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Guidance on Communication on Substances in Articles

For our Environment

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Guidance on Communication on Substances in Articles

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Abstract

This guidance supports the communication in supply chains regarding substances of very high concern in articles. It is addressed to producers, importers and retailers of articles in the EU. It aims to provide guidance to actors handling articles on a structured approach to

- fulfil the REACH requirements for communication on substances on the candidate list for authorization in articles (Art. 33)
- provide information to the recipients of their articles to enable them to fulfil their legal obligations under REACH, workers protection, environmental protection and product safety legislation
- provide information to all actors handling articles to enable them to take full producer responsibility or to improve the chemical safety of their articles
- request information from (article) suppliers in a targeted way in order to keep communication efforts to the necessary minimum extent.

Apart from the practical support offered by the guidance it is intended to contribute to the extension and the standardization of the content of communication on substances in articles in the supply chains within but also beyond REACH. The guidance is available also as an IT-tool and can be accessed via http://svhc-in-articles-communication.de/.

Kurzbeschreibung

Dieser Leitfaden unterstützt die Lieferketten- Kommunikation zu besonders besorgniserregenden Stoffen in Erzeugnissen. Er richtet sich an Hersteller, Importeure, Weiterverarbeiter und Händler von Erzeugnissen in der Europäischen Union. Ziel des Leitfadens ist es, den verschiedenen Akteuren, die mit Erzeugnissen umgehen, eine strukturierte Vorgehensweise an die Hand zu geben. Was leistet der Leitfaden?

- Unterstützungder Akteure bei der Erfüllung der Anforderungen gemäß REACH Art. 33 zur Kommunikation zu Stoffen der Kandidatenliste in Erzeugnissen).
- Hilfestellung für Akteuren, um den Abnehmern ihrer Erzeugnisse die Informationen zu liefern, die die Abnehmer selber brauchen, um ihre REACH-Anforderungen zu erfüllen (bezogen auf den Arbeitsschutz, den Umweltschutz und produktbezogenen Gesetzgebungen).
- Unterstützung aller Akteure, die mit Erzeugnissen umgehen, ihre Produktverantwortung in vollem Umfang wahrzunehmen und die Sicherheit ihrer Produkte, bezogen auf Chemikalien, zu erhöhen.
- Unterstützung der Unternehmen bei der zielgerichteten Erhebung von Informationen von ihren (Erzeugnis-) Lieferanten . Der mit der Kommunikation verbundene Aufwand kann dadurch auf das erforderliche Mindestmaß eingegrenzt werden.

Zum einen bietet der Leitfaden Unterstützung für die Praxis. Zum anderen soll er dazu beitragen, dass die Kommunikation zu Stoffen in Erzeugnissen erweitert und standardisiert wird. In den Lieferketten. Mit Bezug auf REACH, aber auch darüber hinaus. Dieser Leitfaden ist auch in ein IT-Instrument umgesetzt worden. Dieses ist öffentlich frei verfügbar unter via http://svhc-in-articles-communication.de/.

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List of Abbreviations

AC	Article Category
AP	Article Producer
AP-FA	Article Producer of Final Articles
AP-FTA	Article Producer of First-time articles
AP-IA	Article Producer of Interim Articles
Art.	Article
bw	body weight
CMR	Carcinogenic Mutagenic and Reprotoxic Substance
CoU	Conditions of Use (Operational conditions and risk management measures)
CSR	Chemical Safety Report
DF	Data field
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
DU	Downstream User
ECHA	European Chemicals Agency
ECHA Chem	Database of registered substances run by ECHA
Env	Environment
EoL	End of Life
ERC	Environmental Release Category
ES	Exposure Scenario
EU	European Union
FA	Final Article
FTA	First-time article
HH/hh	Human Health
IA	Interim Article
M/I	Manufacturer / Importer according to REACH
OC	Operational Conditions of use
PBT	Persistent, Bioaccumulative and Toxic Substance
PNEC	Predicted No Effect Concentration
PROC	PROcessing Category
REACH	EU chemicals regulation on the Registration, Evaluation, Authorisation and Restriction of CHemicals
RMM	Risk Management Measure
SDS	Safety Data Sheet

SiA	Substances in Articles (ECHA guidance document)
SU	Sector of Use
SVHC	Substances of Very High Concern
vPvB	Very Persistent and very Bioaccumulative Substance
WF	Work flow
w/w	weight / weight
Abbr.	in full

1 Introduction to the guidance

1.1 Aim and target group of the guidance

This guidance is addressed to producers, importers and retailers of articles in the EU. It aims to provide guidance to actors handling articles on a structured approach to

- fulfil the REACH requirements for communication on substances on the candidate list for authorization in articles (Art. 33)
- provide information to the recipients of their articles to enable them to fulfil their legal obligations under REACH, workers protection, environmental protection and product safety legislation
- provide information to all actors handling articles to enable them to take full producer responsibility or to improve the chemical safety of their articles
- request information from (article) suppliers in a targeted way in order to keep communication efforts to the necessary minimum extent.

Apart from the practical support offered by the guidance it is intended to contribute to the extension and the standardization of the content of communication on substances in articles in the supply chains within but also beyond REACH.

The guidance does NOT provide direction on the assessment of risks from substances in articles. It also does NOT intend to support the assessment whether or not a notification according to REACH Art. 7(2) is required[1] and/or if an exemption from that could be claimed.

