEC, 2004-71-D, 2006223-E, 2006-557-NL, 2006-90-D, 1999-263-A, 2005-735-FIN, 2010-9016-N, 1996-PL 2006-557-NL, Classification example for lead compounds (without CAS): Repr. 1A; Acute Tox. 4 *; STOT RE 2 *; Aquatic Acute 1; Aquatic Chronic 1
	Cadmium and its compounds	(7440-43-9)	Directive 2008/105/EC, Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2005-735-FIN, 2004-71-D, 2006223-E, Commission Regulation (EU) No. 494/2011 2006-557-NL, Carc. 1B; Muta. 2; Repr. 2; Acute Tox. 2 *; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; priority hazardous substance in the field of water policy
	Nickel and its compounds	(7440-02-0)	Directive 2008/105/EC, Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2005-735-FIN, 2004-71-D, 2006223-E 2006-557-NL, Carc. 2; STOT RE 1
	Mercury and its compounds	(7439-97-6)	Directive 2000/60/EC, Directive 80/68/EEC, 2006-557-NL, 2006-90-D, 2005-735-FIN, 2004-71-D, 2006223-E 2006-557-NL, <i>Repr. 1B; Acute Tox. 2 *; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; priority hazardous substance in the field of water policy</i>
	Tin	(7440-31-5)	Directive 80/68/EEC, 2006-90-D 2006-557-NL,
Semi-metals	Antimony	(7440-36-0)	Directive 80/68/EEC, 2006-90-D, 2005-735-FIN, 2006-223-E 2006-557-NL, Classification for antimony compounds (without CAS): <i>Acute Tox. 4 *; Acute Tox. 4 *; Aquatic Chronic 2</i>
	Arsenic	(7440-38-2)	Directive 80/68/EEC, 2006-223-E, 2004-71-D, 2006-557-NL, 2006-90-D, 2005-735-FIN 2006-557-NL, Acute Tox. 3 *; Aquatic Acute 1; Aquatic Chronic 1
	Boron	(7440-42-8)	Directive 80/68/EEC, 2006-90-D
Alkaline-earth metals	Barium	(7440-39-3)	Directive 80/68/EEC, 2006-90-D, 2006-557-NL, 2005-735-FIN, 2006-223-E
Biocides			
Chlorinated biocides	Pentachlorophenol (PCP)	87-86-5	Directive 2008/105/EC, COMMISSION REGULATION (EC) No 552/2009; Commission Decisions 1994/783/EC, 1996/211/EC 1999/831/EC; 2006-557-NL; 2010-9017-N Carc. 2; Acute Tox. 2 *; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1
	Hexachlorobenzene	118-74-1	Directive 2008/105/EC, Regulation (EC) No. 850/2004, 2006-557-NL, 2006-90-D Carc. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; fulfilling POP criteria; priority hazardous substance in the field of water policy; Evidence for endocrine disruption in living organisms
	Diuron	330-54-1	Directive 2008/105/EC Carc. 2; Acute Tox. 4 *; STOT RE 2 *; Aquatic Acute 1; Aquatic Chronic 1; Evidence of potential to cause endocrine disruption
Other biocides	Not applicable		Directive 2008/105/EC, Directive 98/8/EC, Commission Decisions 2007/565/EC, 2007/598/EC, 2008/681/EC, 2008/809/EC; 2009/322, 2009/324, 2010/72/EU, 2010/71/EU, 2010/675/EU, Regulation (EC) No. 850/2004, 2006-90-D
Pesticides			

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
Organo-chloro-pesticides	chlordane (sum)	5103-71-9 5103-74-2	2006-557-NL cis-chlordane (n.c.) Evidence for endocrine disruption in living organisms trans-chlordane (n.c.) Evidence for endocrine disruption in living organisms
	DDT (sum)	789-02-6 50-29-3	Directive 2008/105/EC, 2006-557-NL 2,4-DDT, (n.c.) 4,4-DDT: Carc. 2; Acute Tox. 3 *; STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; Evidence for endocrine disruption in living organisms
	DDE (sum)	3424-82-6 72-55-9	2006-557-NL 2,4-DDE, (n.c.) 4,4-DDE (n.c.)
	DDD (sum)	53-19-0 72-54-8	2006-557-NL 2,4-DDD, (n.c.) 4,4-DDD (n.c.)
	Cyclodien pesticides (sum)	390-00-2 60-57-1 72-20-8 465-73-6 297-78-9	Directive 2008/105/EC, 2006-557-NL aldrin: (n.c.) Evidence of potential to cause endocrine disruption dieldrin: Carc. 2, Acute Tox. 1, Acute Tox. 3 *, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; Evidence of potential to cause endocrine disruption endrin: Acute Tox. 2 *, Acute Tox. 3 *, Aquatic Acute 1, Aquatic Chronic 1; Evidence of potential to cause endocrine disruption isodrin: Acute Tox. 2 *, Acute Tox. 1, Acute Tox. 2 *, Aquatic Acute 1, Aquatic Chronic 1 2006-557-NL telodrin: Acute Tox. 1, Acute Tox. 2 *, Aquatic Acute 1
	HCHs (sum)	319-84-6 319-85-7 58-89-9 319-86-8 6108-10-7	2006-557-NL alfa-HCH (n.c.) Beta-HCH (n.c.) gamma-HCH (lindane): Acute Tox. 3 *, Acute Tox. 4 *, Acute Tox. 4 *, STOT RE 2 *, Lact., Aquatic Acute 1, Aquatic Chronic 1; Evidence for endocrine disruption in living organisms delta-HCH (n.c.) epsilon-HCH (n.c.)
	heptachlor	76-44-8	2006-557-NL Heptachlor: Carc. 2, Acute Tox. 3 *, Acute Tox. 3 *, STOT RE 2 *, Aquatic Acute 1, Aquatic Chronic 1; Evidence of potential to cause endocrine disruption
	heptachlor epoxide (sum)	280044-83-9 1024-57-03	2006-557-NL trans-heptachloroepoxide (n.c.) cis-heptachloroepoxide: Carc. 2, Acute Tox. 3 *, STOT RE 2 *, Aquatic Acute 1, Aquatic Chronic 1
		87-68-3	Directive 2008/105/EC, 2006-557-NL hexachlorobutadiene (n.c.)
	other pesticides	organophosphorous compounds	86-50-0
organotin compounds (sum)		688-73-3 892-20-6	2006-557-NL tributyltin, (n.c.); Evidence for endocrine disruption in living organisms trifenylytin (n.c.); Evidence for endocrine disruption in living organisms
chlorophenoxy acetic acid herbicides		94-74-6	2006-557-NL MCPA: Acute Tox. 4 *

Substance group	Substance or substance subgroup	CAS No ¹⁹	Regulations / Exemplary Notifications / harmonised classifications ²⁰
	4-chloromethyl phenols (sum)	59-50-7 1570-64-5	2006-557-NL 4-chloro-3-methylphenol: Acute Tox. 4 *, Acute Tox. 4 *, Aquatic Acute 1; Evidence of potential to cause endocrine disruption 4-chloro-2-methylphenol: Acute Tox. 3 *, Aquatic Acute 1; Evidence of potential to cause endocrine disruption
	other pesticides	1912-24-9 63-25-2 1563-66-2	Directive 2008/105/EC (only atrazine), 2006-557-NL Atrazine: STOT RE 2 *, Aquatic Acute 1, Aquatic Chronic 1; Evidence for endocrine disruption in living organisms Carbaryl: Carc. 2, Acute Tox. 4 *, Aquatic Acute 1 Carbofuran: Acute Tox. 2 *, Acute Tox. 2 *, Aquatic Acute 1, Aquatic Chronic 1
other substances			
	other substances	108-94-1 110-86-1 109-99-9 110-01-0 107-21-1 111-46-6 107-13-1 50-00-0 67-63-0 67-56-1 71-36-3 123-86-4 141-78-6 1634-04-4 78-93-3	2006-557-NL Cyclohexanone: Acute Tox. 4 * Pyridine: Acute Tox. 4 *, Acute Tox. 4 *, Tetrahydrofuran: STOT SE 3 Tetrahydrothiophene: Acute Tox. 4 *, Aquatic Chronic 3 ethylene glycol: Acute Tox. 4 * diethylene glycol: Acute Tox. 4 * acrylonitrile: Carc. 1B , Acute Tox. 3 *, STOT SE 3, Skin Irrit. 2, Aquatic Chronic 2 formaldehyde: Carc. 2, Acute Tox. 3 * isopropanol (2-propanol): STOT SE 3 methanol: Acute Tox. 3 *, STOT SE 1 butanol (1-butanol): Acute Tox. 4 *, STOT SE 3 butyl acetate: STOT SE 3 ethyl acetate: STOT SE 3 methyl-tert-butyl ether (MTBE): Flam. Liq. 2, Skin Irrit. 2 methyl ethyl ketone: STOT SE 3

(xx) = see other places in this document; (n.c.) = not classified in the CLP Regulation

A-2. Further regulated parameters

Substances and environmental parameters regulated in the EU member states for construction products in addition to those substances / substance groups listed as main pollutants in Annex VIII of [DIRECTIVE 2000/60/EC](#) presented in table A-2.

