

REACH

Supply Chain Communication

Use Descriptors

Version 1.1 – December 2008

Brief Description of Descriptors

- Sector of Use [SU]:** Under REACH, each of the different industry sectors which a substance might pass in its life cycle until its final destination represents an identified use.
- Product Category [PC]:** In context of the Exposure Scenario (ES), it is appropriate to characterize the use of a substance by the type of preparation (e.g. lubricant, cleaner) in which the substance is known to be used. This is based on the consideration that the type of preparation is closely related to exposure potential.
- Process Category [PROC]:** Process category groups together the way a substance is used or converted into a subsequent product (preparation or article). Application techniques or process types have a direct impact on the exposure and hence on the risk management measures needed.
- Article Category [AC]:** For dangerous substances processed into articles, the manufacturer/importer may find it necessary to specify the types of articles covered in the Chemical Safety Assessment (CSA) and the Exposure Scenarios. Article categories consist of 2 groups: articles with no intended release and articles with intended release.
- Environmental Release Category [ERC]:** The 'Environmental Release Category' defines activities for which typical emissions into the environment can be assumed. The categories are codified by numbers with a preceding 'ERC' (Example: Production of plastics – ERCC6c)

For more Information please refer to Chapter R.12: Use descriptor System of "Guidance on information requirements and CSA" by ECHA

http://reach.jrc.it/docs/guidance_document/information_requirements_r12_en.pdf?vers=20_08_08

Legal Notice: This information does not constitute legal advice but is intended for guidance only. While the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk. No representations or warranties are made with regard to its completeness or accuracy, and no liability will be incurred for damages of any nature whatsoever resulting from the use of or reliance on the information.

Appendices Appendix R.12-1: Descriptor for sector of use (SU)

	Sectors of use [SU]	NACE ⁶ 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
SU2	Mining (including offshore industries)	B
SU3	Industrial manufacturing (all)	C
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
SU10	Formulation [mixing] of preparations and/or re-packaging	
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
SU14	Manufacture of basic metals	24
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
SU21	Private households (= general public = consumers)	T
SU22	Public domain (administration, education, entertainment, services, craftsmen)	
SU23	Recycling	38

⁶ 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: Descriptor for types of preparations
[PC = Chemical Product Category]**

Type of preparations [PC = Product Category]⁷ (I)		
PC0	Other products ⁸ (use ConsExpo subcategories or UCN codes: see last row)	
PC1	Adhesives, sealants	2
PC2	Adsorbents	
PC3	Air care products	
PC4	Anti-freeze and de-icing products	
PC5	Artists supply and hobby preparations	2
PC6	Automotive care products***	2
PC7	Base metals and alloys	
PC8	Biocidal products (e.g. disinfectants, pest control)	1
PC9	Coatings and paints, fillers, putties, thinners	1, 2
PC10	Building and construction preparations not covered elsewhere	1
PC11	Explosives	
PC12	Fertilizers	
PC13	Fuels	2
PC14	Metal surface treatment products, including galvanic and electroplating products	
PC15	Non-metal-surface treatment products	
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	
PC21	Laboratory chemicals	
PC22	Lawn and garden preparations, including fertilizers	2
PC23	Leather tanning, dye, finishing, impregnation and care products	
PC24	Lubricants, greases and release products	2
PC25	Metal working fluids	
PC26	Paper and board dye, finishing and impregnation products	
PC27	Plant protection products	
PC28	Perfumes, fragrances	
PC29	Pharmaceuticals	
PC30	Photochemicals	
PC31	Polishes and wax blends	2
PC32	Polymer preparations and compounds	

⁷ 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)

⁸ 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)

Type of preparations [PC = Product Category] ⁷ (II)		
PC33	Semiconductor	
PC34	Textile dyes, finishing and impregnating products	
PC35	Washing and cleaning products (including solvent based products)	1, 2
PC36	Water softeners	
PC37	Water treatment chemicals	
PC38	Welding and soldering products, flux products	
PC39	Cosmetics, personal care products	1
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 R.12-3: Descriptor for process categories [PROC]

Descriptor for process categories [PROC] (I)		
	Process categories based on TRA categories for workers ⁹	Examples and explanations
PROC0	Other process or activity	
PROC1	Use in closed process, no likelihood of exposure Industrial setting	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 (e.g. sampling) Industrial setting	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 braking
PROC3	Use in closed batch process (synthesis or formulation) Industrial setting	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 Industrial setting	Use in batch manufacture of a chemical where significant opportunity for exposure arises, e.g. during the charging, the 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) Industrial setting	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

