Guidance on information requirements and chemical safety assessment

Chapter R.12: Use descriptor system

…… 2009

(DRAFT Version 2.0)

LEGAL NOTICE

This document contains guidance on REACH explaining the REACH obligations and how to fulfil them. However, users are reminded that the text of the REACH regulation is the only authentic legal reference and that the information in this document does not constitute legal advice. The European Chemicals Agency does not accept any liability with regard to the contents of this document.

PREFACE

This document describes the information requirements under REACH with regard to substance properties, exposure, uses and risk management measures, and the chemical safety assessment. It is part of a series of guidance documents that are aimed at helping all stakeholders with their preparation for fulfilling their obligations under the REACH regulation. These documents cover detailed guidance for a range of essential REACH processes as well as for some specific scientific and/or technical methods that industry or authorities need to make use of under REACH.

The guidance documents were drafted and discussed within the REACH Implementation Projects (RIPs) led by the European Commission services, involving stakeholders from Member States, industry and non-governmental organisations. After acceptance by the Member States Competent Authorities the guidance documents had been handed over to ECHA for publication and further maintenance. Any updates of the guidance are drafted by ECHA and are then subject to consultation procedure, involving stakeholders from Member States, industry and non-governmental organisations. For details of the consultation procedure, please see
http://echa.europa.eu/doc/FINAL_MB_30_2007_Consultation_procedure_on_guidance.pdf

The guidance documents can be obtained via the website of the European Chemicals Agency (http://echa.europa.eu/reach_en.asp). Further guidance documents will be published on this website when they are finalised or updated.

This document relates to the REACH Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006[1]

1 Corrigendum to Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006); amended by Council Regulation (EC) No 1354/2007 of 15 November 2007 adapting Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) by reason of the accession of Bulgaria and Romania (OJ L 304, 22.11.2007, p. 1).

DOCUMENT HISTORY

Version	Comment	Date
Version 1	First edition	May 2008
Version 1.1	– The process categories (PROC) related to processing of metals and other minerals have been included into the PROC numbering system – SU 10 has been slightly re-phrased – "PC 39, personal care products" have been added – Pulp has been added in SU 6 and a subdivision has been made related to "other" production or services (0-1 for "other economic activities related to chemicals" and 0-2 for "other economic activities, not related to chemicals") – The numbering system of the article categories has been technically streamlined – All "other" has been moved from the last position in the pick-list to the first position	July 2008
Version 1.2	– Correction of numbering from PROC 22 in Appendix R.12-3. – Moving the misplaced *cameras and video cameras* from AC 9 to AC 3-4 in Appendix R.12-4. – Adaptation of the numbering system in Appendix R.12-4 to the structure of the categories.	October 2008
Version 2	– Inclusion of updated examples on how to work with the descriptor system (see new Table R-12.2/3 and updated Figure R-12.1/2) – Introduction of a new table R.12.1 in order to better explain the relationship between use description and Tier 1 exposure estimates. – Splitting of the *Sector of Use* descriptor into two blocks: *Main User Groups* (SU 3, 9, 10, 14, 21, 22) and *Sector of End-Use*. See Appendix R.12-1. – More clearly distinguishing of the two functions of *the Chemical Product Category* (PC) in section R.12.3.2: (i) describing the sectors formulating preparations by preparation type and (ii) consumer preparation types. See Appendix R.12-2.1 – Inclusion of a list of product sub-categories addressed in the ECETOC Targeted Risk Assessment (TRA) for Consumers. See Appendix R.12.-2.2	October 2009

Version	Comment	Date
	– Remove the reference to industrial or professional setting from most of the process categories. The choice can be made in the exposure estimation itself. At use description level, SU 3 or SU 21 indicate, whether a use is expected to happen under industrial or non industrial setting. – More clearly distinguishing of the two functions of the *Article Category* (AC) in section 12.3.5: (i) Type of article related to service life and waste life stage of the substance and (ii) consumer article types. See Appendix R.12-5 – Introduction of the *Environmental Release Category* (ERC) as an additional descriptor (see section R.12.3.4) – Inclusion of a list of substance functions/types (optional) in Appendix R.12-7 – Refinements in the pick-lists. o Split out fillers and putties from PC 9b o Clarification that PC14 refers to substances reacting with the metal surface o Remove automotive care products (PC6) since it duplicates other categories o Clarification that PC20 refers to processing aids used in the chemical industry o Inclusion of bleaches and other processing aids into PC 26 and PC 34 o Clarification that PC22 covers fertilisers used by consumers o Covering metals and other minerals in PROC 21 to 25 plus adaptation of description o Splitting PROC 8 into PROC 8a and 8b o Introduction of PROC 26 and 27 referring to processes particularly relevant for the metal industry o Remove the differentiation between indoor and outdoor construction article from AC 12, this differentiation is now covered by the ERC. Exclude indoor flooring material from AC12 since this is covered under AC 10, 11 and 13. - Editorial adaptation of the text to the changes listed above	

Convention for citing the REACH regulation

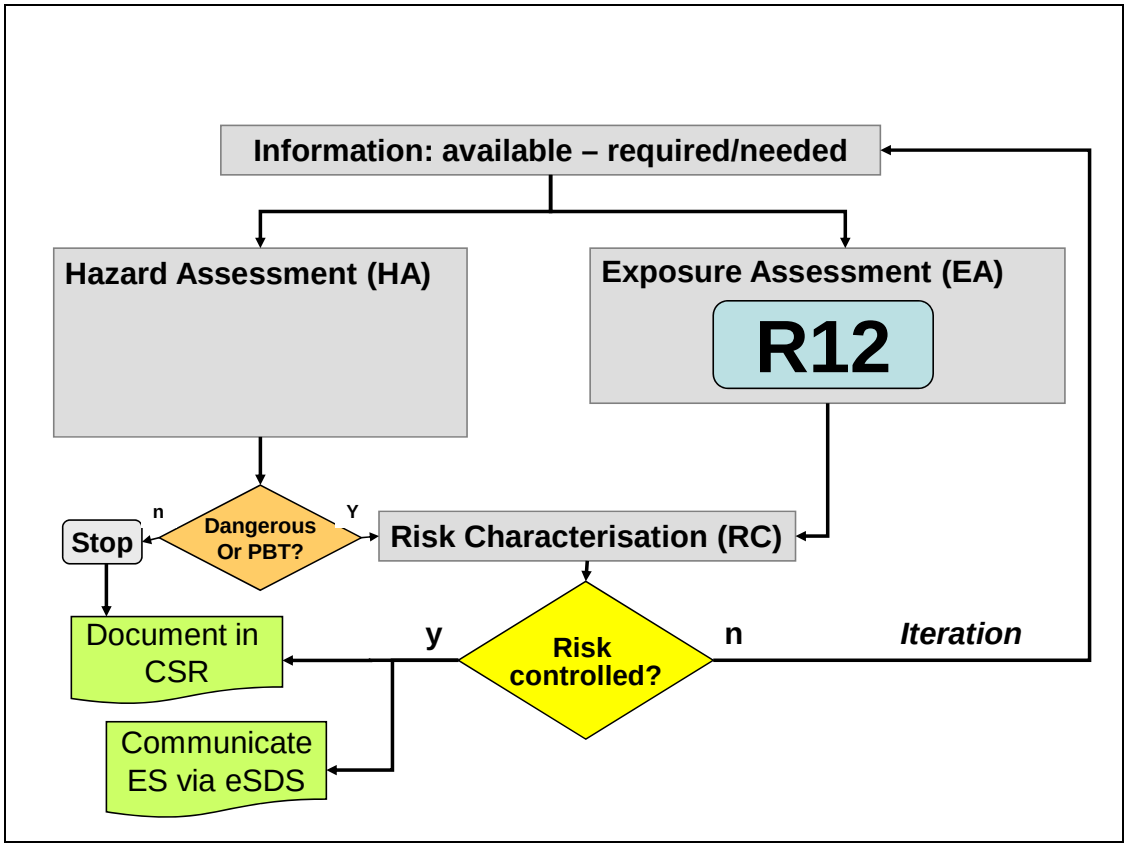
Where the REACH regulation is cited literally, this is indicated by text in italics between quotes.