Table A-2. Further regulated parameters in context of release into soil and/or water.

Substance group or parameter	Substance, substance subgroup, parameter details	Regulations / Exemplary Notifications
Inorganic indicator parameters		
Nitrogen	Ammonium-N	Directive 80/68/EEC, Directive 2006/118/EC, 2004-71-D, 2009-485-A
	Nitrite-N	2009-485-A
Anions	Chloride	Directive 2006/118/EC, 2005-735-FIN, 2004-71-D, 2006-90-D, 2006223-E, 2006-557-NL
	Bromide	2006-557-NL
	Fluoride	Dir. 80/68/EEC, 2005-735-FIN, 2004-71-D, 2006-557-NL, 2006-90-D, 2006223-E
	Sulphate	Dir. 2006/118/EC, 2005-735-FIN, 2004-71-D, 2006-557-NL, 2006-90-D, 2006-223-E, 2009-485-A
Chemical sum parameters, characterisation parameters, chemical and biological tests, radioactivity		
Organic carbon	TOC	2005-735-FIN, 2006-90-D, 2004-71-D
	DOC	2005-735-FIN, 2006-90-D, 2004-71-D
Substances which have a deleterious effect on the taste and/or odour of groundwater, and compounds liable to cause the formation of such substances in such water		Directive 80/68/EEC, 2006-90-D
pH		1999-263-A, 2009-485-A, 2004-71-D, 2006-90-D, 2006-557-NL
Redox		2006-557-NL
Buffer Capacity		2006-557-NL
Electric conductivity		2004-71-D, 2009-485-A, 1999-263-A, 2006-90-D
Colour, odour, turbidity		2006-90-D
Tendency to produce foam		2006-90-D
Aerobic biodegradability		2006-90-D
Anaerobic biodegradability		2006-90-D
Ecotoxicity		2006-90-D
Radioactivity		Radiation Protection Ordinances in different member states (notified according to the EURATOM Treaty)

A-3. Other substances deemed relevant

Substances identified before the entering into force of the REACH legislation as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) according to the criteria of the Technical Guidance Document in support of Commission Regulation (EC) No 1488/94 (for further information see: <http://ecb.jrc.ec.europa.eu/esis/index.php?PGM=pbt>) may be relevant for construction products.. Further evaluation will take place under the framework of the REACH Regulation. Some of the substances identified as PBT or vPvB are included on the [Candidate List of Substances of Very High Concern for authorisation](#). All PBT and vPvB substances are potential future

SVHC. For the so far existing regulations see table A-1. When SVHC are used in construction products the manufacturers are obliged to forward the information, at least the name of the substance, in their supply chain (actively) and to consumers (on request).

ANNEX B

List B “Indoor Air”

This annex gives in table B-1 an overview of the regulated substances and parameters relevant for construction products used in interiors. A detailed list of the regulated volatile organic compounds (without carcinogens) is given in table B-2 and a detailed list of the regulated volatile carcinogens in table B-3. Please note that not all notified regulations can be cited for each substance (the aim is to give an overview of the substances covered by regulations and not a complete list of regulations and administrative provisions).

B-1. Regulated dangerous substances and further associated parameters

The provisions cited in Table B-1 sometimes refer to the emissions of substances (or other parameters) from construction products into indoor air, sometimes to the content of dangerous substances (or other parameters) in construction products, sometimes to both of these. Additionally substances cited in provisions for indoor air quality in buildings have been included for information as far as these substances could be emitted from construction products. The cited provisions have been highlighted in the table in different colours to enable a quick recognition of the type of regulation. Furthermore substances of very high concern (SVHC) have been highlighted.

Explanation of used colours:

blue = regulation for content

yellow = regulation for emission

purple = regulation for content and emission

grey = regulation for indoor air quality

green = substance recognised as “PBT” (persistent, bioaccumulative and toxic), vPvB (very persistent and very bioaccumulative) or “POP” (persistent organic pollutant)

red = CMR-substances (carcinogenic mutagenic or toxic for reproduction of EU categories 1A and 1B)

Table B-1. Regulated dangerous substances and further parameters in context of emissions into indoor air

Substance group	Substance or substance subgroup	CAS No ²¹	Regulations / Exemplary Notifications / Harmonised classifications
Very volatile, volatile and semi volatile organic compounds (VVOC/ VOC /SVOC)			
VVOC ²²	Formaldehyde	50-00-0	1985-26-D, 1987-125-F, 1990-A, 1996-PL, 1997/346/NL, 1998/57/NL, 2007-90-DK, 2007-372-FIN, 2008-243-S, 2008-321-GR, 2009-167-D, 2009-702-F Current classification Carc. 2; Acute Tox. 3 * Classification proposal of 28/09/2011: Acute Tox. 3; Skin Corr. 1B; Skin Irrit. 2/Eye Irrit. 2; STOT SE 3; Skin Sens. 1; STOT SE 3; Muta 2; Carc. 1A
	Acetaldehyde	75-07-0	2009-702-F, 2007-372-FIN Carc. 2; Eye Irrit. 2; STOT SE 3
	Very volatile organic compounds e.g. aliphatic hydrocarbons, aliphatic alcohols, amines, esters, acetone and aldehydes	See annex B2 and B-3	2007-372-FIN, 2009-167-D, Directive 2004/42/EC Commission Regulation (EC) No. 552/2009 (VVOC covered by clauses 28 to 30, for carcinogenic VVOC see list in Annex B-3)
VOC ⁹	Benzene	71-43-2	Commission Regulation (EC) No. 552/2009 (clause 5), 2007-372-FIN, 1995-213-A, 2009-34-F, 1996-PL Carc. 1A; Muta. 1B; STOT RE 1; Asp. Tox. 1; Eye Irrit. 2/Skin Irrit. 2
	Styrene	100-42-5	2007-372-FIN, 1996-PL, 2009-702-F Acute Tox. 4 *; Eye Irrit. 2; Skin Irrit. 2
	Phenolic compounds		Commission Regulation (EC) No. 552/2009 (clause 31), 1996-PL

²¹ Chemical Abstracts Service Registry Number

²² NOTE: Definitions of VVOC/VOC/SVOC:

a) by the World Health Organization (WHO)

VVOC: boiling point is in the range from < 0°C to (50°C to 100°C)

VOC: boiling point is in the range from (50°C to 100°C) to (240°C to 260°C)

SVOC: boiling point is in the range from (240°C to 260°C) to (380°C to 400°C)

b) by ISO standards:

VVOC: All compounds which, in a capillary column coated with 100% dimethylpolysiloxane, are eluted before n-hexane are classed as VVOCs

VOC: All volatile organic compounds which, in a capillary column coated with 100% dimethylpolysiloxane, are eluted with a retention range between n-hexane and n-hexadecane are classed as VOCs

SVOC: All semi-volatile organic compounds which, in a capillary column coated with 100% dimethylpolysiloxane, are eluted with a retention range between n-hexadecane and n-docosane are classed as SVOCs

c) by some national regulations and Directive 2004/42/EG

VOC: Any organic compound having an initial boiling point less than or equal to 250°C measured at a standard pressure of 101,3 kPa

