

Final report

ASSESSMENT OF RELIABILITY OF SPERCS

ECHA SR 16
ANNEXES

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ANNEX 1: SPERCS BEST PRACTICE FORMAT

INTRODUCTORY SECTIONS TO THE BEST PRACTICE FORMAT

1 INTRODUCTION

The current document contains a spERCs Best Practice Format in form of a table developed during the project “Assessment of the Reliability of spERCs”. The first part of the document aims to explain its background and context.

The Best Practice Format and the idea to prove a complementing background document with further details on the spERC was developed in an iterative process between ECHA and industry associations. The format was tested in an exemplification by four associations. The format is expected to be still work in progress as not all issues on the content and form could be resolved during the project duration.

2 TERMS

SpERC

A SpERC contains the description of one set of use conditions (operational conditions (OC) and risk management measures (RMM)) connected to one activity/technique/process (i.e. to be used for the CSA). It consists of quantitative values for calculation of the environmental release and qualitative / descriptive information on the conditions under which the quantitative values apply. Parameters which are quantified are in particular the daily substance use rate, the number of emission days as well as the release factors (RF).

A spERC may contain one release factor per compartment (air, water, soil and waste) or may include two or more sub-spERCs (c.f. below), each of which applying to substances with specific properties (e.g. ranges of vapour pressure or water solubility) which allow differentiating the release factors further.

Sub-spERC

A sub-spERC is a differentiation of a spERC, which associations may choose to make alternatively to developing separate spERCs.

A sub-spERC can be defined for different ranges of substance properties of components with the same function covered by a spERC, in particular relating to the vapour pressure and the water solubility.¹ For the different substance property ranges, specific release factors (and potentially efficiency values of RMMs) are provided, including justification.

SpERC factsheet

A spERC factsheet is the documentation of one or several spERCs which have the same operational conditions but may have different main functions (e.g. inclusion in the matrix and processing aid)². It contains information on the spERC's/spERCs' identification, scope, operational conditions, risk management measures and pertaining release factors, use rates and number of emission days as well as (a reference to the) justification for the numeric values assumed.

The factsheet is organized in different sections each of which having different sub-sections.

The information in the factsheet is used to generate the CSR and the ES for downstream communication. Therefore, the factsheet needs to contain all information upon which safe use is demonstrated and all information necessary for the downstream users to check whether or not they operate within the safe conditions of use.

Relation between spERCs, sub-spERCs and factsheets

The following relationships can be defined:

- 1 spERC is composed of 1 to n sub-spERCs;
it is assumed that most spERCs will not have sub-spERCs
- 1 (sub-)spERC is used for the assessment of one contributing activity
a sub-spERC relates to specifically defined substances, usually characterised by substance properties
- 1 to n spERCs (with sub-spERCs) may be reported in 1 spERC factsheet

¹ Several sub-spERCs are contained in some factsheets by ESIG/ESVOC, e.g. the spERC 4.3 on use of solvents in coatings. A separate factsheet is developed for different sub-spERCs by ACEA.

² SpERCs relating to ERC 4 and ERC 5 for different components in a mixture may e.g. be described together in one factsheet as they have the same conditions of use.

Background document

The background document contains information on the industry sector having developed spERCs and the processes covered by the spERC(s). It furthermore contains detailed justifications of the release factors in the sectors' spERCs as well as any assumptions made. A suggestion for the detailed content of the background documents is contained in Section 3.

CHESAR file

A CHESAR file is a data file containing all spERC information as documented in a factsheet. Based on the CHESAR file registrants will be able to select a spERC (or sub-spERC) for their assessment including all relevant information for exposure assessment, documentation in the CSR and downstream communication.

3 “VISION” ON THE USE OF SPERCS

3.1 Aim of the spERCs

The primary aim of the spERCs is to support the development of a CSR and hence to “demonstrate safe use” of a substance in a specific use. A second aim of the spERC is to provide all information to be communicated to the downstream user in the ES to be attached to the safety data sheet.

A spERC is understood as sufficient to “demonstrate of safe use” when all information is included in the spERC factsheet and in the spERC background document that is necessary for an evaluator to assess the plausibility of the release factors, including a sound justification and transparent documentation of any assumptions made and any information sources used.

At the same time, the conditions of safe use as summarised in the CSR are to be communicated to DUs in a form supporting the implementation of the DUs duties under REACH.