Table of Terms and Abbreviations

See Chapter R.20

Pathfinder

The figure below indicates the location of chapter R.12 within the Guidance Document



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R.12 USE DESCRIPTOR SYSTEM

R.12.1 Aim of this module

Under REACH each manufacturer and importer of substances requiring an exposure assessment will have to develop, assess and communicate exposure scenarios, covering the entire life cycle of the substance. For these purposes he needs to map out all the uses of his substance. Such a mapping of uses within a market sector can often be reused for different substances, or can even be collectively created by several manufacturers/importers. It is therefore important to standardise the mapping of uses and to enable linking to exposure scenarios. For downstream users it would be more efficient to receive standardised exposure scenarios for the relevant applications of the substances in their sector, and not a wide range of different scenarios from different suppliers. This guidance therefore provides a system of use descriptors to allow the building of *short titles* for exposure scenarios. Such *short titles* are meant to flag the scope and applicability of an ES.

Short titles will help suppliers and users to structure their communication with each other. Based on the short titles, the DU should be able to quickly establish whether a received exposure scenario may cover his uses. It should be also possible for him to describe a use that he wishes to make known to the supplier. The supplier will be interested in receiving information on uses in a standardised format from his customers and not in the form of free text documents. NOTE: In many cases the registrant will need more information on the conditions of use downstream than just the use descriptors.

Each registrant is also obliged to include a *brief general description of all identified uses* in his Technical Dossier (see chapter 3.5 of IUCLID) and in Section 2 of the CSR. The *brief general description of use* can also be based on the descriptor system in this guidance.

This chapter aims to explain in more detail the background and the application of the descriptor system. The descriptor pick-lists are contained in Appendix R.12-1 to R.12-6.

R.12.2 The Use Descriptor system

The use descriptor system is based on five separate descriptors which in combination with each other form a brief description of use or an exposure scenario title:

- The *sector of use* (SU) describes in which sector of the economy the substance is used. This includes manufacture in the chemical industry, mixing of substances at formulator's level as well as industrial, professional and consumer end-uses[2].
- The *chemical product category* (PC) describes in which types of preparations (mixtures) the substance is contained on end-use.
- The *process category* (PROC) describes the technical process or application in which the substance is used from the occupational perspective.
- The *environmental release category* (ERC) describes the broad conditions of use from the environmental perspective.

[2] The *end-use* of a substance as such or in a preparation is a use which does not aim at i) making the substance a component in a preparation [mixture] or ii) transforming it into another substance (manufacture of a substance by synthesis).

- The *article category* (AC) describes the type of article into which the substance has eventually been processed.

Some of the descriptors are designed in such a way that they can be used to identify the suitable exposure estimation entry in one of the available Tier 1 exposure estimation tools (see Section D.5). Table R.12.1. provides an overview of the different elements of the use descriptor system and their relationship to entries for Tier 1 exposure estimates.

Table R.12.1 - Use description and tier 1 exposure estimates

	Descriptor name	**Definition**	**Corresponds to the entries of Tier 1 tools for exposure estimation**
SU	Sector of use category[3]	Five main user groups (life cycles stages)	Targeted Risk Assessment for worker exposure (TRA) and Environmental Release Categories ERC for environment exposure
		Industry and service sectors of end-use	No link to exposure estimation tool
PC	Preparation category[4]	Market sectors by preparation types	No link to exposure estimation tool
		Consumer preparations	TRA for consumer exposure
PROC	Process category	Application techniques or process types defined from the occupational perspective	TRA for worker exposure
ERC	Environmental release category	Broad conditions of use defined from the environmental perspective	Environmental release categories (ERC)
AC	Article Category	Article types in service and waste life	No link to exposure estimation tool
		Mono-material consumer articles	TRA for consumer exposure

Please note: When a certain use description category serves as an entry to a Tier 1 exposure estimation tool (e.g. PROCs for occupational exposure estimation), the exposure estimation also depends on other parameters not reflected in the category description itself (e.g. local exhaust ventilation, concentration of substance, duration of use, application of PPE). Thus one PROC may relate to various exposure scenarios and the related exposure estimations. The same applies to consumer preparation/article categories and environmental release categories.

R.12.3 Definition of the five descriptors

R.12.3.1 Sector of use [SU]

Five main user groups play a role along the life cycle of the substance: Manufacturers of chemical substances [SU 8, 9, 14], companies mixing and blending chemicals (formulators) to produce preparations (mixtures) [SU 10], industrial end-users [SU 3], professional end-users [SU 21] and consumers [SU 22]. Appendix R.12-1 (first block) provides a pick-list for the main user groups. They represent the minimum level of detail a registrant is expected to provide in describing the sector of use.

[3] Different SU categories fulfil the two different functions of SU described here (see R.12.3.1 for more details)

[4] The same PC categories can fulfil both functions of PC described here (see R.12.3.2 for more details)

Appendix R.12-1 (second block) contains a selection of internationally harmonized NACE (Nomenclature générale des Activités Economiques dans les Communautés Européennes) categories for classifying activities in industry and services. These categories are meant to support a M/I in mapping his market beyond his customers in the formulating sectors. Such a map may help to develop suitable exposure scenarios covering all end-uses of the substance as such or in preparations, and the subsequent life-cycle stages. It may for example be relevant to flag the sectors of industry for which an ES is applicable, e.g. "closed processing of gases *in semiconductor industry*" or "immersion [dipping] operations *in textile finishing*". Linking a certain application process (PROC) to a certain sector (SU) may in particular be useful, when a higher tier exposure assessment is needed to demonstrate control of risk, and when the conditions of use in the exposure scenario are specifically related to a process in a certain industry. Also, the sector of use can be a reference to advise against certain uses.

The number of categories has been limited to what is essential for ES building. If a manufacturer or importer considers it necessary to describe the use in more detail, he should use the more specific NACE codes, accessible over the internet link at the bottom of Appendix R.12-1. If he considers that it is sufficient to be less specific regarding the use in industry, he may not assign a sector of end use but only a main user group, e.g. *industrial end use* (see block 1 in Appendix R.12-1) indicating that the substance is meant to be broadly used in industry under the conditions specified in the exposure scenario. When the user decides to describe his use by assigning a sector of end use, he should select a category in block 2 of Appendix R12-1 in addition to a category describing the main user group in block 1 of Appendix R12-1.

R.12.3.2 Chemical product category [PC]

A manufacturer or importer can identify the main uses of a substance based on his customer database or the market sectors he supplies. In many cases his direct customers will be formulators and/or re-packers[5], or distributors supplying various downstream users. However, it may also occur that the substance manufacturer himself produces preparations and/or supplies his substance as such or in a preparation directly to larger end-use customers.