The guidance is available also as an IT-tool and can be accessed via http://svhc-in-articles-communication.de/.

1.2 Substances in articles

In the guidance and the IT-tool the term SVHC is used for substances (in articles) which are in the focus of the article producers' or importers' work. The term SVHC should be regarded as "placeholder" because the workflows and communication process could be more limited or more extensive than suggested by the term SVHC:

- Among all possible SVHC, a few are identified on the candidate list for authorization ("candidate substances"). For the candidate substances, some communication is required under REACH and some communication depends on whether or not information is necessary to ensure safe use (Art. 33; c.f. final report Section 4.1 – 4.3)
- SVHC are the substances which fulfil the criteria of Art. 57 of REACH; some of them can be identified by their classification (CMRs Cat. 1a and 1b), others may only be suspected SVHC (e.g. H410 indicates a potential PBT)
- Substances which don't fulfil the criteria as SVHC but may cause a risk during the life-cycle of an article due to other reasons could also be included on communication on substances in articles as part of the producer responsibility and best practice communication.

[1] However, the guidance supports the pro-active provision of information that the article producers or importers need to do that assessment.

1.3 Structure of the guidance

The guidance consists of four parts: workflows guiding the work process; guidance notes to the workflows which provide explanation and additional information to answer the questions, identify information etc.; communication modules which structure information according to specific needs in the supply chain and data fields which detail the different pieces of information that is needed to fulfil the identified communication needs.

1.3.1 Workflows

The workflows are structured decision processes which aim to support the identification of information to communicate or request on substances in articles along the supply chain. The workflows should be started with the workflow 1 on the identification of the role of the user of the guidance and his intention to either forward or request information in the supply chain. The result of going through the workflows is a list of communication modules, which should be used to request or provide information on a specific SVHC in a specific article along the supply chain. The workflows are presented in Section 3.

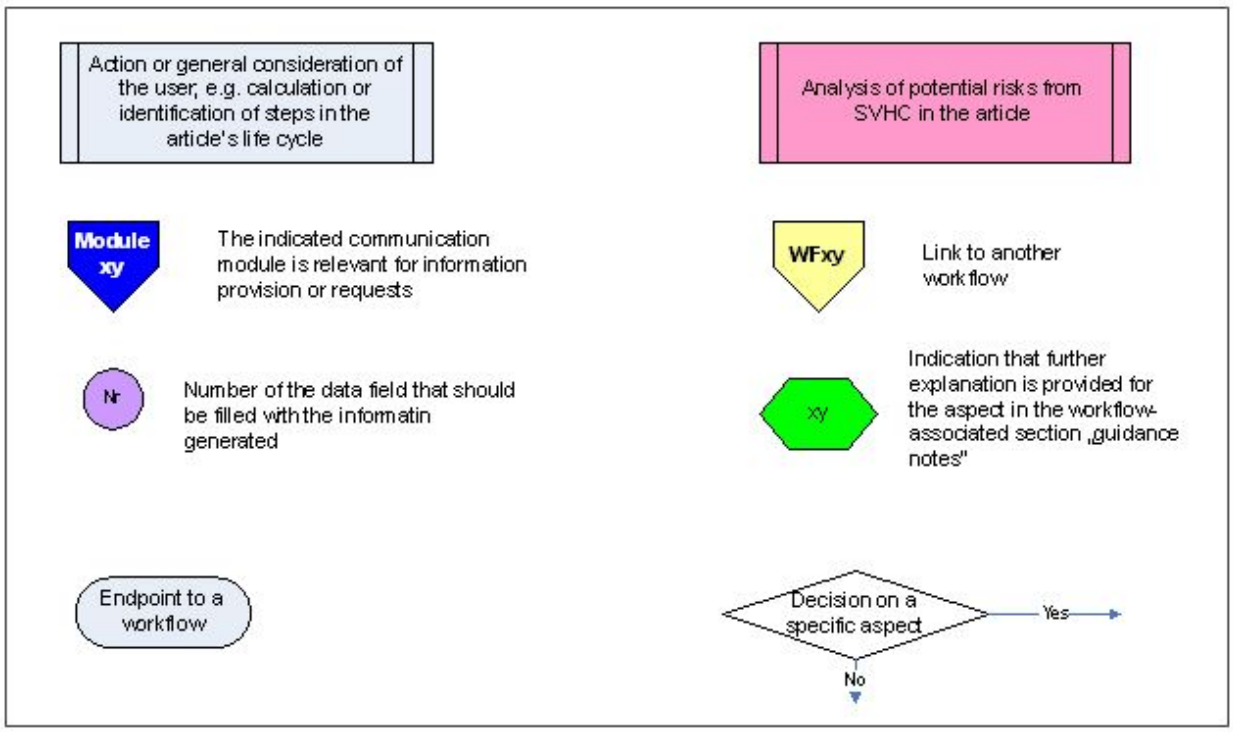
The workflows give guidance for different tasks, steps of an article's life-cycle and are partly role specific. There are 6 workflows in total. The first workflow should be used as a starting point of the process.