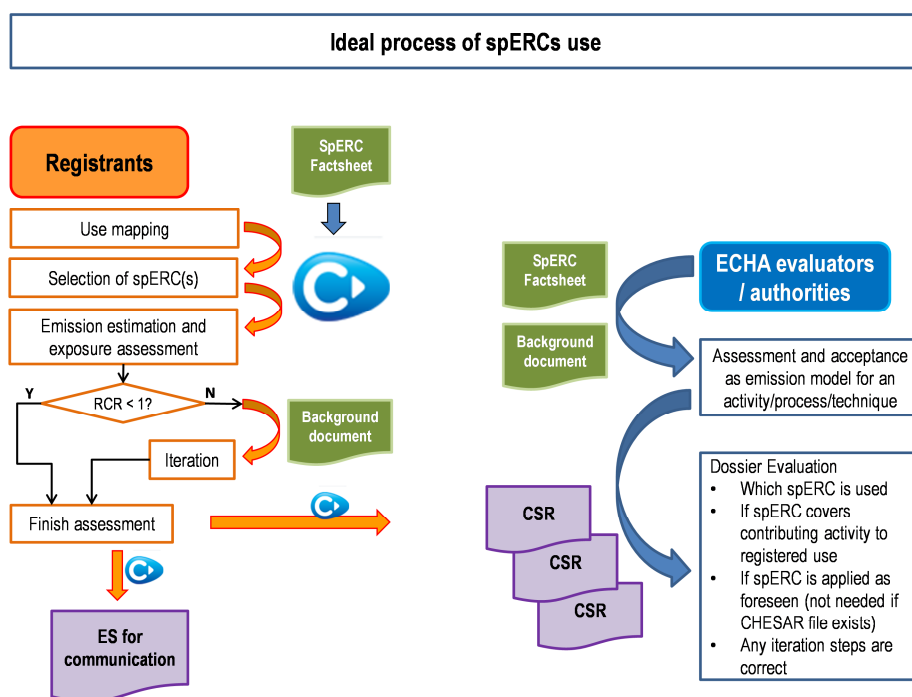


Figure 1: Vision of how spERC factsheets and the spERC background document could be used.

3.2 Assumptions on the use of spERCs

In order to discuss the structure and content of spERCs it is useful to create a vision on how the spERCs and their content could be used by registrants and evaluators. Core assumptions are:

- The spERC factsheet and a background document covering one or several spERCs belong together and complement each other.
- The spERC background document is available to all actors. Its content is not copied into CSRs, ES or other documents but only reference is made and/or "summary information" is provided.
- If ECHA / and or the Member State Competent Authorities evaluate a spERC / spERC factsheet as "plausible", emission estimations based on this spERC can be regarded as correct. CSAs would not be further assessed, provided the spERC is correctly chosen and applied and in those cases, where no iterations are made.
- The information in a spERC factsheet is integrated into CHESAR and cannot be changed by the registrant; in addition, all information has a pre-defined destination (CSR, DU ES, emission estimation).
- DUs may use spERCs in the same way as registrants if they carry out a DU CSR. The information in the ES communicated to a DU must be sufficient to check if the own conditions of use are covered by the supplier's assessment. Hence, a downstream user checking if his use is covered does not need to refer to a spERC.

3.3 Content of factsheet and background document

Note: The discussion on the split of information between factsheet and background document could not be finalised during the project. In this document the information on daily use rates and optional RMMs are proposed for inclusion in the factsheet and for explanation in the background document.

The arguments for including the information in the factsheet (and hence include it in the CHESAR file) are that this supports standardisation of the assessment, simplifies the use of spERCs by registrants (no need for looking up additional) information and makes it easier to check if a spERC is correctly applied.

The opinion that the information should only be contained in the background document is supported by the following arguments: the values have a different nature than other information³, better overview of information in the factsheet, e.g. if substance with different functions and hence different concentration ranges in mixtures are covered, and ensuring that values are not used without further reflection by the registrant.

In general, the spERC factsheet should contain the core data and information of a spERC whereas the background document should include general information on the sector and its processes as well as details on the justification of release factors and assumptions made. A background document may relate to one or to several spERCs. A background document may contain among others the following information:

General contextual information

- Information on the sector and its uses including activities leading to relevant environmental emissions⁴,
- General description of the State-of-the-Art of RMMs,
- List of existing spERCs / spERC factsheets the background document relates to and, if possible, links to the use mapping, if available ,
- Information on used products and their components.

Information supporting spERCs

- Justification of release factors depending on how they are derived⁵
 - if industry data is used a description of the data collection and processing methods, as well as the method for deriving release factors,
 - if literature values are used, an assessment of the uses, the substance types, the OCs and RMMs prescribed in the spERC

³ The values don't influence the release factors and may be iterated (emission days) or are explicitly only included for iteration purposes (optional RMMs).

⁴ The activities covered by a spERC are also described in the factsheet. These descriptions are essential for the selection of spERCs and may be standardized at the level of sectors. The information should at least include information on the processing techniques and specific equipment used and should be at the level of activities. A list of generic processing steps (such as storage, filling, processing, packaging, cleaning is not acceptable.

⁵ The justification of release factors may also be presented in a separate document / publication, e.g. to explain the overall methodology of RF derivation. It should be publicly available and free of charge. In this case the background document(s) would include a respective reference.