The *Chemical Product Category* characterizes the use of a substance by the type of end-use preparation (e.g. lubricant, cleaner, adhesive) in which the substance is known to be used. It does not aim to characterise the specific technical function of the substance as such (e.g. UV stabilizer, corrosion inhibitor, pigment, flame retardant).

Appendix R.12-2 provides a pick-list of preparation [mixture] categories[6]. The categories listed in the left hand column are meant to structure the market of a substance according to product types. In the right hand column those categories are indicated that directly correspond to a consumer product category that can be assessed with the TRA consumer exposure estimation tool.

Based on in-house knowledge and possibly additional information from customers, the M/I assigns the type of end-use preparations in which the substance is known to be used. Uses the manufacturer is not aware of, for example supplied through distributors or a longer chain of formulators, may be communicated to him from downstream during the REACH implementation process.

[5] Re-packers are companies transferring substances as such or in preparations from large containers into smaller containers for end-use. This activity is considered a "use" under REACH.

[6] The list has been derived on the basis of the existing UC 55 system, the Nordic UCN system, the product categories used in the TRA as well as ConsExpo.

If the manufacturer or the DU user is unable to identify a suitable preparation category in the list, the use could be described in the free text field under "others". In the first instance a suitable code from the UCN system shall be applied, accessible over the internet link at the bottom of Appendix R.12-2. If M/I is unable to identify a suitable category for his product in this system, M/I or DU can describe the technical function of the preparation type in his own words.

If the registrant sees the need to specify the technical function of the substance as such (*what it actually does*[7]*)* he may make use of the substance types listed in Appendix R.12-7 Such specification may for example be useful to flag the scope of *Generic Exposure Scenarios* worked out by sector groups of substance manufacturers, or if M/I supplies substances as such for end-use.

R.12.3.3 Process category [PROC]

Application techniques or process types have a direct impact on the exposure to be expected and hence on the risk management measures needed. It will facilitate building of ESs, safety assessment and communication up and down the chain, if the activities or processes relevant to a substance can be assigned to process categories, in particular for all worker-related activities (industrial or professional).

Appendix R.12-3 contains a list of process categories reflecting the exposure potential. Categorization is driven by i) the amount and form of energy applied in a process (e.g. heat, mechanical energy, radiation) ii) the surface of the substance available for exposure (dustiness of material or thickness of layers of material), and iii) the principal level of containment and engineering controls to be expected.

The list has been derived based on the "*scenario*" defined in the TRA for workers[8], in order to facilitate exposure assessment related to workers. The TRA process categories serve as a starting point for describing uses from the occupational perspective. This use description will develop during the implementation of REACH, and hence the free-text field (PROCxyz) plays an important role for communication of process types which cannot be assigned to one of the categories proposed so far.

If none of the activity/process categories seems applicable, the manufacturer or importer may describe the nature of the application process in own words, preferably by making reference to one of the categories in Appendix R.12-3 and modifying that category as appropriate. This includes an analysis of the assumptions and data based on which the category has been defined and a conclusion as to which of the assumptions do not match with the use to be described. Note: In order to achieve harmonisation across the market, new categories should only be defined if existing ones really do not fit for a type of process to be briefly described. If further relevant details of an activity need to be described, they can be always be addressed within the exposure scenario itself.

R.12.3.4 Environmental Release Category (ERC)

Environmental release categories [ERC] label the characteristics of a use based on six aspects relevant from the environmental perspective:

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[7] See REACH Annex II, point 1.2., where this phrase is used in the legal text.

[8] Targeted Risk Assessment by ECETOC, revised version published in July 2009. The scenario-approach in the TRA is largely consistent with the concept of "*operation units*" as incorporated in the RISKOFDERM model.

The intended technical fate (purpose) of the substance during use determines to what extent a substance is consumed on use, is expected to be released with discharges, air emissions or waste or is expected to enter into the next life cycle stage. In general, there are three possibilities:

- The substance is intended to become part of an article, either because it has a function in the article or remains (from a preceding life cycle stage) in the article without function.
- The substance is meant to react on use, thus it is no longer available for further life cycle steps or emission to the environment.
- The substance is meant to act as a processing aid and as such is released from the process (e.g. surfactants in cleaning processes) or the chemical product (e.g. solvents from paints and coatings) to the environment.

The general conditions of use, including

- the life cycle stage at which a use takes place (manufacture, formulation or end-use)
- the dispersiveness of use and emission (use at industrial sites [point sources] and/or wide dispersive use in professional and consumer applications)
- whether the substance is contained by definition during use (e.g. hydraulic fluids)
- whether the use takes place indoors or outdoors
- and whether substances in articles are used under release-promoting conditions (such as abrasion)

The listed characteristics give a first indication of the potential of the substance to be released to the environment. Appendix R.12-4.1 provides a list of 22 *Environmental Release Categories [ERC]* including the corresponding definitions. The six aspects forming an ERC are also summarised in Appendix 12-4.2

To each of these categories a set of default (worst case) release factors has been assigned providing a Tier 1 release estimation (see Appendix 12-4.2). Such release estimates can be used to derive a Tier 1 exposure estimate based on the degree of dispersion in the environment described in the EUSES fate model (see Guidance Chapter R.16). For all uses, an ERC should be assigned.

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R.12.3.5 Article Categories [AC]

For dangerous substances processed into articles, the manufacturer or importer of the substance may find it necessary to specify which types of articles are covered in the CSA and the ESs. It will, for example, make a difference in terms of exposure whether a substance is used in textile-finishing of clothes (dermal contact, frequent washing) or as a component in insulation sheets for construction purposes.

Appendix R.12-5 contains a list of broad article types with no intended release based on the consumer product categories contained in the ECETOC TRA tool. Some additions have been made from the environment perspective mainly in order to include descriptors i) suitable for flagging the occurrence of the substance in certain long lived article types or ii) suitable for flagging the occurrence of a substance in certain waste streams.

If a manufacturer, importer or DU fails to identify a suitable category or wishes to be more specific, the TARIC[9] system should be used to further specify the relevant type of article.

[9] http://ec.europa.eu/taxation_customs/dds/tarhome_en.htm

Appendix R.12-6 contains an indicative list of examples of articles with intended release. This list is open to additions during the REACH implementation process, it is however expected that it will remain a relatively short list of specific cases.

For substances used as processing aids or chemically reacted upon use, and not becoming part of an article (e.g. solvents, cleaners and laundry detergents) this descriptor is not relevant.

R.12.4 Exemplification

R.12.4.1 Examples for assigning uses to a category of the descriptor system

Table R.12-2 illustrates for a number of processes/activities which descriptor to assign and which generic characteristics of the use conditions the descriptor encodes. The example is related to workers' indoor uses (industrial or professional) of a substance intended to become part of an article. The examples show that various types of activities can be expressed by one category for workers' exposure and one category for environmental exposure.

