

REACH

Supply Chain Communication

Use Descriptors

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Appendix R.12-1: Descriptor-list for sectors of use (SU)

Key descriptor: Main user groups		
SU 3	Industrial uses: Uses of substances as such or in preparations at industrial sites	
SU 21	Consumer uses: Private households (= general public = consumers)	
SU 22	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Supplementary descriptor: Sectors of end-use		NACE codes
SU1	Agriculture, forestry, fishery	A
SU2a	Mining, (without offshore industries)	B
SU2b	Offshore industries	B 6
SU4	Manufacture of food products	C 10,11
SU5	Manufacture of textiles, leather, fur	C 13-15
SU6a	Manufacture of wood and wood products	C 16
SU6b	Manufacture of pulp, paper and paper products	C 17
SU7	Printing and reproduction of recorded media	C 18
SU8	Manufacture of bulk, large scale chemicals (including petroleum products)	C 19.2+20.1
SU9	Manufacture of fine chemicals	C 20.2-20.6
SU 10	Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	C 20.3-20.5
SU11	Manufacture of rubber products	C 22.1
SU12	Manufacture of plastics products, including compounding and conversion	C 22.2
SU13	Manufacture of other non-metallic mineral products, e.g. plasters, cement	C 23
SU14	Manufacture of basic metals, including alloys	C 24
SU15	Manufacture of fabricated metal products, except machinery and equipment	C 25
SU16	Manufacture of computer, electronic and optical products, electrical equipment	C 26-27
SU17	General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment	C 28-30,33
SU18	Manufacture of furniture	C 31
SU19	Building and construction work	F
SU20	Health services	Q 86
SU23	Electricity, steam, gas water supply and sewage treatment	C 35-37
SU24	Scientific research and development	C72
SU0	Other	

Appendix R.12-2.1: Descriptor-list for Chemical Product Category (PC)

Chemical Product Category (PC)		
Examples and explanations		Examples and explanations
PC1	Adhesives, sealants	
PC2	Adsorbents	
PC3	Air care products	
PC4	Anti-Freeze and de-icing products	
PC7	Base metals and alloys	
PC8	Biocidal products (e.g. Disinfectants, pest control)	PC 35 should be assigned to disinfectants being used as a component in a cleaning product
PC9a	Coatings and paints, thinners, paint removers	
PC9b	Fillers, putties, plasters, modelling clay	
PC9c	Finger paints	
PC11	Explosives	
PC12	Fertilizers	
PC13	Fuels	
PC14	Metal surface treatment products, including gal-vanic 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, pre-cipitants, neutralization agents	This category covers processing aids used in the chemical industry
PC21	Laboratory chemicals	

Chemical Product Category (PC)		Examples and explanations	Examples and explanations
PC23	Leather tanning, dye, finishing, impregnation and care products		
PC24	Lubricants, greases, release products		
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	Photo-chemicals		
PC31	Polishes and wax blends		
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)		
PC36	Water softeners		
PC37	Water treatment chemicals		
PC38	Welding and soldering products (with flux coatings or flux cores.), flux products		
PC39	Cosmetics, personal care products		
PC40	Extraction agents		
PC0	Other (use UCN codes: see last row)		
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 R.12-3: Descriptor-list for process categories (PROC)

Process categories [PROC]		
	Process categories	Examples and explanations
PROC1	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
PROC2	Use in closed, continuous process with occasional controlled exposure	Continuous process but where the design philosophy is not specifically aimed at minimizing emissions It is not high integrity and occasional exposure will arise e.g. through maintenance, sampling and equipment breakages
PROC3	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
PROC4	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
PROC5	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

Process categories [PROC]		
	Process categories	Examples and explanations
PROC6	Calendering operations	Processing of product matrix Calendering at elevated temperature an large exposed surface
PROC7	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.
PROC8a	Transfer of substance or preparation (charging/discharging) from/to ves-sels/large containers at non-dedicated facilities	Sampling, loading, filling, transfer, dumping, bagging in non- dedicated facilities. Exposure related to dust, va-pour, aerosols or spillage, and cleaning of equipment to be expected.
PROC8b	Transfer of substance or preparation (charging/discharging) from/to ves-sels/large containers at dedicated facili-ties	Sampling, loading, filling, transfer, dumping, bagging in dedicated facilities. Exposure related to dust, vapour, aerosols or spillage, and cleaning of equipment to be ex-pected.
PROC9	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
PROC10	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, working with wipes and handling of treated sur-faces.
PROC11	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.