- and contained in the respective literature source; a clear reference to the source is necessary and the literature source should be publicly available and free of charge,
- if qualitative information is used, any additional information supporting the assumptions made in logical justification of RFs.
 - description of main emission points and – if relevant - how OCs and RMMs influence the extent of releases,
 - indicative daily use rates and emission days including explanation and justification⁶
 - information on obligatory RMMs including justification of the efficiencies assigned to them.
 - information on optional RMMs for iteration including justification of the efficiencies assigned to them.

Table 1: Comparison of information content in background document and factsheet

Information	Background document	Factsheet
Process description	Narrative, coherent, easy to understand, relevant for environmental emissions; highlighting main emission points	Enumeration of specific activities, list of main emission points
Release factors	Justification and explanation of derivation method, assumptions, calculations, base data etc.	Values (differentiated if sub-spERC), indication of derivation method (literature, survey, qualitative) and link to source
Emission days	Justification / source	Values
Daily use rates	Derivation method / justification	Value(s)
Obligatory RMMs	Justification of efficiency; source	Types of measures, efficiency, reference to justification of efficiency
Optional RMMs	Justification of efficiency; source	Types of measures, efficiency, reference to justification of efficiency

3.4 Destination of information in the spERC factsheet

The purpose of information in the spERC factsheet (destination) differs for the different information types. A general system of how information should be used is outlined in the next figure.

⁶ The factsheets should contain the values and a brief justification of the daily use rate and the number of emission days. This would ensure that the registrant has a starting point for his assessment and sufficient information to iterate it, if necessary.

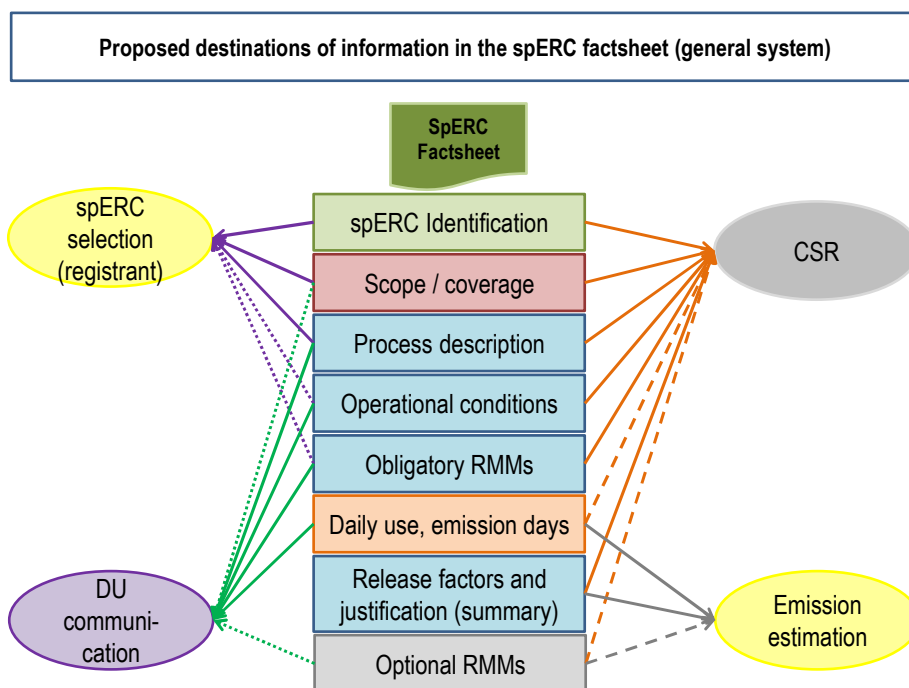


Figure 2: Destination of information in the factsheet (system)
Dotted line: may or may not be used; dashed lines may be iterated

4 FURTHER CONSIDERATIONS ON THE CONTENT OF SPERCS

4.1 Ensuring consistency at the level of mixtures

Formulators need to consolidate ES information they receive for the different components in their mixtures in order to forward information on safe use. It is therefore useful to ensure consistency of OCs and RMMs for different components of the same mixture applied in the same use at the level of spERCs.

There are two options:

- A separate factsheet is prepared for each spERC and it is ensured that the OCs and RMMs provided for substances in the same type of mixture applied in the same process are the same.
- SpERCs for different components of a mixture (e.g. solvents and substances intended for matrix inclusion (ERC 4 and ERC5)) are described in one factsheet; OCs and RMMs are provided once for all spERCs in the factsheet and only the release factors as well as potentially differing RMM efficiencies are provided separately (e.g. in table form).

Both approaches may require cross-sector cooperation, if spERCs for the same mixture but different components or the same components are provided by different associations.⁷

4.2 Use of undefined determinants

Undefined expressions describing characteristics of a process or installation that result from certain OCs and RMMs should be avoided. This applies, if expressions like “efficient raw materials use” and the “installation size” are used to describe a spERC’s applicability domain without further specification of (examples of) respective conditions or RMMs that are to be implemented to fall under the expression.