Descriptor for process categories [PROC] (II)		
	Process categories based on TRA categories for workers⁹	Examples and explanations
PROC6	Calendering operations Industrial setting	Processing of product matrix calendering at elevated temperature an large exposed surface
PROC7	Spraying in industrial settings and applications Industrial setting	Air dispersive techniques Spraying for surface coating, adhesives, polishes/cleaners, air care products, sandblasting; Substances ca be inhaled as aerosols. The energy of the aerosol particles may require advanced exposure controls in case of coating, overspray may lead waste water and waste
PROC8	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities Industrial or non-industrial setting	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
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing) Industrial setting	Filling lines specifically designed to for both, capturing vapour and aerosol emissions and minimise spillage
PROC10	Roller application or brushing of adhesive and other coating Industrial or non-industrial setting	Low energy spreading Including cleaning surfaces. Substance can be inhaled as vapours, skin contact through droplets, splashes, working with wipes and handling of treated surfaces
PROC11	Spraying outside industrial settings or applications	Air dispersive techniques (OU9) Spraying for surface coating, adhesives, polishes/cleaners, air care products, sandblasting; (also includes manufacture of foam, including blowing operations) Substances can be inhaled as aerosols. The energy of the aerosol particles may require advanced exposure controls in case of coating, overspray may lead waste water and waste

⁹ additional some operation units that could not be assigned to a TRA category yet⁹

Descriptor for process categories [PROC] (III)		
	Process categories based on TRA categories for workers ⁹	Examples and explanations
PROC12	Use of blow agents in manufacture of foam Industrial setting	
PROC13	Treatment of articles by dipping and pouring Industrial or non industrial setting	Immersion operations (OU5) 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) Substance is applied to a surface by low energy techniques as dipping the article into a bath or pouring a preparation onto a surface
PROC14	Production of preparations or articles by tableting, compression, extrusion, pelettisation Industrial setting	
PROC15	Use a laboratory reagent Non-industrial setting	Use of substances at small scale laboratory (< 1 l or 1 kg) 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 Industrial or non-industrial setting	Covers the use of material as fuel sources (including additives) where limited exposure to the product is its unburned 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 Industrial or non-industrial setting	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 mental working fluid may form aerosols or fumes due to rapid moving metal parts; exhausted cutting fluids need to be disposed off as waste
PROC18	Greasing at high energy conditions Industrial or non-industrial setting	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 Non-industrial setting	Addresses occupations where intimate and intentional contact with substances occurs without any specific exposure controls than PPE
PROC20	Heat and pressure transfer fluids in dispersive 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. Leakage during use may lead to environmental exposure

Descriptor for process categories [PROC] (IV)		
	Process categories based on TRA categories for workers⁹	Examples and explanations
PROC21	Low energy manipulation of substances bound in materials and/or articles	Manual cutting, rolling or assembly of material/article, possibly resulting in the release of fibres or rubber fumes
PROC22	Potentially closed processing operations (with minerals) at elevated temperature	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) at elevated temperature	Sand and die casting, tapping and casting melted solids, raking melted solids paving Exposure related to dust and fumes to be expected. Emission from direct cooling may be relevant
PROC24	High (mechanical) energy work-up of substances bound in materials and/or articles	Substantial thermal or kinetic energy applied to substance by grinding, mechanical cutting, drilling or sanding. Release of solids (dust) or fumes to be expected
PROC25	Hot work operations with metals	Welding, soldering, gouging, brazing, flame cutting Exposure due to release of fumes to be expected

Appendix R.12-4: Descriptors for substances in articles with no intended release

Use Descriptors for substances in articles with no intended release – Article categories [AC]	
AC 0	Other articles (use TARIC terminology; see last row) ¹⁰
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
AC 5-2	Fabrics, textiles and apparel: curtains, upholstery, carpeting/flooring, rugs
AC 6	Leather products, apparel and upholstery
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
AC 8-2	Paper products. Newspaper, packaging
AC 9	Photographic and reprographic articles: films, printed photographs
AC 10-1	Rubber products: tyres
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
AC 11-2	Wood and wood furniture: furniture
AC 11-3	Wood and wood furniture: toys
AC 12-1	Constructional articles and building material for indoor use: wall construction material ceramic, metal, plastic and wood construction material, insulating material
AC 12-2	Constructional articles and building material for outdoor use: wall construction material, road surface material, ceramic, metal, plastic, wood construction material, insulating material
AC 13-1	Commercial/consumer plastic products like disposable dinner ware, food storage, food packaging, baby bottles
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: 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 ¹¹
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
AC37	Other scented articles; please specify ¹²
AC38	Packaging material for metal parts, releasing grease/corrosion inhibitors
AC39	Other articles releasing grease or corrosion inhibitors; please specify ¹³

¹¹ see previous footnote; please note that articles could also be relevant for occupational exposure, in particular abrasive materials. The process category for high (mechanical) energy work-up of substances bound in materials and articles in the list of process categories (PROC) is not yet linked to a pre-set exposure scenario and the corresponding defaults for exposure estimation. Electrodes for welding and soldering are listed under PC 38 as a preparation.