- WF1 – identification of article producer role
  (note that the workflow is based on the "once-always" interpretation of REACH Art. 33[2])
- WF2 – identification of information on the SVHC in the article
  as basis for
  a) reaching legal compliance and
  b) estimating potential risks and/or communicating in the supply chain
- WF3 – identification of information related to the processing of articles
  relevant for communication on workers and environmental protection
- WF4 – identification of information related to the service life of articles
  relevant for communication on consumer and environmental protection
- WF5 – identification of information related to the waste stage
  relevant for communication on workers and environmental protection
- WF6 – information which producers of first-time articles and interim articles should request from their suppliers

Each workflow has a title. There are several elements which occur in all workflows:

[2] While ECHA and the EU Commission supported by some Member States are of the opinion that the 0.1% threshold refers to the whole „complex" article as placed on the market, other Member States (namely DE, DK, SE, FR, FI, AU and NO) interpret that the 0.1% refers to each subject that starts to be an article („first time article") and that does not stop to be an article even if merged with other such (first time) articles to a complex product. In this case the 0.1% refers to each first time article (parts/components). Further guidance is provided in the REACH info 6 by the German Federal Occupational Health and Safety Agency (http://www.baua.de/de/Publikationen/Broschueren/REACH-Info/REACH-Info-06.pdf?__blob=publicationFile&v=8).

Figure 1: Legend to the workflows



1.3.2 Guidance notes

The guidance notes are provided directly after each workflow. In the workflows a green hexagon with a number (WF number / guidance note number) indicates the existence of additional information and explanation in the guidance.

1.3.3 Communication modules

The communication modules are fixed sets of information which enable the actors holding that information to check specific aspects with regard to REACH compliance or to assess whether handling of or communication on substances in articles could be improved.

The communication modules can be used by information providers to structure information for their customers. They can also be used by actors who request information from their suppliers in order to target which information is actually needed.

The communication modules should ensure that only information is provide or requested which is necessary and helpful. They may simplify communication by standardizing information requests. Further explanation is provided in Section 5.

1.3.4 Data fields

The information that should be communicated as part of the different communication modules is organised in a table with different data fields. Each data field addresses one single type of information. The table of data fields can be regarded as a/the database from which the information for the communication modules is drawn from. The table of data fields gives some explanation on the information types and where to obtain the information from (information

sources). The same data field may be referenced by several communication modules; e.g. the name of the SVHC is always needed.

Data providers should fill the data fields needed to forward the selected information modules as they go through the workflows. Actors requesting certain communication modules from their suppliers can fill the relevant data fields upon receipt of that information and use it for the envisaged purpose.

The data fields are the “full list” of information that could be needed to communicate on substances in articles. However, in many cases only parts of that information is necessary and therefore the users of the guidance should NOT start looking for all information and fill the fields but should use the workflows and identify, via the communication modules, which data fields are actually needed.

The table with data fields is contained in Section 4.

1.4 General remarks

1.4.1 Candidate substances, SVHCs and hazardous substances

The workflows and the guidance currently don’t differentiate between substances but all elements can be applied to any type of substance.

However, the users should note that the REACH text requires in Art. 33 that the name of a candidate substance is communicated as a minimum, if contained in concentrations above 0.1% in the article. Any information necessary to ensure the article recipient can handle an article safely is obligatory as well. In order to determine which information on safe use is necessary requires an assessment of potential risks and exposures. Therefore, even if respective information on uses, use conditions, exposures and risk management measures is not forwarded in the article supply chain at the end, it may have to be available to the article producers, importers or retailers (c.f. background document) to identify the communication need.

1.4.2 Phase out and substitution

Substances of very high concern should be phased out and substituted with high priority. They can cause serious and irreversible damage to human health and the environment and the most effective risk management measure is the cease of their use. This goal is not only part of the REACH regulation but also enhanced under workers protection, environmental and product safety legislation.

Whenever an SVHC is identified in an article, your first action should be to check whether or not substitution with less hazardous alternatives is possible.

Only if there is no substitution option, you should proceed and identify which information to communicate in order to minimise risk from their use in articles. You should regularly check the substitution options because new alternatives may become available over time.

1.4.3 IT-implementation

The guidance is available also as web-based IT-tool. The tool has a similar structure as the guidance. It starts with an identification of the role in relation to the specific article for which the communication needs are determined. The user is then guided through the process with

questions similar to those in the workflows. Information is provided along with the questions to support answering of the questions. Information on the specific article and the SVHC under consideration are collected from the user during the use of the tool.

The result of using the IT-tool is an export file that contains the information (information modules) of a substance in the article that should be provided in order to meet the legal requirements under REACH (Art. 33). If the user wants to extend his communication beyond the legal requirements, he can also determine the information that should be provided to the customers. In that way, the customers can take on their producer responsibility and fulfil their obligations regarding workers protection and environmental / installation-related legislation.

1.4.4 Background information

This guidance aims at being concise and practical. Background information on the legal requirements under REACH and on producer responsibility in general, the information needs and availabilities of different actors as well as communication examples are given in the Section 4 of the final report.

1.4.5 Interpretation of the 0.1% threshold

There are different interpretations of the reference unit to which the 0.1% threshold in Art. 33 applies. This guidance conforms to the opinion of the so called “Dissenting Member States”, who developed the “once an article always an article approach”. The “once-always” interpretation of an article is the basis of this guidance (c.f. footnote 2). The workflows are based on the current understanding of the “once-always” concept and the possibilities of how and who could or could not add SVHC to articles.

At the time of writing the guidance there was no agreed and final guidance on the once-always approach available.

1.4.6 Environmental risks from air emissions

Substances may evaporate from articles or be emitted as part of dusts generated during article processing or service life and may result in environmental risks. This guidance does not fully account for these risks because the air risk assessment methodology is not yet elaborated appropriately and the necessary hazard information is often not available. Furthermore, it is likely that in many cases air emissions from articles, in particular during their service life, do not cause relevant risks. Nevertheless, a qualitative check should be performed on potential exposures and the need to ensure safe handling and use.