Instead of using undefined terms, the options of technical strategies and or processing details these terms aim to summarize, should be provided in the factsheet⁸ and explained in the background document. In order not to narrow the spERCs’ scope unnecessarily, different options how e.g. efficient raw material use can be achieved may be provided, of which only some need to be in place.

Differentiations within a spERC regarding the degree of raw material efficiency or the installation size indicate the existence of different OCs and/or RMMs and hence, separate spERCs should be developed.

4.3 Applicability domain

The applicability domain / scope of a spERC, in conjunction with the spERC title support the selection of the spERC by the registrant⁹.

The applicability domain of a spERC should, as a minimum, provide information related to the covered:

- substance types¹⁰ / functions
- product types and
- application techniques / processes / equipment.

Substance properties should rather be used to define sub-spERCs with refined or more specific release factors. This may be particularly relevant is several substances with the same defined function are contained in a mixture but where

⁷ This is e.g. the case for solvents in paints for which spERCs are provided by ESIG/ESVOC as well as CEPE and ACEA and potentially further sectors using paints.

⁸ As this information determines the value of the release factors it is also to be communicated to the downstream users and must hence be included in the factsheet section on operational conditions (e.g. conditions to ensure efficient use of chemicals affecting emissions to air/water/soil).

⁹ This information may be useful for the DU to check if his use is covered. It is however not yet clear which information on the spERC’s scope will be communicated with the ES downstream.

¹⁰ This could be e.g. “volatile / solid” or “metals”.

the components have a different emission pattern due to different physical-chemical properties.¹¹

Further information limiting or describing the applicability domain of a spERC may be included, but should not double information e.g. in the spERC title.

4.4 Process description

The process is described in a separate section of the factsheet. The process should be described at the level of activities and be more detailed than a generic list of processing steps. Standardisation of this description may be possible at sector level.

The description of activities / application techniques should give a clear picture of how the substance is used (i.e. environmentally relevant activities should be outlined) and include information on whether or not and which cleaning and maintenance processes are covered. All environmentally relevant steps, including loading and unloading which may be a significant source of emissions, should be mentioned.

The process description should also be communicated downstream; i.e. it is regarded as part of the description of operational conditions.

4.5 Release factor justification

The release factors and their justification should be consistent with the OCs and RMMs specified in the FS. The detailed justification of RFs should be part of the background document. In the factsheet the following information should be contained:

- description of the method, how the release factors were derived,
- reference to or description of the primary information source from which the release factors were derived;
- precise link to the location where the information can be obtained; the information source should be publicly available¹².

4.6 Operational conditions

The operational conditions for one type of mixture applied in a specific process / contributing activity should be the same in all factsheets / spERCs. The OC descriptions are structured in the FS format and should, if possible be described in a standardised manner. Cleaning and maintenance processes as well as loading / unloading should be described separately from the main process in order to ensure significant and emission relevant differences are described (and

¹¹ The physical-chemical properties are currently used only by one association to define the spERC coverage (ACEA). The volatility of a substance is rather used as indicator for the function (solvent) when included in the scope description or is used to define sub-spERCs (e.g. ESIG/ESVOC).

¹² If confidential business information limits the public access to that information, other strategies to allow verification of the justification of RFs should be found, e.g. third party certification.

transferred to CSR and ES). Further, explanatory and additional information may be provided in the background document.

4.7 Risk management measures

The RMMs listed in the factsheet section “obligatory RMMs” are considered in the derivation of RFs. That means that the efficiency may NOT be added to the RFs but is already integrated. Obligatory RMMs are to be communicated downstream so that DUs know that they are only covered by the ES, if the measures are implemented. This holds true regardless of whether or not the RMMs are process-integrated or measures which are “added” to the process.

Optional risk management measures, if specified, are not considered in the RFs. If they are used to iterate an assessment, the efficiency of the RMMs is used to calculate the emission reduction from the RFs.

If possible, the efficiency of RMMs should be provided in the factsheet together with an indication of how the efficiencies were derived (e.g. information sources). Further information on the RMMs may be provided in the background document.

The efficiencies and the RMMs themselves may be different for substances with different properties / functions and different unit processes. If so, either the lowest efficiency in relation to all substance types could be provided (“worst case” / minimum efficiency that can be achieved) or different values could be defined in relation to the substance types. The efficiency may be expressed as % reduction of the substance amount entering the risk management measure.

Currently little information is available on RMM efficiencies in relation to substance properties and the current spERCs do not contain respective differentiations¹³. This aspect may be further elaborated if more information is available.

4.8 Use rates and emission days

The daily use rate is an indicative value which may be changed by the registrants in their assessment. The emission days may not be changed, however. Both values should be provided in the factsheet and must be consistent in their reference to the use situation addressed. Explanation and justification of the values should be contained in the background document.

In case of reservoirs, where the number of use days of a substance is significantly higher than the number of emission days, more specific information may have to be provided. This should be further explored in the future process of spERCs development.