Process categories [PROC]		
	Process categories	Examples and explanations
PROC12	Use of blowing agents in manufacture of foam	
PROC13	Treatment of articles by dipping and pouring	<p>Immersion operations</p> <p>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 dyeing, plating,).</p> <p>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.</p>
PROC14	Production of preparations* or articles by tableting, compression, extrusion, pelletisation	Processing of preparations and/or substances (liquid and solid) into preparations or articles. Substances in the chemical matrix may be exposed to elevated mechanical and/or thermal energy conditions. Exposure is predominantly related to volatiles and/or generated fumes, dust may be formed as well.
PROC15	Use as laboratory reagent	Use of substances at small scale laboratory (< 1 l or 1 kg present at workplace). Larger laboratories and R+D installations should be treated as industrial processes.
PROC16	Using material as fuel sources, limited exposure to unburned product to be expected	Covers the use of material as fuel sources (including additives) where limited exposure to the product in its un-burned form is expected. Does not cover exposure as a consequence of spillage or combustion.
PROC17	Lubrication at high energy conditions and in partly open process	<p>Lubrication at high energy conditions (temperature, friction) between moving parts and substance; significant part of process is open to workers.</p> <p>The metal working fluid may form aerosols or fumes due to rapidly moving metal parts.</p>
PROC18	Greasing at high energy conditions	Use as lubricant where significant energy or temperature is applied between the substance and the moving parts
PROC19	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.
PROC20	Heat and pressure transfer fluids in dispersive, professional use but closed systems	<p>Motor and engine oils, brake fluids</p> <p>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.</p>

Process categories [PROC]		
	Process categories	Examples and explanations
PROC21	Low energy manipulation of substances bound in materials and/or articles	Manual cutting, cold rolling or assembly/disassembly of material/article (including metals in massive form), possibly resulting in the release of fibres, metal fumes or dust
PROC22	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.
PROC23	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
PROC24	High (mechanical) energy work-up of substances bound in materials and/or articles	Substantial thermal or kinetic energy applied to substance (including metals in massive form) 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.
PROC25	Other hot work operations with metals	Welding, soldering, gouging, brazing, flame cutting Exposure is predominantly expected to fumes and gases.
PROC26	Handling of solid inorganic substances at ambient temperature	Transfer and handling of ores, concentrates, raw metal oxides and scrap; packaging, un-packaging, mixing/blending and weighing of metal powders or other minerals
PROC27a	Production of metal powders (hot processes)	Production of metal powders by hot metallurgical processes (atomisation, dry dispersion)
PROC27b	Production of metal powders (wet processes)	Production of metal powders by wet metallurgical processes (electrolysis, wet dispersion)

Appendix R.12-5.1: Descriptor-list for substances in articles (AC)

Article categories, no release intended (AC)		
	Article categories (and non exhaustive examples) for describing the type of article in which the substance is contained during service life and waste life	Suitable TARIC chapters
Categories of complex articles		
AC1	Vehicles	86-89
	Examples: Trucks, passenger cars and motor cycles, bicycles, tricycles and associated transport equipment; other vehicles: Railway, aircraft, vessels, boats	
AC2	Machinery, mechanical appliances, electrical/electronic articles	84/85
	Examples: Machinery and mechanical appliances; electrical and electronic articles, e.g. computers, video and audio recording, communication equipment; lamps and lightening; cameras; refrigerator, dish washer, washing machines	
AC3	Electrical batteries and accumulators	8506/07

Appendix R.12-5.1: Descriptor-list for substances in articles (AC)

Article categories, no release intended (AC)		
	Article categories (and non exhaustive examples) for describing the type of article in which the substance is contained during service life and waste life	Suitable TARIC chapters
Categories of material based articles		
AC4	Stone, plaster, cement, glass and ceramic articles	68/69/70
	Examples: Glass and ceramic article: e.g. dinner ware, drinking glasses, pots, pans, food storage containers; construction and isolation articles; natural or artificial abra-sive powder or grain, on a base of textile material, of paper, of paperboard or of other materials	
AC5	Fabrics, textiles and apparel	50-63, 94/95
	Examples: Clothing, bedding, mattress, curtains, upholstery, carpeting/flooring, car seats, textile toys	
AC6	Leather articles	41-42, 64, 94
	Examples: Gloves, purse, wallet, foot wear, furniture	
AC7	Metal articles	71, 73-83, 95
	Examples: Cutlery, cooking utensils, pots, pans, jewellery, toys, furniture, construc-tion articles	
AC8	Paper articles	48-49
	Examples: Paper articles: tissue, towels, disposable dinnerware, nappies, feminine hygiene products, adult incontinence products; paper articles for writing, office pa-per; printed paper articles: e.g. newspapers, books, magazines, printed photographs; wallpaper	

Appendix R.12-5.1: Descriptor-list for substances in articles (AC)