2 Getting started

You should start by

- defining the specific article for which you intend to analyse your communication needs. Note that Communication Module[3] *Comp,* which includes information on the composition of articles and mixtures, is always needed in case you work on a candidate substance which is contained in concentrations above 0.1% in the article.
- defining your role in relation to that article by using Workflow 1 WF1[4],
- decide if you want to identify which information to provide to your customers or whether you want to request information from your supplier.

If you want to provide information: You have to use the workflows 2 to 5 for each specific article and each SVHC separately; i.e. you should fill the data field table always for a specific SVHC in a specific article. If there are more than one SVHC in an article, several tables with data fields need to be filled. If an SVHC is used in many articles, you may copy and paste the substance information from one table to another.

If you want to request information from suppliers: You may ask information on any SVHC in the article, if you are not yet aware of which substances are contained in the article (general request). Or you may ask for information on one or more substances of which you know they are present in the article (specific request). You will use the workflows to identify the relevant communication modules and then specify whether they are generic or should be provided for one or more specific substances.

A template for a table for data fields is provided in Annex 2.

[3] The Communication Modules are explained in Section 5

[4] The workflow may not be necessary if you are familiar with your roles and / or have used it a few times and you may directly start with the workflows relevant for you.

3 Workflows

3.1 WF1: Identification of roles

3.1.1 Introduction

You should use Workflow 1 (WF1) to identify your role in relation to a specific article. It is possible that you have several roles related to an article, e.g. if you produce an article from chemicals and raw materials and also further process it before you supply it to your customer. For the purpose of identification of information requirements, that role is relevant which requires the most information.

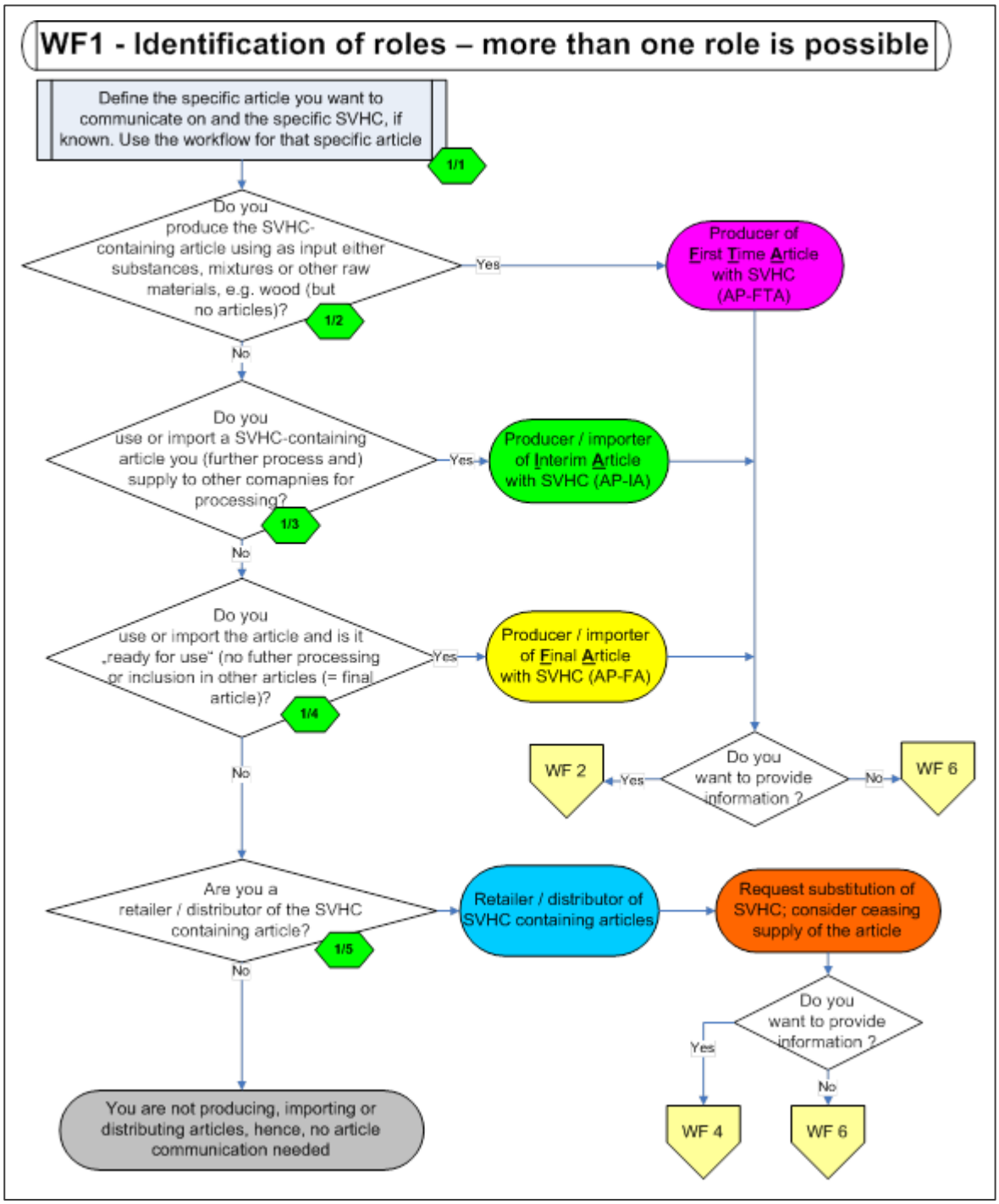
Example: you manufacture an SVHC-containing polymer profile (you are a producer of a first-time article (AP-FTA)), which is sawed and glued as window frame (you are a producer of an interim article (AP-IA). The final article would be the window frame into which the glass is also included and fixed, which may be produced by your customer (he assembles the article with other parts and is a producer of a final article which is ready for use (AP-FA)). The role for identifying information requirements would be that of the AP-FTA, because the information availability is highest (also on the SVHC as such) and for identifying which information is required, the highest number of different uses (processing, service life) and the waste stage need to be considered.