¹³ The RMM efficiencies are however differentiated according to the substance types / functions as frequently this leads to different emission pathways (e.g. volatile substances and solids require different RMMs and hence have different RMM efficiencies specified in the factsheets).

The use rate and the number of emission days should be realistic for industrial uses. The background document should explain how the value is derived and provide further information, if relevant.

For professional and consumer uses a standard algorithm to derive the use rates exists, which is most likely to be applied in the majority of spERCs / cases. However, if the spERC deviates from this method, respective information should be provided in the factsheet and detailed explanation be given in the background document.

ANNEX 2: SPERC BEST PRACTICE FORMAT

1) VERSION OF THE BEST PRACTICE FORMAT BEFORE EXEMPLIFICATION

The following table shows the Best Practice Format. The expectations towards the general content of the sections are described in the above sections.

The first column of the table includes the section headings according to the CEFIC FS structure. The second column lists the information types that should be included in the section as a minimum. Each line in the column corresponds to one distinct data field to be imported into CHESAR or any other CSA tool. The last four columns indicate the destination / purpose of the information.

It is assumed that all FS information will be included in CHESAR files as well as the information on the data destinations; i.e. if there is a “Yes” in the column “ES”, the information is included in the ES for downstream user communication.

Table 2: spERC Best Practice Format– second version before exemplification

FS Section	Expected types of information	Back ground ¹⁴	EA Input	CSR	ES to DU
Title of spERC	Title of spERC	Could ¹⁵	No	Yes	Yes ¹⁶
SpERC code	spERC Code (including ERC number)	Could	No	Yes	Yes
Scope	• Substance types / functions included or excluded ¹⁷	Could	No	Yes	No
	• Inclusion in matrix	Could	No	Yes	No
	• Specification of product types covered, if relevant and not already contained in the title	Could	No	Yes	No
	• Additional information (e.g. on obligatory RMMs)	Useful	No	Yes	Yes
Process description	Description of operations, processes and equipment (including if cleaning and maintenance are covered) focussed on environmentally relevant aspects ¹⁸	Useful	No	Yes	No

¹⁴ The content of the background document depends on whether it covers the entire sector (and all spERCs) or only some of the sector's spERCs. In this column the priority for including information in the background document is indicated (must = essential content; should = high priority that information is provided; could = information is useful for the registrant / evaluator but not so important. Could is also used in cases, where it depends on the scope of the background document if the information is included or not (e.g. list of spERC titles and codes).

¹⁵ Overview of available spERCs e.g. as table, not necessarily part of the background document for spERCs

¹⁶ Should correspond to title of the contributing activity / exposure scenario

¹⁷ If different spERCs are covered by one factsheet, this section has to be differentiated for the different spERCs as they should only and explicitly differ by substance type / function. Different substance properties should be taken into account in the sub-spERCs.

¹⁸ This information should be generic and standardized but allow understanding the main activities and type of process / equipment covered by the spERC. A detailed, flow-text description should be included in the background document.

FS Section	Expected types of information	Back ground ¹⁴	EA Input	CSR	ES to DU	
	Processing step / activity where the main emission occurs	Should	No	Yes	No	
Related use descriptors	List of applicable UDs: SU, PC	Could	No	Yes	Yes	
Operational conditions (including information on technical strategies to achieve high raw material efficiency)	Process	Should: General description of processes in sector	No	Yes	Yes	
	• Location of use (indoor / outdoor / indoor and outdoor)		No	Yes	Yes	
	• Degree of containment of the main process (open / closed) ¹⁹ :		No	Yes	Yes	
	• Water contact (dry process / water contact possible / solvent based process)		No	Yes	Yes	
	• Automation in chemicals handling influencing raw material efficiency (e.g. manual / automatic dosing)		No	Yes	Yes	
	• Measures to achieve efficient use of chemicals (e.g. water re-use, recovery of substances from waste etc.)		No	Yes	Yes	
	• Conditions of equipment cleaning	No	Yes	Yes		
	• Conditions of auxiliary processes, if relevant for release ²⁰	No	Yes	Yes		
	Emission prevention	Should General description	No	Yes	Yes	
	• Conditions preventing emissions to air:		No	Yes	Yes	
	• Conditions preventing emissions to water:		No	Yes	Yes	
	• Conditions preventing emissions to soil:	No	Yes	Yes		
	Wastewater		No	Yes	Yes	Yes
	• Existence of standard municipal STP (yes/no)	No	Yes	Yes	Yes	
	Waste Handling and Disposal	Should General info state-of-the art	No	Yes	Yes	
• Qualitative information on how waste from equipment cleaning is handled	No		Yes	Yes		
• Qualitative information on how processing waste is disposed of	No		Yes	Yes		
• Qualitative information on which types of waste occur from RMMs and how they are disposed of	No	Yes	Yes			
Obligatory RMMs onsite ²¹	• RMM limiting release to air:	Should General info state-of-the art	No	Yes	Yes	
	• Air RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		Yes	Yes	Yes	
	• Reference for Air RMM Efficiency		No	Yes	No	
	• RMM limiting release to water:		No	Yes	Yes	
	• Water RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		Yes	Yes	Yes	
	• Reference for water RMM Efficiency		No	Yes	No	
	• RMM limiting release to soil:					
	• Soil RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):					

¹⁹ The degree of containment relates to the “main process”. If conditions of cleaning and auxiliary activities have a different status (in particular if the main process is open and the others are closed), this should be indicated in the rows “conditions of cleaning” and “conditions of auxiliary processes”. The main point of release and the way a substance is processed are described in the scope and complement this information.