Table R.12-2: Examples for assigning PROCs and ERCs to workers' uses (industrial)

Examples for process/activity	Process category from Appendix R.12-3 and environmental release category from Appendix R.12-4	Pattern of exposure "encoded" in the process category and the environmental release category..
Spraying of paints or cleaners	Air dispersive techniques, like e.g. Spraying (PROC 7 or PROC 11) Industrial use or wide dispersive professional use of substance intended to become part of an article (ERC 5) (ERC 8C)	Substances can be inhaled as vapour and aerosols. The energy of the aerosol particles may require particular exposure controls; in case of coating, overspray may lead to waste water and waste, solvent may be emitted to air.
Dying and finishing of textiles, leather or paper; powder coating or metal articles;	Immersion operations such as dipping and pouring (PROC 13) Industrial use of substances intended to become part of an article (ERC 5)	Substance is applied to a surface by dipping the article into a bath and is intended to become part of the article. Formation of dust and aerosols usually low, releases can be easily controlled. Discharge or waste disposal of waste water and/or exhausted baths may be relevant.
Coating floors, painting walls by brushing or rolling, printing operations	Low energy spreading such as rolling, brushing (PROC 10) Wide dispersive professional use (ERC 8C)	Exposure during spreading of the substance is mainly driven by the substance properties (e.g. vapour pressure) or direct skin contact. Formation of dust and aerosols unlikely; cleaning of devices and machinery may lead to waste water and/or waste. Solvents may be emitted to air.
Mechanical cutting, grinding drilling or sanding of articles	High mechanical work up of massive metals, substances bound in materials or articles (PROC 24). Disperse indoor use of articles with high release (ERC 10B)	Substantial thermal or kinetic energy applied to substance by grinding, mechanical cutting, drilling or sanding. Release of solids (dust) or fumes to be expected. Fall-out to be disposed of as waste.
Welding, soldering, gouging, brazing flame cutting	Hot work operations (PROC 25) Dispersive indoor use of articles ERC with high release (10B)	Exposure due to the release of fumes to be expected
Mixing of solids and liquids in batch formulation of coatings, cleaners, plastic compounds, dyestuffs	Use in closed batch process (PROC 3) Mixing and blending in batch process (multistage and/or significant contact) (PROC 5) Formulation of/into preparations (ERC2 or ERC 3)	Predominant handling in contained manner (e.g. through enclosed transfers), but some opportunity of contact (e.g. during sampling) Solid or liquid materials can be released as vapour or dust, significant contact possible Waste or waste water from equipment cleaning to be expected.

R.12.4.2 Example for systematically describing the uses of a substance

Table R.12-2 and Figures R.12-1 and R.12-2 illustrate the descriptor system from a life cycle perspective. In the example, substance A is a pigment used in coatings for wooden toys (indoor and outdoor uses). The paints can be applied by industrial workers through spraying, by craftsmen through brushing or by DIY consumers. Table R.12-2 lists a sequence of questions a registrant may need to answer when mapping the uses of his substance.

Table R.12-3: Example for briefly describing uses of a pigment

Questions for briefly describing a use in general terms	Category	Exemplification for a pigment
Which sectors of the (formulating) Chemical Industry buy the substance? In which categories of chemical products is it used?	PC 9	Paints and coatings
Which processes are applied during mixing/formulation of substance?	PROC 3,8,9 ERC 2	Mixing of liquid preparation in closed batch process, incl. transfers of substance
Is the substance as such or in preparations used by industrial workers, professionals or consumers?	SU 3, 21, 22	Industrial workers, professionals outside industrial sites, and consumers
In which type of processes is the substance applied on end-use (worker perspective)? What are the broad environmental characteristics of these uses: indoor/outdoor use; use at industrial site or wide dispersive use; substance intended to become part of an article matrix or intended to serve as a processing aid or intended to react on use?	PROC 7,10,11,13 ERC 5 ERC 8a	Spraying, brushing, dipping Industrial sites and wide disperse use, indoor and outdoor uses. Substance becomes part of articles (e.g. wooden toys)
In which consumer preparations is the substance used? What are the broad environmental characteristics of these uses?	PC 9 ERC 8c/f	Paints and coatings for consumer use
If substance becomes part of an article: In which consumer articles is it used?	AC 11-3	Wooden toys
If substance becomes part of an article: What are the broad environmental characteristics of the substance during service life: indoor/outdoor use of the article; low or high release of substance from the article? In which article categories is the substance contained during service life and its waste life stage?	ERC 10a/11a AC 11-3	Indoor and outdoor use, low release of substance from article; Wooden Toys

Figure R.12-1 and R.12-2 illustrate the life-cycle structure of the example provided above (illustration simplified by only including some of the relevant PROCs). The life-cycle includes manufacture, formulation of preparations [mixtures] in different market sectors, end-uses of corresponding preparations and the subsequent service life. The paint (including the pigment) is produced in a closed batch process. It is applied by workers through spraying and brushing. Consumers also use paints containing the pigment. The paint is applied to wooden toys (and possibly other wooden articles) for indoor and outdoor uses.

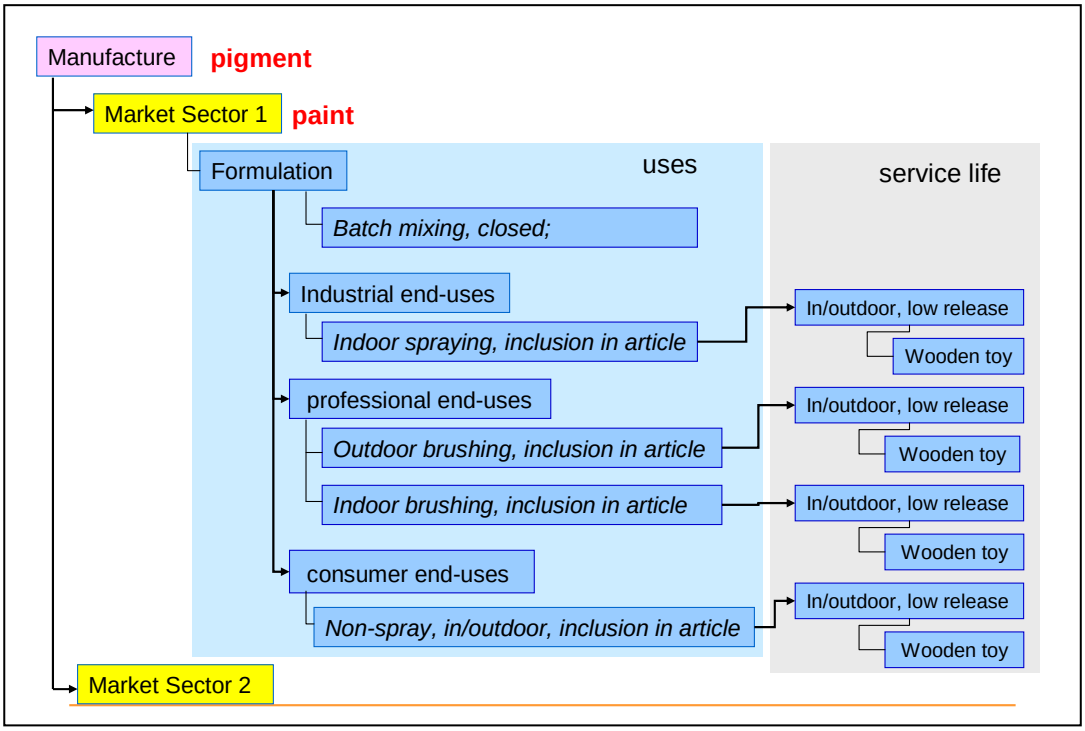

Figure R.12-1: Structure of the descriptor system exemplified for a pigment[10]