The identification of the role is hence connected to a specific article. Hence, before using the workflow you should define for which specific article (you may have different roles for different articles) you want to assess which information to communicate.

Based on the identified roles and whether or not information should be provided or requested, you will be then guided to the next workflow.

3.1.2 Workflow 1

Figure 2: Identification of roles related to the production, import or distribution of articles



3.1.3 Guidance notes for Workflow 1

WF1/1

Your role as well as the type of information to be provided or requested may differ in relation to different articles you receive or supply. Therefore, you should first define the article for which you want to identify your communication needs.
If you don't know if there are SVHCs contained in the article, you may first make a general request to your supplier on whether or not SVHCs are contained.
If you are aware that there are several SVHC in the article, you may simultaneously go through the different workflows for each of them. Simultaneously, you should document the work in different tables because the communication need may not be the same for the different substances[5].

WF1/2

See the article definition in the ECHA guidance on substances in articles and the definition of „once an article – always and article" by the dissenting Member States[6].

WF1/3

If you are using or importing SVHC-containing articles you need to know which SVHC are contained and in which concentrations and amounts. If you don't know if an SVHC is contained in the article you import / produce, you should request that information (WF6).

If the existing (used or imported) article already contains the same SVHC you wish to add, the concentration of that SVHC in the new formulated article needs to be recalculated.

When considering, if you process an article or if your customers further process an article, you should take the following definition of "processing" into account:

- mechanical treatment such as bending, sawing, hammering or
- chemical treatment such as lacquering, gluing etc.

Due to the lack of a guidance on how to exactly interpret the once-always approach for substances in articles, you should take note of the approach in this guidance for how to determine the 0.1% reference unit if articles are treated with the same SVHC or mixtures containing the same SVHC as already included in the article.

If substances / mixtures containing SVHC are used in the processing and included in or onto the article, the SVHC concentration in the article has to be adapted. If an SVHC is added which is already contained in the article, both amounts (and the weight of the article AND the added chemicals) need to be considered when determining the concentration in the article. If a new SVHC is added, its individual concentration must be determined in addition.

If two or more SVHC-containing articles are merged / assembled the SVHC concentration(s) still relate to the individual first-time articles and may not be recalculated for the assembled / complex article.

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[5] For example, you may have already some information that you need to request for another or the substance properties may exclude certain risks and hence communication needs, whereas it may be very relevant for the other.

[6] C.f. links in Annex 4

WF1/4

The term „final article“ means that no further processing of the article is intended (it is „ready-to-use”). Final articles may also be spare parts (for repair or exchange) such as electricity cables or small parts which may be included into articles without processing, such as screws. Final articles may hence be placed on the market as part of complex articles or separately (screw as such or screw used in the assembly of a complex article).

WF1/5

Retailers store and distribute articles. If SVHC-containing articles are distributed, the substitution of SVHC should be requested. Information to be provided only concerns the service life and the waste stage of the article.