²⁰ If auxiliary processes give rise to significant environmental emissions the respective conditions assumed in the release factors would be specified here.

²¹ If RMMs are specified in this section, it is implied that they are considered in the RFs; i.e. the RF values integrate the efficiency of RMMs.

FS Section	Expected types of information	Back ground ¹⁴	EA Input	CSR	ES to DU
	<ul style="list-style-type: none"> Reference for soil RMM Efficiency 				
Substance use rate	Daily substance use rate during regular processing, differentiated according to substance functions, if relevant (table)	Could	Yes	Yes	Yes
Emission days	Number of emission days during regular processing	Should	Yes	Yes	Yes
RF air	Numeric value / percent of input amount:	Must needed to relate it to the justification	Yes	Yes	No
Justification RF air	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
RF water	Numeric value / percent of input amount:		Yes	Yes	No
Justification RF water	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
RF soil	Numeric value / percent of input amount:		Yes	Yes	No
Justification RF soil	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
RF waste	Numeric value / percent of input amount:	Must	Yes	Yes	No
Justification RF waste	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
Optional RMMs	Indication that information on RMMs is provided in the background document	Should	May	May	May
Scaling	Scaling equation and parameters that can be scaled	Should	No	Yes	Yes

2) VERSION OF THE BEST PRACTICE FORMAT WITH PROPOSED CHANGES AFTER EXEMPLIFICATION

In the following version of the Best Practice Format proposals for changes are included (highlighted in yellow) which were recommended by the consultants based on industry feedback and the evaluation of the exemplification results and which were supported by ECHA.

Deletions

- Section “Operational conditions”; sub-section “General”
The parameter “location of use” is moved to the section “Process” and the parameter “Intermittent release” is fully deleted as this can be deduced from the number of emission days
- Section “Operational conditions”; sub-section “emission prevention”
Instead, the parameter “measures to ensure efficient use of chemicals” is differentiated according to emission pathways

Table 3: spERC Best Practice Format – proposals for changes after exemplification

FS Section	Expected types of information	Back ground ²²	EA Input	CSR	ES to DU
Title of spERC	Title of spERC	Could ²³	No	Yes ²⁴	Yes
SpERC code	spERC Code (including one or several ERC numbers depending on the factsheet coverage)	Could	No	Yes	Yes
Scope	• Substance types / functions included or excluded ²⁵	Could	No	Yes	No
	• Inclusion in matrix	Could	No	Yes	No
	• Specification of product types covered, if relevant and not already contained in the title	Could	No	Yes	No
	• Additional information relevant to identify the scope (e.g. on obligatory RMMs ²⁶ or specific application techniques)	Useful	No	Yes	Yes

²² The content of the background document depends on whether it covers the entire sector (and all spERCs) or only some of the sector's spERCs. In this column the priority for including information in the background document is indicated (must = essential content; should = high priority that information is provided; could = information is useful for the registrant / evaluator but not so important. Could is also used in cases, where it depends on the scope of the background document if the information is included or not (e.g. list of spERC titles and codes).

²³ Overview of available spERCs e.g. as table, not necessarily part of the background document for spERCs

²⁴ Should correspond to title of the contributing activity / contributing scenario

²⁵ If different spERCs are covered by one factsheet, this section has to be differentiated for the different spERCs as they should only and explicitly differ by substance type / function. Different substance properties should be taken into account in the sub-spERCs.

²⁶ This information does not replace information in the section on obligatory RMMs