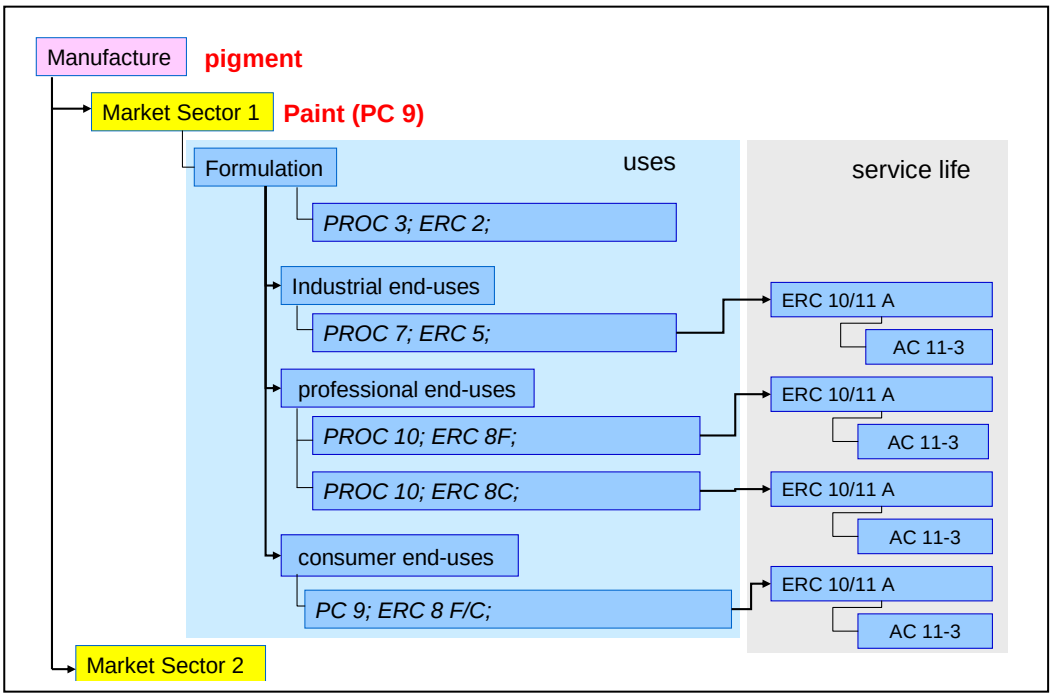

Figure R.12-2: Structure of the descriptor system exemplified for a pigment[11]

[10] Simplified scheme compared to Table R.12-3 (only selected PROCs covered)

[11] Simplified scheme compared to Table R.12-3 (only selected PROCs covered)

R.12.5 Rules for assigning descriptors

For each use at least 2 [3] descriptors are needed to address the broad characteristics of a use and to be able to link to a Tier 1 exposure estimation:

- Manufacture: Assign a process category (PROC) and an environmental release category (ERC)
- Formulation: Assign a process category (PROC) and an environmental release category (ERC)
- Workers' end-uses: Assign a process category (PROC) and an environmental release category (ERC)
- Consumer end-use: Assign a product category (PC) and environmental release category (ERC)
- Service life by consumers: Assign an article category (AC) and an environmental release category (ERC)
- Service life by workers: Assign an article category (AC), a process category (PROC) and an environmental release category (ERC)

Assignment of market sectors is not needed to derive exposure estimation. However it may facilitate the assignment of amounts needed for the environmental assessment and it may help in organising communication in the supply chain.

If a use needs to be described more specifically with regard to the conditions relevant in certain sectors of use or for certain article types the corresponding descriptors can be used.

Appendix R.12-1: Descriptor for sectors of use

	Sectors of use [SU] – main user groups	
SU 8,9	Manufacture of chemicals	Manufacture of bulk, large scale substances (including petroleum products); manufacture of fine chemicals
SU14	Manufacture of basic metals	Manufacture of metals from ores or scrap
SU 10	Formulation	Formulation [mixing] of preparations and/or re-packaging
SU 3	Industrial uses	End uses of substances as such or preparations at industrial sites
SU 22	Consumer uses	Private households (= general public = consumers)
SU 21	Professional uses	Public domain (administration, education, entertainment, services, craftsmen)

	Sectors of use [SU] – sectors of end-use	**NACE[12] codes**
SU 0-1	Other activity related to manufacturing of chemical products (NACE Code to be used only; see last row)	
SU 0-2	Other activities related to manufacture and services (NACE Code to be used only: see last row)	
SU1	Agriculture, forestry, fishery	A
SU2a	Mining, (without offshore industries)	B
SU2b	Offshore industries	B
SU4	Manufacture of food products	10,11
SU5	Manufacture of textiles, leather, fur	13-15
SU6	Manufacture of pulp, paper and paper products	17
SU7	Printing and reproduction of recorded media	18
SU8	Manufacture of bulk, large scale chemicals (including petroleum products)	19.2+20.1
SU9	Manufacture of fine chemicals	20.2-20.6
SU11	Manufacture of rubber products	22.1
SU12	Manufacture of plastics products, including compounding and conversion	22.2
SU13	Manufacture of other non-metallic mineral products, e.g. plasters, cement	23
SU15	Manufacture of fabricated metal products, except machinery and equipment	25
SU16	Manufacture of computer, electronic and optical products, electrical equipment	26-27
SU17	General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment.	28-30,33
SU18	Manufacture of furniture	31
SU19	Building and construction work	F
SU20	Health services	86
SU23	Recycling	38
http://ec.europa.eu/comm/competition/mergers/cases/index/nace_all.html		

[12] European Commission, Competition: List of NACE Codes (2007.11.19);
http://ec.europa.eu/comm/competition/mergers/cases/index/nace_all.html

Appendix R.12-2.1: Descriptor for preparation types [PC = Chemical Product Category]

Types of preparations [PC = Product Category][13]			
	Preparation category for describing market sectors regarding all uses (workers and consumers)	Preparation category matching the entry of the TRA exposure estimation tool	Examples and explanations
PC0	Other products [14] (use UCN codes: see last row)		
PC1	Adhesives, Sealants	TRA consumer	
PC2	Adsorbents		
PC3	Air care products	TRA consumer	
PC4	Anti-Freeze and De-icing products		
PC5	Artists Supply and Hobby preparations	TRA consumer	
PC7	Base metals and alloys		
PC8	Biocidal Products (e.g. Disinfectants, pest control)		
PC9a	Coatings and Paints, Thinners, paint removers	TRA consumer	
PC9b	Fillers, Putties	TRA consumer	
PC10	Building and construction preparations not covered elsewhere		
PC11	Explosives		
PC12	Fertilizers		
PC13	Fuels	TRA consumer	
PC14	Metal surface treatment products, including galvanic and electroplating products		This covers substances permanently binding with the metal surface
PC15	Non-metal-surface treatment products		Like for example treatment of walls before painting.
PC16	Heat Transfer Fluids		
PC17	Hydraulic Fluids		
PC18	Ink and Toners		
PC19	Intermediate		
PC20	Products such as ph-regulators, flocculants, precipitants, neutralization agents, other unspecific		This category covers processing aids used in the chemical industry
PC21	Laboratory Chemicals		
PC22	Lawn and Garden Preparations, including fertilizers	TRA consumer	See PC12; both categories refer to fertilisers, however PC22 is the particular entry for consumer exposure estimation.
PC23	Leather tanning, dye, finishing, impregnation		

[13] The remark in the right column refers to consumer product categories particularly addressed in ConsExpo exposure estimation tool (1) or in the TRA exposure estimation tool (2).