Substance group	Substance or substance subgroup	CAS No ²¹	Regulations / Exemplary Notifications / Harmonised classifications
	<p>Volatile organic compounds, e.g. aromatic hydrocarbons, aliphatic hydrocarbons, terpenes, amines, aliphatic alcohols and ether, aromatic alcohols, glycols, glycolethers, aldehydes, ketones, acids, esters and lactones, chlorinated hydrocarbons, siloxanes, isothiazolones (CIT/MIT/BIT), phenols, cresols, naphthalene.</p>	See annex B-2 and B-3	<p>2001-200-A, 2009-167-D, 2009-702-F, Directive 2004/42/EC, 1995-213-A, 2007-372-FIN</p> <p>Both, emissions of individual VOC and the sum emission of all substances are considered. Priority VOCs are substances classified as carcinogenic (see annex B-3), mutagenic or toxic for reproduction (so called CMR substances of categories 1A and 1B according to Regulation (EC) No. 1272/2008).</p> <p><i>Note:</i> A current list of regulated VOC is given in part B-2 of this document. The concentration of not identified and non-assessable VOCs is considered separately.</p>
SVOC ⁹	Dibutyl phthalate	84-74-2	2009-104-F, Commission Regulation No. 143/2011, 1996-PL Repr. 1B; Aquatic Acute 1
	Semi-volatile organic compounds, e.g. phthalates, aliphatic hydrocarbons, organophosphorus compounds.	See annex B-2 and B-3	2009-167-D
Organic compounds associated with particulate matter or particulate organic matter (POM) and semi volatile organic compounds subject to content regulations			
	Pentachlorophenol (PCP)	87-86-5	<p>Commission Regulation (EC) No. 552/2009 (clause 22), Commission Decisions 1994/783/EC, 1996/211/EC, 1999/831/EC, 2001-450-D, 2010-9016-N, 2007-372-FIN, 1996-PL</p> <p>Carc. 2; Acute Tox. 2 *; Acute Tox. 3 *; Acute Tox. 3 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1</p>
	DDT (p,p'-Dichlor-2,2-diphenyl-1,1,1-trichlorethan)	50-29-3	<p>REGULATION (EC) No 850/2004, 2007-372-FIN</p> <p>Acute Tox. 3 *; Carc. 2; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1</p>
	Polycyclic aromatic hydrocarbons – 16 PAH	<p>83-32-9</p> <p>208-96-8</p> <p>120-12-7</p> <p>56-55-3</p> <p>50-32-8</p> <p>205-99-2</p> <p>191-24-2</p> <p>207-08-9</p> <p>218-01-9</p> <p>53-70-3</p> <p>206-44-0</p> <p>86-73-7</p>	<p>2009-167-D</p> <p>The individual substances which are considered differ in the different member states.</p> <p>From the analytical point of view tests are usually based on the list of US-EPA. This list includes 16 PAH.</p> <p>The individual substances are classified differently.</p> <p>Commission Regulation (EC) No. 552/2009 (clause 31) (Benzo(a)pyrene)</p> <p>2007-372-FIN (Benzo(a)pyrene, naphthalene)</p> <p>1996-PL (naphthalene)</p>

Substance group	Substance or substance subgroup	CAS No ²¹	Regulations / Exemplary Notifications / Harmonised classifications
		193-39-5 91-20-3 85-01-8 129-00-0	
	Polychlorinated biphenyls (PCB)	1336-36-3	REGULATION (EC) No 850/2004, 2001-450-D, 2007-372-FIN STOT RE 2 *; Aquatic Acute 1; Aquatic Chronic 1
Polybrominated diphenylethers	Commercial Pentabromodiphenyl ether	32534-81-9	REGULATION (EC) No 850/2004 STOT RE 2 *; Lact.; Aquatic Acute 1; Aquatic Chronic 1
	Commercial Octadibromodiphenylether	32536-52-0	REGULATION (EC) No 850/2004, Commission Regulation (EC) No. 552/2009 (clause 45) Repr. 1B
	Decabromodiphenylether	1163-19-5	2005-9020-N, 2009-167-D
Azocolourants and azodyes			Commission Regulation (EC) No. 552/2009 (clause 43, appendix 9) The individual substances are classified differently.
	Di(2-ethylhexyl)phthalate (DEHP)	117-81-7	2009-104-F, 2007-372-FIN, Commission Regulation (EU) No. 143/2011 Repr. 1B
	Polyhalogenated dibenzo-p-dioxins and polyhalogenated dibenzofuranes		1993/141/D 25 individual substances are prohibited above certain concentrations. The individual substances are classified differently.
	Perfluorooctane sulfonic acid and its derivatives (PFOS)	[1763-23-1]	Commission Regulation (EU) No. 757/2010 Carc. 2; Repr. 1B; STOT RE 1; Acute Tox. 4 *; Lact.; Aquatic Chronic 2
	Perfluorooctanoic acid (PFOA) and its salts	335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 376-27-2, 3108-24-5	2010-9019-N Classification proposal of 07/01/2011 for PFOA: Carc. 2; Repr. 1B; STOT RE 1; STOT RE 2; Acute Tox. 3
	Partially and fully fluorinated hydrocarbons, perfluorocarbons (HFCs, FCs, PFCs)	[811-97-2] [75-37-6] [406-58-6] [431-89-0] [460-73-1]	2001-121-DK, 2002-37-A R-134a (Global warming potential 1 430), R-152a (GWP 124), R-365mfc (GWP 794), R-227ea (GWP 3 220), R-245fa (GWP 1 030)
Inorganic substances			
	Ammonia	7664-41-7	2009-167-D, 2007-372-FIN, 1996-PL Acute Tox. 3 *; Skin Corr. 1B; Aquatic Acute 1
	Hydrazine	302-01-2	2009-167-D, 2007-372-FIN Carc. 1B; Acute Tox. 3 *; Acute Tox. 3 *; Acute Tox. 3 *; Skin Corr. 1B; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1

Substance group	Substance or substance subgroup	CAS No ²¹	Regulations / Exemplary Notifications / Harmonised classifications
Halogens	Chloride Fluoride		2001-450-D
Metals for which content restrictions apply to construction products used in interiors			
Metals	Cadmium and its compounds	7440-43-9	Commission Regulation (EU) No 494/2011, 2001-450-D, 2001-200-A, 2007-372-FIN Carc. 1B; Muta. 2; Repr. 2; Acute Tox. 2 *; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1
	Arsenic	7440-38-2	Commission Regulation (EC) No. 552/2009 (clause 19, treated wood), 2001-450-D, 2007-372-FIN Acute Tox. 3 *; Acute Tox. 3 *; Aquatic Acute 1; Aquatic Chronic 1
	Copper	7440-50-8	2001-450-D
	Lead	7439-92-1	2001-450-D, 2001-200-A, 2010-9016-N Classification example for lead compounds (without CAS): Repr. 1A; Acute Tox. 4 *; Acute Tox. 4 *; STOT RE 2 *; Aquatic Acute 1; Aquatic Chronic 1
	Mercury	7439-97-6	2001-450-D, 2001-200-A, 2007-372-FIN, 1996-PL Repr. 1B; Acute Tox. 2 *; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1
	Chromium	7440-47-3	2001-450-D, 2002-9039-N, 2007-372-FIN
	Chromium (VI)	18540-29-9	2001-200-A, 1996-PL Classification example for chromium (VI) compounds (without CAS): Carc. 1B; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1
Particles / Fibres			
Asbestos fibres	Actinolite	77536-66-4	Commission Regulation (EC) No. 552/2009 (clause 6), 2007-90-DK, 2004-294-NL, 2004-410-NL, 1996-PL, 2007-372-FIN Carc. 1A; STOT RE 1
	Amosite	12172-73-5	
	Anthophyllite	77536-67-5	
	Chrysotile	12001-29-5	
		132207-32-0	
	Crocidolite	12001-28-4	
Tremolite	77536-68-6		
Synthetic vitreous (silicate) fibres			1998-156-D, 2007-90-DK Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide (Na ₂ O+K ₂ O+CaO+MgO+BaO) content greater than 18 % by weight] Carc. 2
Radiation			
Radioactivity	Naturally occurring radionuclides	Not applicable	2002-271-FIN, 2007-90-DK, national radiation protection ordinances (notified under the EURATOM Treaty).

B-2. Regulated volatile organic compounds (VOC, VOC, SVOC) excluding carcinogenic substances of category 1A and 1B²³

The substances in the table are derived from the following notifications:

Column E regulations on product emissions:

- 2009-702-F / substances for which emission labelling is obligatory
- 2009-167-D / substances for which lowest concentrations of interest (LCI values) have been defined
- Polish ordinance on the permitted concentrations and intensities of agents harmful for health emitted by construction materials in rooms intended for human residence (1996-PL)²⁴

Column IA: 2007-372-FIN / substances for which a maximum values for the concentration in indoor air for the purpose of designing indoor climate in buildings has been derived from occupational exposure limits (here only the substances also covered by the above mentioned product emission regulations have been included)

Red = MR substance (mutagenic / toxic for reproduction) of category 1A or 1B (SVHC under REACH are marked bold)

Orange = VVOC are highlighted due to technical issues related to the choice of a suitable test method

Table B-2. VOC regulated as emissions from construction products into indoor air in buildings