FS Section	Expected types of information	Back ground ²²	EA Input	CSR	ES to DU
Related use descriptors	List of applicable UD: SU ²⁷ , PC and IUCLID lifecycle stage indicator	Could	No	Yes	Yes
Process description	Description of operations, processes and equipment (including if cleaning and maintenance are covered) focussed on environmentally relevant aspects ²⁸	Useful	No	Yes	No
	Processing steps / activity(-ies) where the main emission occurs	Should	No	Yes	No
Operational conditions (including information on technical strategies to achieve high raw material efficiency)	Process²⁹	Should: General description of processes in sector	No	Yes	Yes
	• Location of use (indoor / outdoor / indoor and outdoor)		No	Yes	Yes
	• Degree of containment of the main process (open / closed) ³⁰ :		No	Yes	Yes
	• Water contact (dry process / water contact possible / organic solvent based process)		No	Yes	Yes
	• Automation in chemicals handling influencing raw material efficiency (e.g. manual / automatic dosing)		No	Yes	Yes
	• Measures to achieve efficient use of chemicals affecting emissions to air (e.g. water re-use, recovery of substances from waste etc.)		No	Yes	Yes
	• Measures to achieve efficient use of chemicals affecting emissions to water (e.g. water re-use, recovery of substances from waste etc.)		No	Yes	Yes
	• Measures to achieve efficient use of chemicals affecting emissions to soil (e.g. water re-use, recovery of substances from waste etc.)		No	Yes	Yes
	• Conditions of equipment cleaning		No	Yes	Yes
	• Conditions of auxiliary processes (loading/unloading/sampling etc.) if relevant for release ³¹	No	Yes	Yes	
	Wastewater	No	Yes	Yes	Yes
	• Connection to standard municipal STP (yes/no)				
	Waste Handling and Disposal	Should General info state-of-the art	No	Yes	Yes
• Qualitative information on which types of waste occur from equipment cleaning and how they are handled/disposed of	No		Yes	Yes	
• Qualitative information on which types of processing waste occur and how they are disposed of	No		Yes	Yes	
Obligatory RMMs onsite ³²	• RMM limiting release to air (examples of techniques proposed):	Should General info state-of-the art	No	Yes	Yes
	○ Air RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		Via RF	Yes	Yes
	○ Reference for Air RMM Efficiency		No	Yes	No

²⁷ If a mixture is used in practically all sectors, e.g. adhesives or paints, the SUs do not have to be listed.

²⁸ This information should be concise but allow understanding the specific activities and type of process / equipment covered by the spERC. The information should at least include information on the processing techniques and specific equipment used and should be at the level of activities. A list of generic processing steps (such as storage, filling, processing, packaging, cleaning) is not acceptable. A detailed, flow-text description should be included in the background document.

²⁹ It may be discussed in the further process if the headings "Process", "Wastewater" and "Waste Handling and Disposal" should be aligned with the headings of the exposure scenario.

³⁰ The degree of containment relates to the "main process". If conditions of cleaning and auxiliary activities have a different status (in particular if the main process is open and the others are closed), this should be indicated in the rows "conditions of cleaning" and "conditions of auxiliary processes". The main point of release and the way a substance is processed are described in the scope and complement this information.

³¹ If auxiliary processes give rise to significant environmental emissions the respective conditions assumed in the release factors would be specified here.

³² If RMMs are specified in this section, it is implied that they are considered in the RFs; i.e. the RF values integrate the efficiency of RMMs. Hence, the RMM efficiencies specified are NOT to be included in the emission estimation in addition to the RFs.

FS Section	Expected types of information	Back ground ²²	EA Input	CSR	ES to DU
	• RMM limiting release to water (examples of techniques proposed):	art Must justification of efficiencies	No	Yes	Yes
	○ Water RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		Via RF	Yes	Yes
	○ Reference for water RMM Efficiency		No	Yes	No
	• RMM limiting release to soil ³³ (examples of techniques proposed):		No	Yes	Yes
	○ Soil RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		Via RF	Yes	Yes
	○ Reference for soil RMM Efficiency		No	Yes	No
Substance use rate	Daily substance use rate during regular processing, differentiated according to substance functions, if relevant (table)	Could	Yes	Yes	Yes
Emission days	Number of emission days during regular processing;	Should	Yes	Yes	Yes
RF air	Numeric value / percent of input amount (related to substance properties for sub-spERCs ³⁴):	Must needed to relate it to the justification	Yes	Yes	No
Justification RF air	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
RF water	Numeric value / percent of input amount (related to substance properties for sub-spERCs ³⁴):		Yes	Yes	No
Justification RF water	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
RF soil	Numeric value / percent of input amount (related to substance properties for sub-spERCs ³⁴):		Yes	Yes	No
Justification RF soil	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
RF waste	Numeric value / percent of input amount (related to substance properties for sub-spERCs ³⁴):	Must	Yes	Yes	No
Justification RF waste	Reference to the background document and method of derivation (literature, industry survey etc.)		No	Yes	No
Optional RMMs	• RMM limiting release to air (examples of techniques proposed):	Must justification of efficiencies	No	May	If CSR
	○ Air RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		May	May	If CSR
	○ Reference for Air RMM Efficiency		No	May	No
	• RMM limiting release to water (examples of techniques proposed):		No	May	If CSR
	○ Water RMM Efficiency (differentiated according to substance properties, if sub-spERCs are defined):		May	May	If CSR
	○ Reference for water RMM Efficiency		No	May	No
Scaling	Scaling equation and parameters that can be scaled	Should	No	Yes	Yes

³³ It should be decided in the further discussion whether or not the RMMs to soil should be maintained. They would be relevant only for consumer or professional outdoor uses.