[14] To be specified in free text field. It is recommended to make reference to sub-categories covered in the ConsExpo fact sheets (consumer products) or in one of the Nordic use categories (UCN);

Types of preparations [PC = Product Category][13]			
	and care products		
PC24	Lubricants, Greases and Release Products	TRA consumer	
PC25	Metal Working Fluids		
PC26	Paper and board dye, finishing and impregnation products: including bleaches and other processing aids;		
PC27	Plant Protection Products		
PC28	Perfumes, Fragrances		
PC29	Pharmaceuticals		
PC30	Photochemicals		
PC31	Polishes and Wax Blends	TRA consumer	
PC32	Polymer Preparations and Compounds		
PC33	Semiconductors		
PC34	Textile dyes, finishing and impregnating products; including bleaches and other processing aids;		
PC35	Washing and Cleaning Products (including solvent based products)	TRA consumer	
PC36	Water softeners		
PC37	Water treatment chemicals		
PC38	Welding and soldering products, flux products		
PC39	Cosmetics, personal care products	TRA consumer	
PC40	Extraction agents		
http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp http://195.215.251.229/fmi/xsl/spin/SPIN/guide/menuguide.xsl?-db=spinguide&-lay=overview&-view#			

Appendix 12-2.2 Consumer products addressed in the consumer TRA

Product (Preparation) Category		Product (Preparation) -Subcategory
PC1:Adhesives, sealants		Glues, hobby use
		Glues DIY-use (carpet glue, tile glue, wood parquet glue)
		Glue from spray
		Sealants
PC3:Air care products		Air care, instant action (aerosol sprays)
		Air care, continuous action (solid & liquid)
PC4:Anti-freeze and de-icing products		Removers (paint-, glue-, wall paper-, sealant-remover)
PC5:Artists supply, hobby preparations		Finger paint, face paint
		Glues, hobby use
		Glue from spray
		Modelling clay
PC9a:Coatings and paints, thinners		Waterborne latex wall paint
		Solvent rich, high solid, water borne paint
		Aerosol spray can
		Hardened dried paint
		Finger paint, face paint
PC9b: Fillers, putties,		Fillers and putty
		Plasters and floor equalizers
		Removers (paint-, glue-, wall paper-, sealant-remover)
PC10:Building and construction preparations not covered elsewhere		Plasters and floor equalizers
		Removers (paint-, glue-, wall paper-, sealant-remover)
PC12:Fertilizers		Fertilizer
PC13:Fuels		Liquids
PC22.Lawn and garden preparations, including fertilizers		Fertilizer
PC24: Lubricants, greases, and release products		Liquids
		Pastes
		Sprays
PC31:Polishes and wax blends		Polishes, wax / cream (floor, furniture, shoes)
		Polishes, spray (furniture, shoes)
PC35:Washing and cleaning products (including solvent based products)		Laundry and dish washing products

Appendix R.12-3: Descriptors for process categories [PROC]

Descriptor for process categories [PROC]		
	Process categories	**Examples and explanations**
PROC 0	Other Process or activity	
PROC 1	Use in closed process, no likelihood of exposure	Use of the substances in high integrity contained system where little potential exists for exposures, e.g. any sampling via closed loop systems.
PROC 2	Use in closed, continuous process with occasional controlled exposure (e.g. sampling)	Continuous process but where the design philosophy is not specifically aimed at minimizing emissions It is not high integrity and occasional expose will arise e.g. through maintenance, sampling and equipment breakages
PROC 3	Use in closed batch process (synthesis or formulation)	Batch manufacture of a chemical or formulation where the predominant handling is in a contained manner, e.g. through enclosed transfers, but where some opportunity for contact with chemicals occurs, e.g. through sampling
PROC 4	Use in batch and other process (synthesis) where opportunity for exposure arises	Use in batch manufacture of a chemical where significant opportunity for exposure arises, e.g. during charging, sampling or discharge of material, and when the nature of the design is likely to result in exposure.
PROC 5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	Manufacture or formulation of chemical products or articles using technologies related to mixing and blending of solid or liquid materials, and where the process is in stages and provides the opportunity for significant contact at any stage.
PROC 6	Calendering operations	Processing of product matrix Calendering at elevated temperature an large exposed surface
PROC 7	Industrial spraying	Air dispersive techniques Spraying for surface coating, adhesives, polishes/cleaners, air care products, sandblasting; Substances can be inhaled as aerosols. The energy of the aerosol particles may require advanced exposure controls; in case of coating, overspray may lead to waste water and waste.
PROC 8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	Sampling, loading, filling, transfer, dumping, bagging in non-dedicated facilities. Exposure related to dust, vapour, aerosols or spillage, and cleaning of equipment to be expected.
PROC 8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	
PROC 9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage
PROC 10	Roller application or brushing	Low energy spreading of e.g. coatings. Including cleaning of surfaces. Substance can be inhaled as vapours, skin contact can occur through droplets, splashes,

Descriptor for process categories [PROC]		
	Process categories	**Examples and explanations**
		working with wipes and handling of treated surfaces.
PROC 11	Non industrial spraying	Air dispersive techniques Spraying for surface coating, adhesives, polishes/cleaners, air care products, sandblasting Substances can be inhaled as aerosols. The energy of the aerosol particles may require advanced exposure controls;
PROC 12	Use of blowing agents in manufacture of foam	
PROC 13	Treatment of articles by dipping and pouring	Immersion operations Treatment of articles by dipping, pouring, immersing, soaking, washing out or washing in substances; including cold formation or resin type matrix. Includes handling of treated objects (e.g. after dying, plating,). Substance is applied to a surface by low energy techniques such as dipping the article into a bath or pouring a preparation onto a surface
PROC 14	Production of preparations or articles by tabletting, compression, extrusion, pelletisation	
PROC 15	Use as laboratory reagent	Use of substances at small scale laboratory (< 1 l or 1 kg). Larger laboratories and R+D installations should be treated as industrial processes.
PROC 16	Using material as fuel sources, limited exposure to unburned product to be expected Industrial or non-industrial setting;	Covers the use of material as fuel sources (including additives) where limited exposure to the product in its unburned form is expected. Does not cover exposure as a consequence of spillage or combustion.
PROC 17	Lubrication at high energy conditions and in partly open process	Lubrication at high energy conditions (temperature, friction) between moving parts and substance; significant part of process is open to workers or to the environment The metal working fluid may form aerosols or fumes due to rapid moving metal parts;
PROC 18	Greasing at high energy conditions	Use as lubricant where significant energy or temperature is applied between the substance and the moving parts.
PROC 19	Hand-mixing with intimate contact and only PPE available.	Addresses occupations where intimate and intentional contact with substances occurs without any specific exposure controls other than PPE.
PROC 20	Heat and pressure transfer fluids in dispersive, professional use but closed systems	Motor and engine oils, brake fluids Also in these applications, the lubricant may be exposed to high energy conditions and chemical reactions may take place during use. Exhausted fluids need to be disposed of as waste. Repair and maintenance may lead to skin contact.
PROC 21	Low energy manipulation of substances in form of massive metal or bound in other materials and/or articles	Manual cutting, cold rolling or assembly/disassembly of material/article, possibly resulting in the release of fibres, rubber fumes, metal fumes or dust;