Substance	CAS No	Harmonised classifications ²⁵ (Annex VI to Regulation (EC) No 1272/2008)	E	IA
AROMATIC HYDROCARBONS				
Toluene	108-88-3	Repr. 2; Asp. Tox. 1; STOT RE 2 *; Skin Irrit. 2; STOT SE 3	X	X
Ethyl benzene	100-41-4	Flam. Liq. 2; Acute Tox. 4 *	X	X
Xylene, mix of o-, m- and p-xylene isomers	1330-20-7	Flam. Liq. 3; Acute Tox. 4 *; Acute Tox. 4 *; Skin Irrit. 2	X	X
p-Xylene	106-42-3	Flam. Liq. 3; Acute Tox. 4 *; Skin Irrit. 2	X	X
m-Xylene	108-38-3	Flam. Liq. 3; Acute Tox. 4 *; Acute Tox. 4 *; Skin Irrit. 2	X	X
o-Xylene	95-47-6	Flam. Liq. 3; Acute Tox. 4 *; Acute Tox. 4 *; Skin Irrit. 2	X	X
Cumene	98-82-8	Flam. Liq. 3; Asp. Tox. 1; STOT SE 3; Aquatic Chronic 2	X	X
n-Propyl benzene	103-65-1	Flam. Liq. 3; Asp. Tox. 1; STOT SE 3; Aquatic Chronic 2	X	
1-Propenyl benzene (β -methylstyrene)	637-50-3		X	
1.3.5-Trimethylbenzene	108-67-8	Flam. Liq. 3; STOT SE 3; Aquatic Chronic 2	X	X
1.2.4-Trimethylbenzene	95-63-6	Flam. Liq. 3; Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2; Aquatic Chronic 2	X	X

²³ Substances classified carcinogenic, mutagenic or toxic for reproduction, CMR substances, are listed in Annex VI Part 3 of the Regulation (EC) No. 1272/2008.

²⁴ The Polish Regulation from 1996 is included on legal grounds although it is not notified as it derives from the time before Poland joined the EU and the regulation is not in contradiction with community law.

²⁵ If not available a self classification by the manufacturer is required. A minimum classification for a category is indicated by *.

Substance	CAS No	Harmonised classifications ²⁵ (Annex VI to Regulation (EC) No 1272/2008)	E	IA
1.2.3-Trimethylbenzene	526-73-8		X	X
2-Ethyltoluene	611-14-3		X	
1-Isopropyl-2-methylbenzene (o-cymene)	527-84-4		X	
1-Isopropyl-3-methylbenzene (m-cymene)	535-77-3		X	
1-Isopropyl-4-methylbenzene (p-cymene)	99-87-6		X	
1.2.4.5-Tetramethyl benzene	95-93-2		X	
n-Butyl benzene	104-51-8		X	
1.3-Diisopropylbenzene	99-62-7		X	
1.4-Diisopropylbenzene	100-18-5		X	
Phenyl octane and isomers	2189-60-8		X	
1-Phenyldecane and isomers	104-72-3		X	
1-Phenyl undecane and isomers	6742-54-7		X	
4-Phenyl cyclohexene (4-PCH)	4994-16-5		X	
Styrene	100-42-5	Flam. Liq. 3; Acute Tox. 4 *; Eye Irrit. 2; Skin Irrit. 2	X	X
Phenyl acetylene	536-74-3		X	
2-Phenylpropene (α-Methylstyrene)	98-83-9	Flam. Liq. 3; Eye Irrit. 2; STOT SE 3; Aquatic Chronic 2	X	X
Vinyl toluene (all isomers: o-,m-,p-methyl styrenes)	25013-15-4		X	X
Other alkylbenzenes, as long as individual. isomers have not to be evaluated differently			X	
Naphthalene	91-20-3	Carc. 2; Acute Tox. 4 *; Aquatic Acute 1; Aquatic Chronic 1	X	X
Indene	95-13-6		X	X
Chloronaphthalene	90-13-1		X	
Phthalic anhydride	85-44-9	Acute Tox. 4 *; STOT SE 3; Skin Irrit. 2; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1	X	X
Chlorobenzene	108-90-7	Flam. Liq. 3; Acute Tox. 4 *; Aquatic Chronic 2	X	X
Cresol mixed isomers	1319-77-3	Acute Tox. 3 *; Acute Tox. 3 *; Skin Corr. 1B	X	X
ALIPHATIC HYDROCARBONS				
3-Methylpentane	96-14-0	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Aquatic Chronic 2	X	X
n-Hexane	110-54-3	Flam. Liq. 2; Repr. 2; Asp. Tox. 1; STOT RE 2 *; Skin Irrit. 2; STOT SE 3; Aquatic Chronic 2	X	X
Cyclohexane	110-82-7	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1	X	X
Methyl cyclohexane	108-87-2	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Aquatic Chronic 2	X	X
n-Heptane	142-82-5	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1	X	X
other saturated n-aliphatic hydrocarbons until C8			X	
other saturated n-aliphatic hydrocarbons from C9			X	
TERPENES				
3-Carene	498-15-7		X	
α-Pinene	80-56-8		X	
β-Pinene	127-91-3		X	
Limonene	138-86-3	Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1	X	X
Other terpene hydrocarbons			X	
ALIPHATIC ALCOHOLS				
Ethanol	64-17-5	Flam. Liq. 2	X	
1-Propanol	71-23-8	Flam. Liq. 2; Eye Dam. 1; STOT SE 3	X	
2-Propanol	67-63-0	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	
2-methylpropan-2-ol	75-65-0	Flam. Liq. 2; Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3	X	X
2-Methyl-1-propanol	78-83-1	Flam. Liq. 3; STOT SE 3; Skin Irrit. 2; Eye Dam. 1; STOT SE 3	X	X

Substance	CAS No	Harmonised classifications ²⁵ (Annex VI to Regulation (EC) No 1272/2008)	E	IA
Butan-1-ol	71-36-3	Flam. Liq. 3; Acute Tox. 4 *; STOT SE 3; Skin Irrit. 2; Eye Dam. 1; STOT SE 3	X	X
Pentanol (all isomers)	71-41-0	Flam. Liq. 3; Acute Tox. 4 *; STOT SE 3; Skin Irrit. 2	x	X
	30899-19-5		x	
	94624-12-1		X	
	6032-29-7		X	
	584-02-1	Flam. Liq. 3; Acute Tox. 4 *; STOT SE 3; Skin Irrit. 2	X	
	137-32-6		x	X
	123-51-3		x	X
	598-75-4		X	
75-85-4	Flam. Liq. 2; Acute Tox. 4 *; STOT SE 3; Skin Irrit. 2	x		
75-84-3		X		
1-Hexanol	111-27-3	Acute Tox. 4 *	X	
Cyclohexanol	108-93-0	Acute Tox. 4 *; Acute Tox. 4 *; STOT SE 3; Skin Irrit. 2	X	X
2-Ethyl-1-hexanol	104-76-7		X	
1-Octanol	111-87-5		X	
4-Hydroxy-4-methyl-pentane-2-on	123-42-2	Eye Irrit. 2	X	X
C4 - C10 saturated n- and iso-alcohols			X	
C11 - C13 saturated n- and iso-alcohols			X	
AROMATIC ALCOHOLS				
Phenol	108-95-2	Muta. 2; Acute Tox. 3 *; STOT RE 2 *; Skin Corr. 1B	X	X
4-(α,α -dimethylbenzyl)phenol	599-64-4		X	
Butylated hydroxytoluene	128-37-0		X	X
Benzyl alcohol	100-51-6	Acute Tox. 4 *	X	
GLYCOLS, GLYCOLETHERS				
Propylene glycol	57-55-6		X	
Ethandiol (Ethylene glycol)	107-21-1	Acute Tox. 4 *	X	X
Ethylene glycol-monobutylether	111-76-2	Acute Tox. 4 *; Eye Irrit. 2; Skin Irrit. 2	X	X
Diethylene glycol	111-46-6	Acute Tox. 4 *	X	
Diethylene glycol monobutylether	112-34-5	Eye Irrit. 2	X	X
2-Phenoxyethanol	122-99-6	Acute Tox. 4 *; Eye Irrit. 2	X	X
Ethylene carbonate	96-49-1		X	
1-Methoxy propanol-2	107-98-2	Flam. Liq. 3; STOT SE 3	X	X
2.2.4-Trimethyl-1.3-pentane diol, monoisobutyrate (Texanol®)	25265-77-4		X	
Butyl glycolate	7397-62-8		X	
Diethylene glycol monomethyl ether acetate	124-17-4		X	
Dipropylene glycol monomethyl ether	34590-94-8		X	X
2-Methoxyethanol	109-86-4	Flam. Liq. 3; Repr. 1B; Acute Tox. 4 *	X	X
2-Ethoxyethanol	110-80-5	Flam. Liq. 3; Repr. 1B; Acute Tox. 4 *	X	X
2-Propoxyethanol	2807-30-9	Acute Tox. 4 Eye Irrit. 2	*	X
2-Methylethoxyethanol	109-59-1	Acute Tox. 4 Acute Tox. 4 Eye Irrit. 2	*	X
2-Hexoxyethanol	112-25-4	Acute Tox. 4 Acute Tox. 4 Skin Corr. 1B	*	X
1,2-Dimethoxyethan	110-71-4	Flam. Liq. 2; Repr. 1B; Acute Tox. 4 *	X	
1,2-Diethoxyethan	73506-93-1	Flam. Liq. 2; Repr. 1A; Eye Irrit. 2		