3.2 WF2: Information on the SVHC in the article

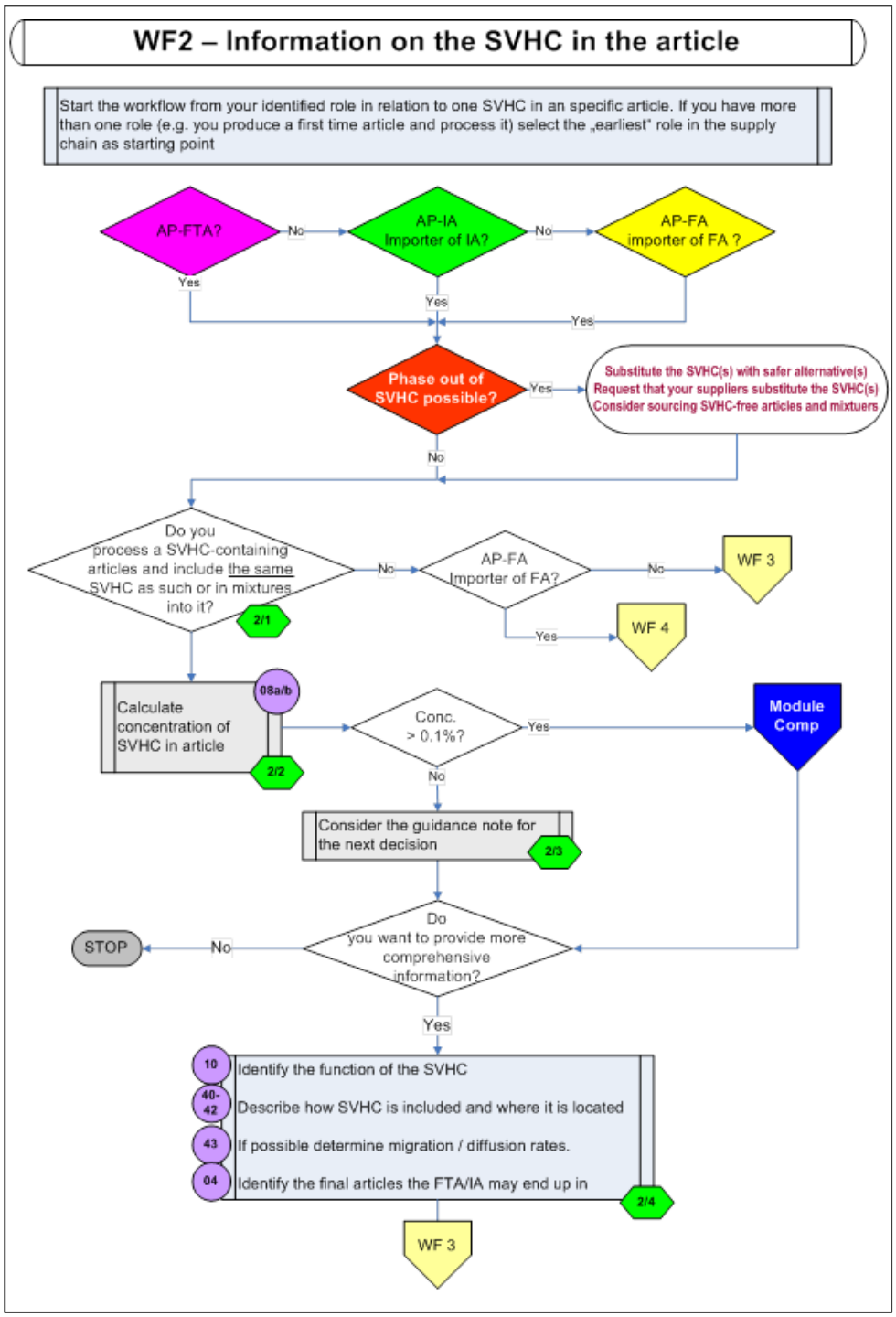
3.2.1 Introduction

This workflow concerns the information basis related to the SVHC (or other substances, c.f. Section 1.4.1) and the specific article. It consists of two steps:

- For all actors: Identification if the concentration of the contained SVHC exceeds 0.1% w/w. If the SVHC is a candidate substance, REACH communication is obligatory.
  - Producers of first-time articles include SVHCs during the article production: Calculate the concentration from the SVHC amounts as such or in mixtures and the weight of the article.
  - Producers of interim articles including an SVHC which is already contained in the article: Calculate the concentration from the used amount and the amount already contained in the article in relation to the weight of the article plus the weight of the included chemicals. If a new SVHC is included: Calculate the amount from the included amount and the article weight plus the weight of the included articles.
- For producers of first-time and interim articles and for article importers: Description and compilation of basic information on how and where exactly the SVHC is included and contained in the article. The extent to which this information can be generated by the different actors may vary depending on their role and the availability of information.

3.2.2 Workflow 2

Figure 3: Identification of information on SVHC in articles



3.2.3 Guidance notes for workflow 2

WF2/1

If you use and include the a SVHC as such or in a mixture into a first-time article (FTA) or an interim article (IA) which already contains the same SVHC, the concentration of that SVHC in

the article needs to be recalculated (c.f. WF 2/2). Compare the substance information received with the FTA/IA with the information on the SVHC in the safety data sheet from your supplier. Include the substance concentration in the mixture in DF05a and the amount of the mixture used in DF 05b.

If you use an SVHC-containing article and include a different SVHC as such or in a mixture, you include an SVHC into an article for the first time and need to determine the concentration by dividing the weight of the first time article (which may be only a part of the article into which you include the SVHC).

WF2/2

Detailed guidance on how to determine the concentration of SVHC in articles is provided in the ECHA guidance and the guidance by the Dissenting Member States[7].

All producers of articles which include an SVHC into an article during its production (AP-FTA) or during the processing of an FTA (AP-IA; AP-FA)

The following calculations can be used for situations, where the SVHC is included into the article during its manufacture (FTA-production).

In addition, article producers who include an SVHC which is not yet contained in the article during processing or assembly of an interim or final article (AP-IA, AP-FA) can use the formula to determine the SVHC content in the article. Here, it is to be noted that the article weight (DF06a) refers to the first time article and not the entire interim or final article, which may be composed of many FTAs.

Concentration in FTA = amount included / article weight →

$$DF08a = DF07a / DF06a$$

If the SVHC is contained in a mixture: amount included = concentration in mixture * mixture amount →

$$DF07a = DF05a * DF05b$$

Producers of interim or final articles (AP-IA and AP-FA) using an SVHC already contained in the article

Concentration in IA =
(amount in FTA + amount included) / (weight of FTA + weight of included mixture) →

$$DF08b = DF07b / DF06b = (DF07a + DF05a*DF05b) / (DF06a + DF05b)$$

WF2/3

There is no REACH obligation to communicate on a SVHC, if the concentration remains under the threshold. However, it is advised to check whether the provision of information on this or other hazardous substances in the article may be useful nevertheless. Reasons to communicate

[7] ECHA: Guidance on requirements for substances in articles, version 2; April 2011, Helsinki available at http://echa.europa.eu/guidance-documents/guidance-on-reach; the guidance by the Dissenting Member States is not yet available

are that your customer is supported in fulfilling his legal obligations as employer or with regard to environmental protection and the chemical safety of his products.