Descriptor for process categories [PROC]		
	Process categories	**Examples and explanations**
PROC 22	Potentially closed processing operations with minerals/metals at elevated temperature Industrial setting	Activities at smelters, furnaces, refineries, coke ovens. Exposure related to dust and fumes to be expected. Emission from direct cooling may be relevant.
PROC 23	Open processing and transfer operations with minerals/metals at elevated temperature	Sand and die casting, tapping and casting melted solids, drossing of melted solids, hot dip galvanising, raking of melted solids in paving; Exposure related to dust and fumes to be expected.
PROC 24	High (mechanical) energy work-up of massive metals or substances bound in materials and/or articles	Substantial thermal or kinetic energy applied to substance by hot rolling/forming, grinding, mechanical cutting, drilling or sanding. Exposure is predominantly expected to be to dust. Dust or aerosol emission as result of direct cooling may be expected.
PROC 25	Other hot work operations with metals	Welding, soldering, gouging, brazing, flame cutting Exposure is predominantly expected to fumes
PROC 26	Handling of solid inorganic substances at ambient temperature (*no corresponding TRA entry)*	Transfer and handling of ores, concentrates, raw metal oxides and scrap; packaging, un-packaging, mixing/blending and weighing of metal powders or other minerals;
PROC 27	Production of metal powders (*no corresponding TRA entry*)	Production of metal powders by hot (atomisation, dry dispersion) and wet (electrolysis, wet dispersion) metallurgical processes
PROCxyz		

Appendix R.12-4.1: Description for Environmental Release Categories

ERC NUMBER	Name	Description
ERC 1	Manufacture of substances	Manufacture of organic and inorganic substances in chemical, petrochemical, primary metals and minerals industry including intermediates, monomers using continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions
ERC 2	Formulation of preparations	Mixing and blending of substances into (chemical) preparations in all types of formulating industries, such as paints and do-it-yourself products, pigment paste, fuels, household products (cleaning products), lubricants etc.
ERC 3	Formulation in materials	Mixing or blending of substances, which will be physically or chemically bound into or onto a matrix (material) such as plastics additives in master batches or plastic compounds. For instance a plasticizers or stabilizers in PVC master-batches or products, crystal growth regulator in photographic films etc.
ERC 4	Industrial use of processing aids in processes and products, not becoming part of articles	Industrial use of processing aids in continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions. For example, solvents used in chemical reactions or the 'use' of solvents during the application of paints, lubricants in metal working fluids, anti-set off agents in polymer moulding/casting
ERC 5	Industrial use resulting in inclusion into or onto a matrix	Industrial use of substances as such or in preparations (non-processing aids), which will be physically or chemically bound into or onto a matrix (material) such as binding agent in paints and coatings or adhesives, dyes in textile fabrics and leather products, metals in coatings applied through plating and galvanizing processes. The category covers substances in articles with a particular function and also substances remaining in the article after having been used as processing aid in an earlier life cycle stage.
ERC 6A	Industrial use resulting in manufacture of another substance (use of intermediates)	Use of intermediates in primarily the chemical industry using continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions, for the synthesis (manufacture) of other substances. For instance the use of chemical building blocks (feedstock) in the synthesis of agrochemicals, pharmaceuticals, monomers etc.
ERC 6B	Industrial use of reactive processing aids	Industrial use of reactive processing aids in continuous processes or batch processes applying dedicated or multi-purpose equipment, either technically controlled or operated by manual interventions. For example the use of bleaching agents in the paper industry.
ERC 6C	Industrial use of monomers for polymerisation	Industrial use of monomers in the production of plastics (thermoplastics), polymerization processes. For example the use of vinyl chloride monomer in the production of PVC
ERC 6D	Industrial use of auxiliaries for polymerisation processes in production of resins, rubbers, polymers	Industrial use of chemicals (cross-linking agents, curing agents) in the production of thermosets and rubbers, polymerization processes. For instance the use of styrene in polyester production or vulcanization agents in the production of rubbers
ERC 7	Industrial use of substances in closed systems	Industrial use of substances in closed systems. Use in closed equipment, such as the use of liquids in hydraulic systems, cooling liquids in refrigerators and lubricants in engines and dielectric fluids in electric transformers and oil in heat exchangers. No intended contact with

ERC NUMBER	Name	Description
		the products produced.
ERC 8A	Wide dispersive indoor use of processing aids in open systems	Indoor use of processing aids by the public at large or professional use. Use (usually) results in direct release into the environment/sewage system, for example, detergents in fabric washing, machine wash liquids and lavatory cleaners, automotive and bicycle care products (polishes, lubricants, de-icers), solvents in paints and adhesives or fragrances and aerosol propellants in air fresheners.
ERC 8B	Wide dispersive indoor use of reactive substances in open systems	Indoor use of reactive substances by the public at large or professional use. Use (usually) results in direct release into the environment, for example, sodium hypochlorite in lavatory cleaners, bleaching agents in fabric washing products, hydrogen peroxide in dental care products
ERC 8C	Wide dispersive indoor use resulting in inclusion into or onto a matrix	Indoor use of substances (non-processing aids) by the public at large or professional use, which will be physically or chemically bound into or onto a matrix (material) such as binding agent in paints and coatings or adhesives, dyeing of textile fabrics.
ERC 8D	Wide dispersive outdoor use of processing aids in open systems	Outdoor use of processing aids by the public at large or professional use. Use (usually) results in direct release into the environment, for example, automotive and bicycle care products (polishes, lubricants, de-icers, detergents), solvents in paints and adhesives.
ERC 8E	Wide dispersive outdoor use of reactive substances in open systems	Outdoor use of reactive substances by the public at large or professional use. Use (usually) results in direct release into the environment, for example, the use of sodium hypochlorite or hydrogen peroxide for surface cleaning (building materials)
ERC 8F	Wide dispersive outdoor use resulting in inclusion into or onto a matrix	Outdoor use of substances (non-processing aids) by the public at large or professional use, which will be physically or chemically bound into or onto a matrix (material) such as binding agent in paints and coatings or adhesives.
ERC 9A	Wide dispersive indoor use of substances in closed systems	Indoor use of substances by the public at large or professional (small scale) use in closed systems. Use in closed equipment, such as the use of cooling liquids in refrigerators, oil-based electric heaters.
ERC 9B	Wide dispersive outdoor use of substances in closed systems	Outdoor use of substances by the public at large or professional (small scale) use in closed systems. Use in closed equipment, such as the use of hydraulic liquids in automotive suspension, lubricants in motor oil and break fluids in automotive brake systems.
ERC 10A	Wide dispersive outdoor use of long-life articles and materials with low release	Low release of substances included into or onto articles and materials during their service life in outdoor use, such as metal, wooden and plastic construction and building materials (gutters, drains, frames etc.)
ERC 10B	Wide dispersive outdoor use of long-life articles and materials with high or intended release	Substances included into or onto articles and materials with high or intended release during their service life from outdoor use. Such as tyres, treated wooden products, treated textile and fabric like sun blinds and parasols and furniture, zinc anodes in commercial shipping and pleasure craft, and brake pads in trucks or cars.
ERC 11A	Wide dispersive indoor use of long-life articles and materials with low release	Low release of substances included into or onto articles and materials during their service life from indoor use. For example, flooring, furniture, toys, construction materials, curtains, footwear, leather products, paper and cardboard products (magazines, books, news paper and packaging paper), electronic equipment (casing)

ERC NUMBER	Name	Description
ERC 11B	Wide dispersive indoor use of long-life articles and materials with high or intended release	Substances included into or onto articles and materials with high or intended release during their service life from indoor use. For example: release from fabrics, textiles (clothing, floor rugs) during washing

Appendix 12-4.2: Use characteristics expressed by the Environmental Release Categories