Substance	CAS No	Harmonised classifications ²⁵ (Annex VI to Regulation (EC) No 1272/2008)	E	IA
	629-14-1			
2-Methoxyethyl acetate	110-49-6	Repr. 1B; Acute Tox. 4 *	X	X
2-Ethoxyethyl acetate	111-15-9	Flam. Liq. 3; Repr. 1B; Acute Tox. 4 *	X	X
2-Butoxyethyl acetate	112-07-2	Acute Tox. 4 *	X	X
2-(2-Hexoxyethoxy)-ethanol	112-59-4	Acute Tox. 4 *; Eye Dam. 1	X	
1-Methoxy-2-(2-methoxy-ethoxy)-ethan	111-96-6	Flam. Liq. 3; Repr. 1B	X	
2-Methoxy-1-propanol	1589-47-5	Flam. Liq. 3; Repr. 1B; STOT SE 3; Skin Irrit. 2; Eye Dam. 1	X	
2-Methoxy-1-propyl acetate	70657-70-4	Flam. Liq. 3; Repr. 1B; STOT SE 3	X	
Propylene glycol diacetate	623-84-7		X	
Dipropylene glycol	110-98-5 / 25265-71-8		X	
Dipropylene glycol-monomethyl ether acetate	88917-22-0		X	
Dipropylene glycol-mono-n-propylether	29911-27-1		X	
Dipropylene glycol-ono-n-butylether	29911-28-2 35884-42-5		X	
Dipropylene glycol-mono-t-butylether	132739-31-2 (Mixture)		X	
1,4-Butandiol	110-63-4		X	
Tripropylene glycol-monomethyl ether	20324-33-8 25498-49-1		X	
Triethylene glycol-dimethyl ether	112-49-2	Repr. 1B	X	
1.2.-Propylene glycol-dimethyl ether	7778-85-0	Flam. Liq. 2	X	
TXIB	6846-50-0		X	
Diethylene glycol monoethyl ether	111-90-0		X	
Dipropylene glycol dimethyl ether	63019-84-1 89399-28-0 111109-77-4		X	
Propylene carbonate	108-32-7	Eye Irrit. 2	X	
Hexylene glycol	107-41-5	Eye Irrit. 2; Skin Irrit. 2	X	
ALDEHYDES				
Butanal	123-72-8	Flam. Liq. 2	X	
Pentanal	110-62-3		X	X
Hexanal	66-25-1		X	
Heptanal	111-71-7		X	
2-Ethyl-hexanal	123-05-7		X	
Octanal	124-13-0		X	
Nonanal	124-19-6		X	
Decanal	112-31-2		X	
2-Butenal (crotonaldehyde, cis-trans-mix)	4170-30-3 123-73-9 15798-64-8	Flam. Liq. 2; Muta. 2; Acute Tox. 2 *; Acute Tox. 3 *; STOT RE 2 *; STOT SE 3; Skin Irrit. 2; Eye Dam. 1; Aquatic Acute 1	X	X
			X	
2-Pentenal	1576-87-0 764-39-6 31424-04-1		X	
			X	
2-Hexenal	16635-54-4 6728-26-3 505-57-7 1335-39-3		X	
2-Heptenal	2463-63-0		X	

Substance	CAS No	Harmonised classifications ²⁵ (Annex VI to Regulation (EC) No 1272/2008)	E	IA
	18829-55-5 29381-66-6			
2-Octenal	2363-89-5 25447-69-2 20664-46-4 2548-87-0		X	
2-Nonenal	2463-53-8 30551-15-6 18829-56-6 60784-31-8		X	
2-Decenal	3913-71-1 / 2497-25-8 / 3913-81-3		X	
2-Undecenal	2463-77-6 / 53448-07-0		X	
Furfural	98-01-1	Carc. 2; Acute Tox. 3 *; Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2	X	X
Glutardialdehyde	111-30-8	Acute Tox. 3 *: Skin Corr. 1B; Resp. Sens. 1; Skin Sens. 1; Aquatic Acute 1	X	X
Benzaldehyde	100-52-7	Acute Tox. 4 *	X	X
Acetaldehyde	75-07-0	Flam. Liq. 1; Carc. 2; Eye Irrit. 2; STOT SE 3	X	
Propanal	123-38-6	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2	X	
Formaldehyde	50-00-0	Carc. 2; Acute Tox. 3 *; Skin Corr. 1B; Skin Sens. 1	X	
KETONES				
Ethylmethylketone	78-93-3		X	X
3-Methylbutanone-2	563-80-4	Flam. Liq. 2	X	
Methylisobutylketone	108-10-1	Flam. Liq. 2; Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3	X	X
Cyclopentanone	120-92-3	Flam. Liq. 3; Eye Irrit. 2; Skin Irrit. 2	X	
Cyclohexanone	108-94-1	Flam. Liq. 3; Acute Tox. 4 *	X	X
2-Methylcyclopentanone	1120-72-5		X	
2-Methylcyclohexanone	583-60-8	Flam. Liq. 3; Acute Tox. 4 *	X	X
Acetophenone	98-86-2	Acute Tox. 4 *; Eye Irrit. 2	X	X
1-Hydroxyacetone	116-09-6		X	
Acetone	67-64-1	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	
ACIDS				
Acetic acid	64-19-7	Flam. Liq. 3; Skin Corr. 1A	X	X
Propionic acid	79-09-4	Skin Corr. 1B	X	X
Isobutyric acid	79-31-2	Acute Tox. 4 *	X	
Butyric acid	107-92-6	Skin Corr. 1B	X	
Pivalic acid	75-98-9		X	
n-Valeric acid	109-52-4	Skin Corr. 1B; Aquatic Chronic 3	X	
n-Caproic acid	142-62-1		X	
n-Heptanoic acid	111-14-8	Skin Corr. 1B	X	
n-Octanoic acid	124-07-2		X	
2-Ethylhexane acid	149-57-5	Repr. 2	X	
ESTERS AND LACTONES				
Methyl acetate	79-20-9	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	X
Ethyl acetate	141-78-6	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	X
Vinyl acetate	108-05-4	Flam. Liq. 2	X	X
Isopropyl acetate	108-21-4	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	X
Propyl acetate	109-60-4	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	X
2-Methoxy-1-methylethyl acetate	108-65-6	Flam. Liq. 3	X	X
n-Butyl formiate	592-84-7	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	X	
Methyl methacrylate	80-62-6	Flam. Liq. 2; STOT SE 3; Skin Irrit. 2; Skin Sens. 1	X	X

Substance	CAS No	Harmonised classifications ²⁵ (Annex VI to Regulation (EC) No 1272/2008)	E	IA
Other methacrylates				
Isobutyl acetate	110-19-0	Flam. Liq. 2	X	X
1-Butyl acetate	123-86-4	Flam. Liq. 3; STOT SE 3	X	X
2-Ethylhexyl acetate	103-09-3		X	X
Methyl acrylate	96-33-3	Flam. Liq. 2; Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2; Skin Sens. 1	X	X
Ethyl acrylate	140-88-5	Flam. Liq. 2; Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2; Skin Sens. 1	X	X
n-Butyl acrylate	141-32-2	Flam. Liq. 3; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2; Skin Sens. 1	X	X
2-Ethylhexyl acrylate	103-11-7	STOT SE 3; Skin Irrit. 2; Skin Sens. 1	X	
Other acrylates (acrylic acid ester)				
Dimethyl adipate	627-93-0		X	
Dibutyl fumarate	105-75-9		X	
Dimethyl succinate	106-65-0		X	
Dimethyl glutarate	1119-40-0		X	
Hexamethylene diacrylate	13048-33-4	Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1	X	
Maleic acid dibutylester	105-76-0		X	
Butyrolactone	96-48-0		X	
Diisobutyl glutarate	71195-64-7		X	
Diisobutyl succinate	925-06-4		X	
Dibutyl phthalate	84-74-2	Repr. 1B; Aquatic Acute 1	X	
CHLORINATED HYDROCARBONS				
Tetrachloroethene	127-18-4	Carc. 2; Aquatic Chronic 2	X	X
1,1,2-Trichloroethane	79-00-5	Carc. 2; Acute Tox. 4 *; Acute Tox. 4 *; Acute Tox. 4 *	X	X
2,3,4,5-Tetrachlorophenol	4901-51-3		X	X
2,3,4,6-Tetrachlorophenol	58-90-2	Acute Tox. 3 *; Eye Irrit. 2; Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1	X	X
1,2-Dichlorobenzene	95-50-1	Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1	X	X
1,4-Dichlorobenzene	106-46-7	Carc. 2; Eye Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1	X	X
OTHERS				
1,4-Dioxan	123-91-1	Flam. Liq. 2; Carc. 2; Eye Irrit. 2; STOT SE 3	X	X
Caprolactam	105-60-2	Acute Tox. 4 *; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2	X	X
N-methyl-2-pyrrolidon	872-50-4	Repr. 1B; Eye Irrit. 2; STOT SE 3; Skin Irrit. 2	X	X
Octamethylcyclotetra-siloxane	556-67-2	Repr. 2; Aquatic Chronic 4	X	
Hexamethylenetetramine	100-97-0	Repr. 2; Aquatic Chronic 4	X	
2-Butanonoxime	96-29-7	Carc. 2; Acute Tox. 4 *; Eye Dam. 1; Skin Sens. 1	X	
Tributyl phosphate	126-73-8	Carc. 2; Acute Tox. 4 *; Skin Irrit. 2	X	X
Triethyl phosphate	78-40-0	Acute Tox. 4 *	X	
5-Chloro-2-methyl-2H-isothiazol-3-one (CIT)	26172-554		X	
2-Methyl-4-isothiazolin-3-one	2682-20-4		X	
Triethylamine	121-44-8	Flam. Liq. 2; Acute Tox. 4 *; Skin Corr. 1A	X	
Decamethylcyclopentasiloxane	541-02-6		X	
Dodecamethylcyclohexasiloxane	540-97-6		X	
Maleic anhydride	108-31-6	Acute Tox. 4 *; Skin Corr. 1B; Resp. Sens. 1; Skin Sens. 1	X	X