WF2/4

The function of the SVHC (DF10) may be helpful for you and your customers to (re-)consider whether or not there are suitable alternatives to the use of an SVHC. A list of possible functions is provided in Annex 1 of the guidance.

The extent of SVHC emissions from articles is determined by their physical-chemical properties and by the way they are included in an article; i.e. how firm they are bound to the article (DF41), if they are enclosed by some sort of container (DF40) and if they are located rather on the inside or the outside of an article (DF42). If you provide that information, your customer gets a first impression on the likelihood and extent of potential exposures of humans or the environment.

Indicators of the degree of emissions are migration or diffusion rates (DF43). You may consider conducting respective testing, if you suspect that emissions could be high and potentially result in risks. If you provide this information to your customers, they may attempt quantitative assessments of chemical product safety.

Finally, the type of final article the FTA/IA should be used in (intended product fate) (DF04), also determines who will use the article (workers, consumers, children). This also affects if the (final) article is used indoors or outdoors, whether the FTA/IA containing the SVHC may cause specific use conditions and if specific waste treatment is likely. If you provide this information to your customers they get a better impression of the life-cycle of the SVHC.

3.3 WF3: Information on the processing of articles

3.3.1 Introduction

Processing and assembling of articles means any mechanical, physical or chemical treatment of first-time articles (FTA) or interim articles (IA) conducted by article producers in order to produce an IA or a final article (FA). Whereas the processing of articles refers to a change in shape or surface of individual FTAs/IAs, assembling refers to processes where two or more articles are brought together, e.g. by screwing or using adhesives.

The intentional inclusion of substances as such or in mixtures (SVHC or non-SVHC) into or onto articles is explicitly NOT in the focus of communication on processing or assembly.[8]

This does not exclude that chemicals are used in the processing of articles. Adhesives, for example, are used to merge two different articles and their components are hence used in article production[9] and included therein. The risks from the use of the adhesive are assessed

[8] Risks from the process of including substances as such or in mixtures into articles are covered by the registrants' CSR. Respective conditions of use and risk management measures should be communicated with the exposure scenarios or safety data sheets of the substances and forwarded with mixtures which contain it.

[9] The purpose of using adhesives is not to include them into or onto the article but to join and firmly connect different parts. The use of adhesives is therefore an assembling process. The risks from the use of the adhesive should be assessed in the context of the registration and related conditions of use and RMMs be communicated with the adhesive's SDS or ES. The risks resulting from substances in the articles to be merged during assembly are however subject to the assessment and potential communication according to Art. 33. In addition, the change of article weight due to the addition of the adhesive and the potential change of the amount and

and managed by the article producers whereas the risks from the service life and disposal of articles would focus on emissions and exposures from components of the adhesive included in the article.

The aim of this workflow is to identify whether information on the conditions of use and risk management measures related to SVHC in the articles being processed and assembled should be forwarded along the supply chain. Risks could occur to workers and the environment from emissions of SVHC from the processed and/or assembled articles.

The workflow consists of three steps in relation to five parameters (in relation to workers health: dust formation, temperature, dermal contact and in relation to the environment: water and air emissions). The workflow takes the perspective of an article producer who considers the potential exposures during the processing/assembly at his customers' sites. This is done by:

- identification if one of the exposure drivers are likely to occur in the customers' processes;
- qualitative assessment of whether risks could occur or not. If there may be risks:
- selection of a communication module with related derivation of recommendations on processing conditions and risk management measures to be included in communication and in the respective data fields.

Note that REACH requires the communication of information on conditions of use and risk management measures which is necessary for the recipient of the article to ensure the safe use of the article. Hence, it is necessary to assess whether or not the article recipients need specific information on conditions and risk management measures for using the article safely. If normal handling does not ensure safe use of the article and consequently, if specific information would change the way an article recipient uses the article, then communication of information on the safe use is necessary and hence obligatory. The assessment of the need for communication is therefore an essential element of the article producers' and article importers' identification of REACH obligations.

If an exposure of humans or the environment is likely but the substance has no respective toxic or ecotoxic hazardous properties, the assessment result is that no communication is necessary. This is not indicated separately in the workflows. For example, if workers could come in direct dermal contact with the SVHC in the article but the substance is not hazardous via the skin, there is no need to communicate information.

For PBT/vPvB or non-threshold CMRs it is strongly recommended that substitution should be considered by any of the article producers. Furthermore, a quantified assessment of potential risks is not necessary and information on conditions of use (operational conditions, risk management measures) that lead to minimised exposures should be communicated.