ERC	Lifecycle Stage	level of containment	Intended technical fate of substance	Dispersion of emission sources	indoor/outdoor	release promotion during service life
1	Manufacture	open-closed		Industrial	indoor	n.a
2	Formulation	open-closed	not included into matrix	Industrial	indoor	n.a.
3	Formulation	open-closed	inclusion into/onto matrix	Industrial	indoor	n.a.
4	End use	open-closed	processing aid	Industrial	indoor	n.a.
5	End use	open-closed	inclusion into/onto matrix	Industrial	indoor	n.a.
6a	End use	open-closed	Intermediate	Industrial	indoor	n.a.
6b	End use	open-closed	reactive processing aid	Industrial	indoor	n.a.
6c	End use	open-closed	monomers for polymers	Industrial	indoor	n.a.
6d	End use	open-closed	monomers for rubbers or thermosets	Industrial	indoor	n.a.
7	End use	Closed system	processing aid	Industrial	indoor	n.a.
8a	End use	open-closed	processing aid	wide disperse	indoor	n.a.
8b	End use	open-closed	reaction on use	wide disperse	indoor	n.a.
8c	End use	open-closed	inclusion into/onto matrix	wide disperse	indoor	n.a.
8d	End use	open-closed	processing aid	wide disperse	outdoor	n.a.
8e	End use	open-closed	reaction on use	wide disperse	outdoor	n.a.
8f	End use	open-closed	inclusion into/onto matrix	wide disperse	outdoor	n.a.
9a	End use	Closed systems	processing aid	wide disperse	indoor	n.a.
9b	End use	Closed systems	processing aid	wide disperse	outdoor	n.a.
10a	Service life	Open	inclusion into/onto matrix	wide disperse	outdoor	Low
10b	Service life	Open	inclusion into/onto matrix	wide disperse	outdoor	high or intended
11a	Service life	Open	inclusion into/onto matrix	wide disperse	indoor	Low
11b	Service life	Open	inclusion into/onto matrix	wide disperse	indoor	high or intended

1

Appendix R.12-5.1: Descriptors for substances in articles with no intended release

Use Descriptors for substances in articles with no intended release - Article categories [AC]		
	Article categories for describing the type of article in which the substance is contained during service life and waste life	Article category matching the entry of a tier 1 exposure estimation tool
AC 0	Other Articles (use TARIC terminology: see last row) [15]	
AC 1-1	Passenger cars and motor cycles	
AC 1-2	Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment	
AC 2	Machinery and mechanical appliances thereof	
AC 3-1	Electrical and electronic products, e.g. computers, office equipment, video and audio recording, communication equipment	
AC 3-2	Electrical batteries and accumulators	
AC 3-3	Electrical and electronic products: Household appliances (white ware)	
AC 3-4	Photographic and reprographic articles: cameras, video cameras	
AC 4	Glass and ceramic products: dinner ware, pots, pans, food storage containers	
AC 5-1	Fabrics, textiles and apparel: bedding and clothing	TRA consumer
AC 5-2	Fabrics, textiles and apparel: curtains, upholstery, carpeting/flooring, rugs,	
AC 6	Leather products: apparel and upholstery	TRA consumer
AC 7-1	Metal products: cutlery, cooking utensils, pots, pans,	
AC 7-2	Metal products: toys	
AC 7-3	Metal products: furniture	
AC 8-1	Paper products: tissue, towels, disposable dinnerware, nappies, feminine hygiene products, adult incontinence products, writing paper	TRA consumer
AC 8-2	Paper products: newspaper, packaging	
AC 9	Photographic and reprographic articles: films, printed photographs	
AC 10-1	Rubber products: tyres	TRA consumer
AC 10-2	Rubber products: flooring	
AC 10-3	Rubber products: footwear	
AC 10-4	Rubber products: toys	
AC 10-5	Other general rubber products	
AC 11-1	Wood and wood furniture: flooring	TRA consumer
AC 11-2	Wood and wood furniture: furniture	
AC 11-3	Wood and wood furniture: toys	
AC 12-1	Constructional articles and building material: wall construction material ceramic, metal, plastic and wood construction material, insulating material (without indoor flooring)	
AC 13-1	Commercial/consumer plastic products like disposable dinner ware, food storage, food packaging, baby bottles	TRA consumer

[15] to be specified in free-text field if i) the article is not covered in any of the categories or ii) the registrant wishes to describe the use of the substance manufactured into an article more specific; use the TARIC terminology in such cases.

Use Descriptors for substances in articles with no intended release - Article categories [AC]		
AC 13-2	Plastic products: Flooring	
AC 13-3	Plastic products: Toys	
http://ec.europa.eu/taxation_customs/dds/tarhome_en.htm		

Appendix R.12-5.2: Consumer articles addressed in the TRA

Article Category		Article –Subcategory in TRA for consumer exposure
AC5:Fabrics, textiles and apparel (AC5-1, AC5-2)		AC5-1: Clothing (all kind of materials), towel
		AC5-1: Bedding, mattress
		AC5*: Toys (cuddly toy)
		AC5*: Car seat, chair, flooring
AC6: Leather articles		AC6*: Purse, wallet, covering steering wheel (car)
		AC6*: Footwear (shoes, boots)
		AC6*: Furniture (sofa)
AC8:Paper products (AC8-1, AC8-2)		AC8-1: Diapers
		AC8-1: Sanitary towels
		AC8-1: Tissues, paper towels, wet tissues, toilet paper
		AC8-2: Printed paper (papers, magazines, books)
AC10:Rubber articles (AC10-1, AC10-2, AC10-3, AC10-4)		AC10-1: Rubber handles, tyres
		AC10-2: Flooring
		AC10-3: Footwear (shoes, boots)
		AC10-4: Rubber toys
AC11:Wood and wood furniture (AC11-1, AC11-2, AC11-3)		AC11-1: Furniture and flooring (chair, parquet)
		AC11-2: Furniture and flooring (chair, parquet)
		AC11-3: Small toys (car, train)
		AC11-3: Toys, outdoor equipment
AC13:Plastic articles		AC13-1_n: commercial/consumer plastic products (disposable dinner ware, food storage, food packaging, baby bottles)
		AC13-2: Plastic, larger articles (plastic chair, PVC-flooring, lawn mower, PC)
		AC13-3: Toys (doll, car, animals, teething rings)
		AC13*: Plastic, small articles (ball pen, mobile phone)

Appendix R.12-6: Substances in articles with intended release

Use descriptor for substances in articles with intended release	
Descriptor based on an indicative list of examples	
AC30	Other articles with intended release of substances, please specify[16]
AC31	Scented clothes
AC32	Scented eraser
AC33	*Entry has been removed after the REACH CA meeting in March 2008.*
AC34	Scented Toys
AC35	Scented paper articles
AC36	Scented CD
AC37	Other scented articles; please specify[17]
AC38	Packaging material for metal parts, releasing grease/corrosion inhibitors
AC39	Other articles releasing grease or corrosion inhibitors; please specify[18]

[16] see previous footnote; please note that articles could also be relevant for occupational exposure, in particular with regard to abrasive processes (see PROC 21 and 24) and hot work operations (PROC 25) Electrodes for welding and soldering are listed under PC 38 as a preparation.

[17] to be specified in free-text field if i) the article is not covered in any of the categories or ii) the registrant wishes to describe the use of the substance manufactured into an article more specific; use the TARIC terminology in such cases.

[18] see previous footnote;

Appendix 12-7: List of substance functions (optional, if needed)

To be completed