B-3. Carcinogenic VOC of EU-categories 1A and 1B

The carcinogenic VOC have been extracted from Annex VI Part 3 of the Regulation (EC) No. 1272/2008 on the basis of the boiling points of the classified substances (no claim of completeness can be made). All listed volatile carcinogens are regulated under

2009-167-D, where the sum of all volatile carcinogens is assessed. Substances for which substance specific indoor air limit values or product emission limit values have been set additionally in other national regulations are shadowed (regulations 2009-34-F, 2007-372-FIN, 1996-PL). All listed substances are potential future SVHC under REACH.

Table B-3.1 Carcinogenic VVOC (boiling point below 68 °C)

	Name	CAS-No.	Carc. cat
1.	Bromoethane	74-96-4	1B
2.	Bromoethylen	593-60-2	1B
3.	1,3-Butadiene	106-99-0	1A
4.	n-Butane (includes >= 0,1 % Butadiene)	106-97-8	1A
5.	Chloroprene	126-99-8	1B
6.	Chlorofluoromethane	593-70-4	1B
7.	Chlorodimethyl ether	107-30-2	1A
8.	Diazomethane	334-88-3	1B
9.	N,N-Dimethylhydrazine	57-14-7	1B
10.	Dimethyl sulphate	77-78-1	1B
11.	1,2-Epoxybutan	106-88-7	1B
12.	Ethyleneimine	151-56-4	1B
13.	Ethylene oxide	75-21-8	1B
14.	Furan	110-00-9	1B
15.	Isobutyl nitrite	542-56-3	1B
16.	Isoprene	78-79-5	1B
17.	2-Methylaziridine	75-55-8	1B
18.	Propylene oxide	75-56-9	1B
19.	Chloroform	67-66-3	1B
20.	Vinyl chloride	75-01-4	1A

Table B-3.2 Carcinogenic VOC (boiling point between 68 and 250 °C)

	Name	CAS-No.	Carc. cat
21.	Acrylamide	79-06-1	1B
22.	Acrylonitrile	107-13-1	1B
23.	Allyl glycidyl ether	106-92-3	1B
24.	Benzene	71-43-2	1A
25.	2,2'-Bioxirane	1464-53-5	1B
26.	Bis (chloromethyl) ether	542-88-1	1A
27.	Resorcinol diglycidyl ether	101-90-6	1B
28.	4-Chloroaniline	106-47-8	1B
29.	Epichlorhydrine	106-89-8	1B
30.	(R)-(-)-Epichlorohydrine	51594-55-9	1B
31.	4-Chloro-2-methylaniline	95-69-2	1A
32.	Benzyl chloride	100-44-7	1B
33.	Chromyl chloride	14977-61-8	1B
34.	1,2-Dibromo-3-chloropropane	96-12-8	1B
35.	1,2-Dibromoethane	106-93-4	1B
36.	1,4-Dichlorobut-2-ene	764-41-0	1B
37.	Bis(2-chloroethyl) sulphide	505-60-2	1A

	Name	CAS-No.	Carc. cat
38.	Ethylene dichloride	107-06-2	1B
39.	1,3-Dichloro-2-propanol	96-23-1	1B
40.	1,3-Dichloropropene, isomers	542-75-6	1B
41.	Dimethylcarbamoyl chloride	79-44-7	1B
42.	N,N'-Dimethylhydrazine; 1,2-Dimethylhydrazine	540-73-8	1B
43.	Vinylcyclohexane diepoxide	106-87-6	1B
44.	Hexamethylphosphoric triamide	680-31-9	1B
45.	2-Methoxyaniline	90-04-0	1B
46.	6-Methoxy-m-toluidine	120-71-8	1B
47.	Methyl azoxy methyl acetate	592-62-1	1B
48.	N-Methylbis(2-chloroethyl)amine	51-75-2	1A
49.	4,4-Methylenedi-o-toluidine	838-88-0	1B
50.	Morpholine-4-carbonyl chloride	15159-40-7	1B
51.	2-Nitropropane	79-46-9	1B
52.	N-Nitrosodibutylamine	924-16-3	1B
53.	N-Nitrosodiethylamine	55-18-5	1B
54.	Nitrosodipropylamine	621-64-7	1B
55.	N-Nitrosodiisopropylamine	601-77-4	1B
56.	N-Ethyl-N-nitrosoaniline	612-64-6	1B
57.	2,2'-(Nitrosoimino)bisethanol	1116-54-7	1B
58.	N-Methyl-N-nitroso-ethylamine	10595-95-6	1B
59.	N-Nitrosomorpholine	59-89-2	1B
60.	N-Nitrosopiperidine	100-75-4	1B
61.	N-Nitrosopyrrolidine	930-55-2	1B
62.	2-Nitrotoluene	88-72-2	1B
63.	Phenyl glycidyl ether	122-60-1	1B
64.	1,3-Propansultone	1120-71-4	1B
65.	Quinoline	91-22-5	1B
66.	5-Allyl-1,3-benzodioxole	94-59-7	1B
67.	Styrene oxide	96-09-3	1B
68.	Sulfallate	95-06-7	1B
69.	4-Chlorobenzotrichloride	5216-25-1	1B
70.	Tetranitromethane	509-14-8	1B
71.	o-Toluidine	95-53-4	1B
72.	1,3,4-Trichlorobut-1-ene	2431-50-7	1B
73.	Trichloroethylene	79-01-6	1B
74.	1,2,3-Trichloropropane	96-18-4	1B
75.	Benzotrichloride	98-07-7	1B
76.	2,4,5-Trimethylanilin	137-17-7	1B
77.	Urethane	51-79-6	1B

B-3.3 Carcinogenic SVOC (boiling point between 250 and 400 °C)

	Name	CAS-No.	Carc. Cat
78.	4-Aminoazobenzene	60-09-3	1B
79.	4-Aminobiphenyl	92-67-1	1A
80.	Azobenzene	103-33-3	1B
81.	4,4'-Bi-o-toluidine	119-93-7	1B
82.	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	1B
83.	4-Methyl-m-phenylenediamine	95-80-7	1B
84.	Hexachlorobenzene	118-74-1	1B

85.	4-Methyl-m-phenylenediamine	95-80-7	1B
86.	2-Naphthylamine	91-59-8	1A
87.	2-Nitroanisole	91-23-6	1B
88.	4-Nitrobiphenyle	92-93-3	1B
89.	2-Nitronaphtalene	581-89-5	1B
90.	Methylenebisdimethylaniline	101-61-1	1B

ANNEX C

List of consulted notifications (see <http://ec.europa.eu/enterprise/tris/>) and national derogations from Community Law confirmed by Commission Decisions (see http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/derogations/index_en.htm)

Please note that this list is not intended as a complete compilation of all relevant regulations for dangerous substances in construction products. The list only provides examples of regulations that pose requirements on the substances and parameters included in Annex A and in Annex B. For a more complete overview please consult: <http://ec.europa.eu/enterprise/construction/cpd-ds/index.cfm>.