Article categories, no release intended (AC)		
	Article categories (and non exhaustive examples) for describing the type of article in which the substance is contained during service life and waste life	Suitable TARIC chapters
AC10	Rubber articles	40 , 64, 95
	Examples: Tyres, flooring, gloves, footwear, toys	
AC11	Wood articles	44 , 94/95
	Examples: Flooring, walls, furniture, toys, construction articles	
AC13	Plastic articles	39 , 94/95, 85/86
	Examples: Plastic dinner ware, food storage, food packaging, baby bottles; flooring, toys, furniture, small plastic articles of daily use e.g. ball pen, PC, mobile phone construction articles	
	Other (use TARIC codes: see last row)	
	http://ec.europa.eu/taxation_customs/dds/tarhome_en.htm	

Appendix R.12-5.2: Articles with intended release of substances

Use descriptor for articles with intended release of substances	
Descriptor based on an indicative list of examples	
AC30	Other articles with intended release of substances, please specify ²⁶
AC31	Scented clothes
AC32	Scented eraser
AC33	<i>Entry has been removed after the REACH CA meeting in March 2008</i>
AC34	Scented Toys
AC35	Scented paper articles
AC36	Scented CD
AC38	Packaging material for metal parts, releasing grease/corrosion inhibitors

Załącznik R.12-4.1: Opis kategorii uwalniania do środowiska (ERC)

ERC NUMBER	Name	Description
ERC1	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
ERC2	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.
ERC3	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.
ERC4	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 NUMBER	Name	Description
ERC5	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 (e.g. heat stabilisers in plastic processing).
ERC6a	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.
ERC6b	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.
ERC6c	Industrial use of monomers for manufacture of thermo-plastics	Industrial use of monomers in the production of polymers, plastics (thermoplastics), polymerization processes. For example the use of vinyl chloride monomer in the production of PVC.
ERC6d	Industrial use of process regulators 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, polymer processing. For instance the use of styrene in polyester production or vulcanization agents in the production of rubbers.

ERC NUMBER	Name	Description
ERC7	Industrial use of sub-stances 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 di-electric fluids in electric transformers and oil in heat exchang-ers. No intended contact between functional fluids and products foreseen, and thus low emissions via waste water and waste air to be expected.
ERC8a	Wide dispersive indoor use of processing aids in open systems	Indoor use of processing aids by the public at large or profes-sional use. Use (usually) results in direct release into the envi-ronment/sewage system, for example, detergents in fabric washing, machine wash liquids and lavatory cleaners, automo-tive and bicycle care products (polishes, lubricants, de-icers), solvents in paints and adhesives or fragrances and aerosol propellants in air fresheners
ERC8b	Wide dispersive indoor use of reactive substances in open systems	Indoor use of reactive substances by the public at large or pro-fessional use. Use (usually) results in direct release into the environment, for example, sodium hypochlorite in lavatory cleaners, bleaching agents in fabric washing products, hydro-gen peroxide in dental care products.
ERC8c	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 NUMBER	Name	Description
ERC8d	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.
ERC8e	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)
ERC8f	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.
ERC9a	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.
ERC9b	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 brake fluids in automotive brake systems.
ERC10a	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 NUMBER	Name	Description
ERC10b	Wide dispersive outdoor use of long-life articles and materials with high or in-tended release (including abrasive processing)	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. This also includes releases from the article ma-trix as a result of processing by workers. These are processes typically related to PROC 21, 24, 25, for example: Sanding of buildings (bridges, facades) or vehicles (ships).
ERC11a	Wide dispersive indoor use of long-life articles and ma-terials 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, foot-wear, leather products, paper and cardboard products (maga-zines, books, news paper and packaging paper), electronic equipment (casing).
ERC11b	Wide dispersive indoor use of long-life articles and ma-terials with high or intended release (including abrasive processing)	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. This also includes releases from the arti-cle matrix as a result of processing by workers. These are proc-esses typically related to PROC 21, 24, 25. For example re-moval of indoor paints.
ERC12a	Industrial processing of ar-ticles with abrasive tech-niques (low release)	Substances included into or onto articles and materials are re-leased (intended or not) from the article matrix as a result of processing by workers. These processes are typically related to PROC 21, 24, 25. Processes where the removal of material is intended, but the expected release remains low, include for ex-ample: cutting of textile, cutting, machining or grinding of metal or polymers in engineering industries.

ERC NUMBER	Name	Description
ERC12b	Industrial processing of articles with abrasive techniques (high release)	Substances included into or onto articles and materials are re-leased (intended or not) from/with the article matrix as a result of processing by workers. These processes are typically related to PROC 21, 24, 25. Processes where the removal of material is intended, and high amounts of dust may be expected, includes for example: sanding operations or paint stripping by shot-blasting.
	Other environmental characteristics; please specify	