¹² 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.

¹³ see previous footnote

Appendix D-3: Names and Descriptions Environmental Release Categories¹

Use Descriptors for Environmental Release Categories	
ERC1	Production 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	Mixing and blending of substances in (chemical) preparations in all types of industries such as paints and do-it-yourself products, pigment paste, fuels, household products (cleaning products), lubricants etc..
ERC3	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 products. 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 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.
ERC5	Industrial use of substances (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, dyeing of textile fabrics and leather products, metal plating and galvanizing.
ERC6a	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 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 in the production of plastics (thermoplastics), polymerization processes. For example the use of vinyl chloride monomer in the production of PVC.
ERC6d	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.
ERC7	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.
ERC8a	Indoor use of processing aids by the public at large or professional use. Use (usually) results in direct release into the environment, 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.

¹ For details please refer to Guidance on Information Requirements, Part D-3
12/15

Use Descriptors for Environmental Release Categories

ERC8b	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
ERC8c	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.
ERC8d	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	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	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	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	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.
ERC10a	Low (no intended) release of substances included into or onto articles and materials during their service life from outdoor use. Such as metal, wooden and plastic construction and building materials (gutters, drains, frames etc.).
ERC10b	Substances included into or onto articles and materials with high or intended release during their service life from outdoor use. Such as tires, 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.
ERC11a	Low (no intended) 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).
ERC11b	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 D-4: Linking Process Categories to ERCs²

	Process categories based on TRA categories for workers	ERC no
PROC1	Use in closed process, no likelihood of exposure; Industrial setting	1, 6a, 6c
PROC2	Use in closed, continuous process with occasional controlled exposure (e.g. sampling); Industrial setting	1, 6a, 6c, 7
PROC3	Use in closed batch process (synthesis or formulation); Industrial setting	1, 2, 6a, 6d
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises; Industrial setting	1, 6a, 6c, 6d
PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Industrial setting	2, 3
PROC6	Calendering operations Industrial setting	5
PROC7	Spraying in industrial settings and applications; Industrial setting	4, 5
PROC8	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities; Industrial or non-industrial setting	Covered in the industrial ERC
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing); Industrial setting	Covered in the industrial ERC
PROC10	Roller application or brushing of adhesive and other coating; Industrial or non-industrial setting	4, 5, 8a, 8c, 8d, 8f
PROC11	Spraying outside; industrial settings or applications	8a, 8c, 8d, 8f
PROC12	Use of blow agents in manufacture of foam; Industrial setting	5

² For details please refer to Guidance on Information Requirements, Part D-4
14/15

	Process categories based on TRA categories for workers	ERC no
PROC13	Treatment of articles by dipping and pouring; Industrial or non industrial setting	4, 5, 6b, 8a, 8b, 8c, 8d, 8f
PROC14	Production of preparations or articles by tableting, compression, extrusion, pelettisation; Industrial setting	1, 2, 3
PROC15	Use a laboratory reagent; Non-industrial setting	8a, 8b
PROC16	Using material as fuel sources, limited exposure to unburned product to be expected; Industrial or non-industrial setting	Not applicable
PROC17	Lubrication at high energy conditions and in partly open process; Industrial or non-industrial setting	4, 8d
PROC18	Greasing at high energy conditions; Industrial or non-industrial setting	4, 8d
PROC19	Hand-mixing with intimate contact and only PPE available; Non-industrial setting	8a to 8f
PROC20	Heat and pressure transfer fluids in dispersive use but closed systems	9a, 9b
PROC21	Low energy manipulation of substances bound in materials and/or articles	Not yet applicable
PROC22	Potentially closed processing operations (with minerals) at elevated temperature	Not yet applicable
PROC23	Open processing and transfer operations (with minerals) at elevated temperature	Not yet applicable
PROC24	High (mechanical) energy work-up of substances bound in materials and/or articles	Not yet applicable
PROC25	Hot work operations with metals	Not yet applicable