³⁴ If sub-spERCs are defined and RFs are provided in relation to different substance property ranges, this section needs to be further structured, e.g. by including a table for the different release factors. The format does not include such sub-division in order to keep the structure simple and because only few spERCs currently do include sub-spERCs.

ANNEX 3: SUMMARY OF INDUSTRY FEEDBACK ON THE SPERC BEST PRACTICE FORMAT

1) GENERAL QUESTIONS

Table 4: Abbreviated answers to general questions on the spERC project

Association Issue	ACEA	ETRMA	Eurometaux	FEICA
Main difficulties developing best practice spERC	Little ES to compare if the current spERC content can be aligned with information from suppliers; Find a way to express the use that fits for all cases	High resource demand, lack of expertise as spERC was developed by consultant in 2010	No particular difficulties OCs required more efforts; OCs were derived from available data on metals (top down)	High resource input unrealistic for all sectors Request for ECHA to make timeline for updating according to relevance and discuss with sectors having spERCs already
Important contribution of the project	The format provides useful guidance on which information to compile in the spERC	Reflection of necessary data for spERCs Facilitates communication in the supply chain	Structure of background document helpful Unclear added value of the sector description	Improved presentation of information due to split into FS and BD More structured and granular structure of FS supports homogenous info presentation

2) SPERC FORMAT

Association Issue	ETRMA	FEICA	ACEA	Eurometaux
Should one factsheet only cover 1 spERC?	Keep spERCs together to maintain overview	1 spERC (with subspERCs according to substance properties) per FS. Supports one set of OC per spERC	Several spERCs to have on FS for a mixture; gives better overview, facilitates work for registrant	No opinion
Information types in scope section adequate?	OK	OK	Proposal to limit scope regarding substance properties (e.g. no CM or PBT)	OK
Level of detail of process description OK?	Not too much doubling with existing information (e.g. ESD); no information without added value to users	Expectations may request too much detail	ACEA spERC is detailed, therefore more information than in other spERCs Difficult to describe complex issues understandably	Possible to describe process so that evaluators get a picture on what happens
Split of information in sub-sections confusing?	Sometimes difficult to understand which information to put where and to avoid duplication	No	No	Overlap between OCs and RMMs regarding "emission prevention"

Association Issue	ETRM	FEICA	ACEA	Eurometaux
Section "emission prevention" useful?	Difficult to understand which information to put, leads to duplication	Title misleading (belongs rather to RMMs) Duplicates info under "efficient raw material use" Rename and streamline	Unclear relation to RMM section, broad interpretation possible, different perspectives what to put are possible	Could be renamed "additional emission prevention" to avoid overlap with RMMs Why emission prevention to soil for industrial use
Adding or deleting OCs in the format?	--	c.f. emission prevention	Nothing; if rows don't fit one can put "not applicable"	Do not include information that is not relevant regarding the emission to the environment; e.g. containment not relevant for metals
Information types on obligatory RMMs OK?	Taken from RMM library, sensitive for emission estimation, should be tailored		OK	Unclear what is meant in relation to RFs Make clear in the FS that efficiency is already considered in the RFs
How is daily substance use rate provided?	Equation to calculate was provided and found most appropriate	Tabular information in the BD and not in the FS	Worst case from largest user, covers all users	Not provided
How are emission days presented?		No info	Survey information	Based on existing information
RF to waste derived?	Should information be in FS? Information on (safe) waste management could be provided in the background document to substantiate that no RF is included.	Not performed as no emissions on-site	Available, derived by mass-balance (difference between emissions and 100%)	Derived from data on waste streams, readily available in the sector
Should optional RMM be presented in the FS or the background doc?	Unclear if optional RMMs should be in the FS	"Yes/No" in FS and reference to BD	Available only in some firms, no opinion on where to put	Unclear what is meant in relation to RFs
Additional feedback	No	No	No	Clear correlation between OCs and RFs not always existing or difficult to derive; other correlations may exist and be relevant, e.g. as found for metals (solid-water partitioning coefficient) Overlap of information on OCs and RMMs

3) BACKGROUND DOCUMENT

Association Issue	ETRMA	FEICA	ACEA	Eurometaux
Distribution of information between FS and BD difficult?	--	Discussion needed on level of detail regarding process description	Depending on level of detail	Sometimes level of detail unclear
Sector information useful also for registrants?	--	Relevant and informative	Not intended to provide as background document applies to specific uses	Unclear
Additional general information provided	--	Putting spERCs into context (conservative low tier assessment; not reality important for registrants)	No	
Difficulties in justification of RFs?	--	Justification of RFs was major effort	Transparent documentation if based on (confidential) survey data	Difficulties due to confidentiality of raw data
Additional info in the background doc?	--	--	--	
Info to be skipped in the background doc?	--	--	--	Process descriptions available in BAT documents, reference to BAT included in BD