Notification / Decision No.	Title in original language	Title in English
1985-26-D	Gefahrstoffverordnung	Order on protection from hazardous substances (not available in database TRIS as notifications from 1980s are not included)
1987-0125-F	Décret n°88-683 du 6 mai 1988 relatif à l'utilisation des mousses urée-formol dans les locaux à usage d'habitation ou destinés à une occupation humaine permanente ou semi-permanente Arrêté du 6 mai 1988 relatif à la teneur maximale en formaldéhyde provenant de l'injection des mousses urée-formol dans les locaux à usage d'habitation ou destinés à une occupation permanente ou semi-permanente	Décret 88-683 of 06/05/1988 on the use of urea-formaldehyde foams in buildings intended for permanent or semi-permanent human occupation Arrêté of 06/05/1988 fixing a maximum content of formaldehyde coming from urea-formaldehyde foams in buildings intended for a permanent or semi-permanent human occupation.
1990-A (code for this list only)	Verordnung des Bundesministers für Umwelt, Jugend und Familie vom 12. Februar 1990 über Beschränkungen des Inverkehrsetzens und über die Kennzeichnung formaldehydhaltiger Stoffe, Zubereitungen und Fertigwaren (Formaldehydverordnung)	Ordinance of the Federal Minister of the Environment, Youth and the Family of February 12, 1990 Concerning Restrictions for the Placing on the Market and Labelling of Substances, Preparations and Finished Products which contain Formaldehyde
1993-141-D	Verordnung zur Ausweitung der Verbote von Stoffen, Zubereitungen und Erzeugnissen, die bestimmte polyhalogenierte Dibenzo-p-dioxine (phdd) und bestimmte polyhalogenierte Dibenzofurane (phdf) enthalten.	Prohibition of materials, preparations and products containing certain polyhalogenated dibenzo-p-dioxins (phdds) or certain polyhalogenated dibenzofuranes (phdfs) (extension of applicability) order.
1995-188-DK	Bygningsreglement	Building regulations
1995-213-A	Verordnung des Bundesministers für Umwelt über Verbote und Beschränkungen von organischen Lösungsmitteln (Lösungsmittelverordnung 1995 - LMVO 1995)	Order of the Federal Minister for the Environment on bans on and restrictions of organic solvents (Solvents Order 1995 - German designation LMVO 1995)
1996-PI (code for this list only)	Monitor Polski - rok 1996, nr 19, poz. 231 Zarządzenie Ministra Zdrowia i Opieki Społecznej z dnia 12 marca 1996 r. w sprawie dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia, wydzielanych przez materiały budowlane, urządzenia i elementy wyposażenia w pomieszczeniach przeznaczonych n pobyt ludzi.	Monitor Polski Nr 19/1996, poz. 231 ORDINANCE OF THE MINISTER OF HEALTH AND SOCIAL WELFARE of 12 March 1996 on the permitted concentrations and intensities of agents harmful for health emitted by construction materials, facilities and components of furniture in rooms intended for human residence.

Notification / Decision No.	Title in original language	Title in English
1997/346/NL	Ontwerp-Regeling Bouwbesluit materialen	Draft Regulation Building Decree on Materials
1997-527-DK	Bygningsreglement for småhuse	Building regulations for small houses
1998/57/NL	Ontwerp-Regeling Bouwbesluit materialen 1998	Draft Regulation under the Buildings Decree on Materials 1998
1998-156-D	Verordnung zur Änderung chemikalienrechtlicher Verordnungen	Order amending the Orders on chemical law
1998-9034-N	Forskrift om forbud mot bruk av akrylamidbaserte injeksjonsmidler til tetting av vannlekkasjer i anleggsvirksomhet	A proposal for regulations relating to a permanent prohibition against the use of acryl amide based grouting agents for the sealing against water leakages in connection with construction work. (incorporated into 2002-9039-N)
1999-103-NL	Ontwerp-besluit gechloreerde paraffines Wms	Draft Decree on Chlorinated Paraffins under the Act on Environmentally-Hazardous Substances (Dutch designation: Wms)
1999-263-A	RVS 8S.01.31 Technische Vertragsbedingungen Wiederverwendbare Baustoffe: Asphaltgranulat	Guidelines and Regulations for Highway Construction [German designation: RVS] 8S.01.31 Technical terms of contract Reusable construction materials Asphalt granulate
2001-121-DK	Bekendtgørelse om regulering af visse industrielle drivhusgasser: BEK nr 552 af 02/07/2002 (Gældende)	Order regulating certain industrial greenhouse gases
2001-200-A	Gütevorschriften für elastische Bodenbeläge	Quality regulations for elastic flooring materials
2001-450-D	Verordnung über die Entsorgung von Altholz	Order on the disposal of waste wood
2002-271-FIN	Ympäristöministeriön asetus rakennusten sisäilmastosta ja ilmanvaihdosta, Suomen rakentamismääräyskokoelma, osa D2, määräykset ja ohjeet	Ministry of the Environment decree on indoor air and ventilation in buildings, the Finnish Building Regulations, Part D2, regulations and instructions
2002-9039-N	Forskrift om begrensning i bruk av helse- og miljøfarlige kjemikalier og andre produkter (produktforskriften)	Regulations relating to restrictions on certain dangerous chemicals and products
2004-294-NL	Ontwerpbesluit houdende regels betreffende asbest en asbesthoudende producten (Productenbesluit asbest)	Draft Decree regulating asbestos and products containing asbestos (Asbestos Products Decree)
2004-410-NL	Ontwerpregeling houdende regels met betrekking tot het bepalen van de concentratie asbest in producten (Productenregeling asbest).	Draft regulation on determining the concentration of asbestos in products (Asbestos Products Regulation).
2004-71-D	Technische Lieferbedingungen für Gesteinskörnungen im Straßenbau, TL Gestein-StB 04	Technical Terms of Delivery for aggregates used in road construction [German designation: TL Gestein-StB 04]
2005-255-D	Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen, Stand April 2005	Principles for the health assessment of construction products used in interiors, as at April 2005
2005-283-NL	Regeling tot wijziging van de Uitvoeringsregeling Bouwstoffenbesluit bodem- en oppervlaktewaterenbescherming	Regulation amending the Regulation implementing the Building Materials (Soil and Surface Water Protection) Decree;
2005-485-A	Verordnung des Bundesministers für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, mit der die Verordnung über Verbote und Beschränkungen teilfluorierter und vollfluorierter Kohlenwasserstoffe sowie von Schwefelhexafluorid (HFKW-FKW-SF6-V) geändert wird	Order issued by the Federal Minister for Agriculture, Forestry, Environment and Water Management amending the Order governing prohibitions and restrictions on partially fluorinated and fully fluorinated hydrocarbons and sulphur hexafluoride (HFC-CFC-SF6-Order).
2005-649-S (withdrawn from 1st June	Förordning om ändring i förordningen (1998:944) om förbud m.m. i vissa fall i samband med hantering, införsel och utförsel av kemiska produkter	Order amending the Order (1998:994) imposing bans etc. in certain cases in connection with the handling, import and export of chemical products

Notification / Decision No.	Title in original language	Title in English
2008		
2005-735-FIN	Valtioneuvoston asetus eräiden jätteiden hyödyntämisestä maarakentamisessa	Council of State Decree concerning the recovery of certain wastes in earth construction
2005-9020-N	Forskrift om begrensning i bruk av helse- og miljøfarlige kjemikalier og andre produkter	Regulations relating to restrictions on the use of chemicals dangerous to health and environment and other products
2006-223-E	DECRETO SOBRE VALORIZACIÓN DE ESCORIAS PROCEDENTES DE LA FABRICACIÓN DE ACERO EN HORNO DE ARCO ELÉCTRICO	Decree on the recovery of slag produced from the manufacture of steel in electric arc furnaces
2006-90-D	Grundsätze zur Bewertung der Auswirkungen von Bauprodukten auf Boden und Grundwasser	Principles for assessing the effects of construction products on soil and groundwater
2006-496-NL	Besluit van 22 november 2007, houdende regels inzake de kwaliteit van de bodem (Besluit bodemkwaliteit)	Soil Quality Decree
2006-516-D	Eisenbahnspezifische Bauregellisten (EBRL) und Eisenbahnspezifische Ergänzungen und Anlagen zu den Bauregellisten A, B und der Liste C des DIBt (Ausgabe 2005/1)	Railway-specific Building Regulation Lists (German designation EBRL) and railway-specific additions and annexes to Building Regulation Lists A and B and List C of the DIBt (edition 2005/1), 2006 edition
2006-557-NL	Regeling bodemkwaliteit	Preliminary draft of the Soil Quality Regulation
2007-90-DK	Bygningsreglement 2008	Building Regulations 07
2007-372-FIN	Rakennusten sisäilmasto ja ilmanvaihto Määräykset ja ohjeet 2007	Indoor Climate and Ventilation in Buildings Regulations and Guidelines 2007
2007-653-A	Richtlinie für Recycling-Baustoffe aus Hochbau-Restmassen	Guidelines for recycled building materials from building demolition waste
2007-9016-N	Utkast til nytt kapittel om forbrukerprodukter i produktforskriften: Miljøgifter i forbrukerprodukter	Draft of new chapter concerning consumer products in the Norwegian Product Regulations: Hazardous substances in consumer products
2008-243-S	Föreskrifter om ändring i Kemikalieinspektionens föreskrifter (KIFS 2008:2) om kemiska produkter och biotekniska organismer	Regulations concerning changes to the regulations of the Swedish Chemicals Agency (KIFS 2008:2) on chemical products and biotechnical organisms
2008/273/FIN	Ympäristöministeriön asetus rakennusten sisäilmastosta ja ilmanvaihdosta, Suomen rakentamismääräyskokoelma, D2, määräykset ja ohjeet	Directive of the Ministry of the Environment on indoor climate and ventilation of buildings, the National Code of Building Regulations of Finland, D2, Regulations and Guidelines
2008-321-GR	Ανώτατο όριο φορμαλδεΐδης για τα έπιπλα, διακοσμητικά αντικείμενα και πρώτες ύλες αυτών σύνθετης συγκολλημένης ξυλείας – Μετανάστευση ορισμένων στοιχείων από παιδικά έπιπλα - Φορέας Επίπλου	Draft ministerial decision – maximum formaldehyde levels for furniture, decorative objects and laminated strand lumber (LSLs) used as raw materials in such – migration of certain elements from children’s furniture – Furniture Agency
2008-565-NL	Regeling van de Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer en de Staatssecretaris van Verkeer en Waterstaat houdende wijziging van de Regeling bodemkwaliteit	Regulation of the Minister for Housing, Spatial Planning and the Environment and the State Secretary for Transport, Public Works and Water Management amending the Soil Quality Regulation
2009-34-F	Arrêté relatif aux conditions de mise sur le marché des produits de construction et de décoration contenant des substances cancérigènes, mutagènes ou reprotoxiques de catégorie 1 ou 2.	Order on the conditions on placing construction and decoration products containing carcinogenic, mutagenic or reprotoxic substances of category 1 or 2 on the market.
2009-104-F	Projet d'arrêté relatif aux conditions de mise sur le marché des produits de construction et de décoration contenant des substances cancérigènes, mutagènes ou reprotoxiques de catégorie 1 ou 2	Order relating to the conditions for marketing construction and decorative products containing carcinogens, mutagens or reprotoxic substances in category 1 or 2.
2009-167-D	Entwurf der Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen, Stand	Draft Provisions for health assessment of construction products in indoor environments,

Notification / Decision No.	Title in original language	Title in English
	Oktober 2008	version of October 2008
2009-485-A	Richtlinie für Recycling-Baustoffe (8. Auflage)	Guideline for recycled building materials (8th edition)
2009-701-F	Décret no 2011-321 du 23 mars 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils	Decree relating to the labelling of construction and decoration products with their volatile pollutant emissions
2009-702-F	Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils	Order relating to the labelling of construction and decoration products with their volatile pollutant emissions
2010-9016-N		Prohibition on lead in consumer products
2010-9017-N		Prohibition on Pentachlorophenol (PCP) in consumer products
2010-9018-N		Prohibition on MCCP in consumer products
2010-9019-N		Prohibition on Perfluorooctanoic acid (PFOA) in consumer products
1994/783/EC	Entscheidung der Kommission vom 14. September 1994 über das von Deutschland gemeldete Verbot von Pentachlorphenol (Nur der deutsche Text ist verbindlich)	Commission Decision 1994/783/EC of 14 September 1994 concerning the prohibition of PCP notified by the Federal Republic of Germany
1996/211/EC	Kommissionens beslutning af 26. februar 1996 om det af Danmark meddelte forbud mod pentachlorphenol (PCP) (Kun den danske udgave er autentisk) (Tekst af betydning for EØS)	Commission Decision 1996/211/EC of 26 February 1996 concerning the prohibition of pentachlorophenol (PCP) notified by Denmark
1999/831/EC	BESCHIKKING VAN DE COMMISSIE van 26 oktober 1999 inzake de kennisgeving door het Koninkrijk der Nederlanden van de nationale bepalingen inzake de beperking van het op de markt brengen en het gebruik van pentachloorfenol (PCP)	Commission Decision 1999/831/EC of 26 October 1999 concerning the national provisions notified by the Kingdom of the Netherlands concerning the limitations of the marketing and use of pentachlorophenol (PCP)
2003/549/EC	BESCHIKKING VAN DE COMMISSIE van 17 juli 2003 tot verlenging van de in artikel 95, lid 6, van het EG-Verdrag genoemde periode met betrekking tot de nationale bepalingen inzake het gebruik van kortketenige gechlloreerde paraffines waarvan Nederland overeenkomstig artikel 95, lid 4, kennis heeft gegeven	Commission Decision 2003/549/EC 17 July 2003 extending the period referred to in Article 95(6) of the EC Treaty in relation to the national provisions on the use of short-chain chlorinated paraffins notified by the Netherlands under Article 95(4) of the EC Treaty
2004/1/EC	BESCHIKKING VAN DE COMMISSIE van 16 december 2003 betreffende nationale bepalingen inzake het gebruik van kortketenige gechlloreerde paraffines waarvan het Koninkrijk der Nederlanden overeenkomstig artikel 95, lid 4, van het EG-Verdrag kennis heeft gegeven	Commission Decision 2004/1/EC of 16 December 2003 concerning national provisions on the use of short-chain chlorinated paraffins notified by the Kingdom of the Netherlands under Article 95(4) of the EC Treaty
2007/395/EC	BESCHIKKING VAN DE COMMISSIE van 7 juni 2007 betreffende nationale bepalingen inzake het gebruik van kortketenige gechlloreerde paraffines waarvan het Koninkrijk der Nederlanden overeenkomstig artikel 95, lid 4, van het EG-Verdrag kennis heeft gegeven	Commission Decision 2007/395/EC of 7 June 2007 concerning national provisions on the use of short-chain chlorinated paraffins notified by the Kingdom of the Netherlands under Article 95(4) of the EC Treaty

ANNEX III

NOTIFIED REGULATIONS CONCERNING ER 3 – SELECTION CRITERIA FOR PRODUCT MANDATES UNDER THE CPD/CPR

BASICS

As instrument to **remove barriers to trade**, the CPD/CPR is focussed on existing regulatory requirements for construction product declarations and construction works, linked to different assessment/evaluation schemes for dangerous substances. Harmonised product standards have to cover these requirements and have to provide in annex ZA references to test methods (either already in use or under development in CEN TC 351).

Substances/materials and parameters (threshold values, such as pH, conductivity, DOC etc.) in CPD/CPR related mandates were chosen because they:

- oblige manufacturers and/or distributors to **declare or comply with specific performance values** of construction products based on existing test or verification methods and could therefore be considered as **potential barriers to trade**²⁶
- **are regulated and notified**²⁷ at EU or national level;
 - National, regional or local requirements **not notified** or only used in public and private tendering are **not covered under this framework**.
 - Some notifications are covering technical specifications for construction products to be used in public works. In general, there is no difference between public and private actors contracting construction works. However, specific *de facto* **monopoly situations** (i.e. public road construction works) with **clear and implicit performance criteria** (threshold values for specific characteristics) are taken into consideration,

²⁶ Barriers to trade could be created by introducing specific performance values that have to be met by manufacturers but test methods might significantly differ between or even within Member States.

²⁷ While notification is presumed for all regulatory requirements falling under Directive 98/34/EC after the accession of a EU MS, national and regional regulations accepted during the negotiations for accession are also included in the first bullet point.

Notified texts are sometimes referring to technical guidance documents, defining threshold values for specific product performance criteria. Therefore, all of these documents/requirements have to be notified to be covered in the ongoing standardisation work.

- Some notifications are covering individual declarations by manufacturers based on project specific (intended use specific) declarations required by national, regional or local authorities. If they are **not part** of a specific *de facto* **monopoly situation**, they are **not taken into consideration**.
- are used for manufacturing construction products (included in raw materials)
- could be emitted or released from construction products into indoor air
- could be released from construction products into soil, surface water and ground water

Source for information

Database on dangerous substances <http://ec.europa.eu/enterprise/construction/cpd-ds/>

Annex II (indicative list)

Annex I: specific requirements for products covered under each specific mandate