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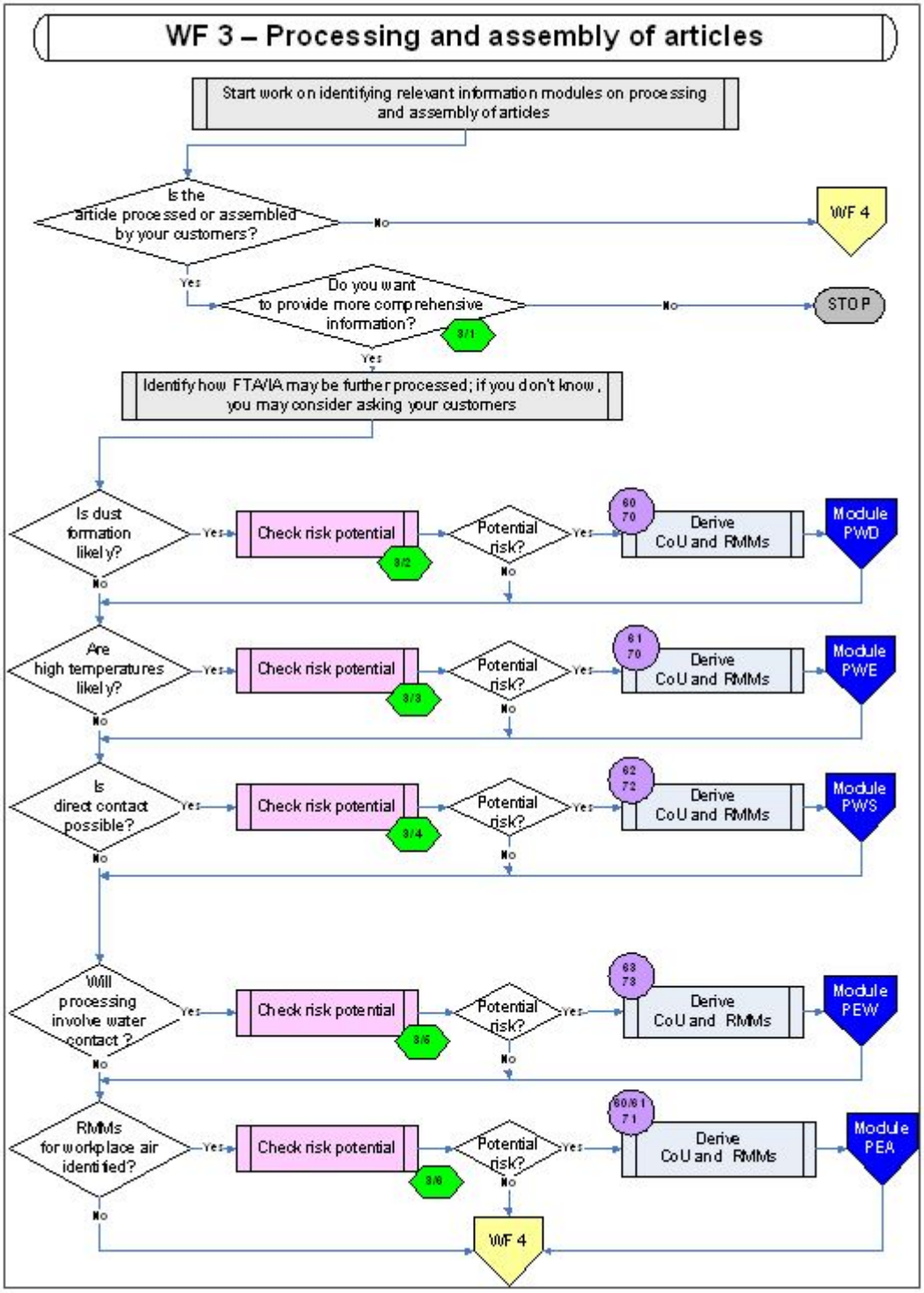
concentration of one or more SVHC contained in the adhesive have to be accounted for (see guidance note WF 2/2).

3.3.2 Workflow 3

Figure 4: Information on processing and assembly of SVHC-containing articles



3.3.3 Guidance notes for Workflow 3

WF3/1

Reconsider if you don't want to provide more comprehensive information to your customer!

Your customer must assess workplace risks, including exposures to chemical agents in articles. He can use information on SVHC in processed articles to improve the protection of his workers.

Your customer may have to comply with environmental emission limit values or other permitting conditions. Information on SVHC in articles he processes / assembles may put him into a better position to achieve and/or document compliance.

It is possible that you will go through the workflows and find out that you actually don't have to provide further information, because you can exclude that any relevant exposures could result from your article.

Or you may find out that there are opportunities for risk minimization during processing, service life or disposal of your article: By communication you may initiate and/or enhance their implementation.

WF3/2

To check if there may be risks to workers because SVHC-containing dusts are formed during processing of the SVHC-containing article you should analyse:

a) whether dust may be formed and if so, if the dust would contain the SVHC → check which types of processes are likely[10] and if they lead to dusting from the article and check if the SVHC is contained in parts which may be subject to this dusting;

b) if SVHC-containing dusts are formed, you may communicate on a precautionary basis or make a quantified worst-case assessment according to the ECHA guidance on chemical safety assessment, part R 17[11] to improve your understanding of risk.

Table 1: Information to analyse workers risks from dust during processing

Plausibility (step a)	In addition for estimate (step b)
DF42 location inside article	DF07a/b amount of SVHC in article
DF20 CMR properties	DF08a/b concentration in article
DF21 Hazardous by inhalation	DF24a DNEL Workers inhalation
DF32 SVHC properties acc. to Art. 57(f)	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling, you should forward an alert to your customer. Generate information on conditions of use to implement or avoid (DF60) and risk management measures to protect workers (DF70). Examples how the data fields could be filled can be found in Table 10.

WF3/3

To check if there may be risks to workers because SVHC evaporate during processing of the SVHC-containing article you should analyse:

a) whether the evaporation of SVHC from the article is likely based on how it is included and its physico-chemical properties → check which types of processes are likely[12];

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10 You may contact your customers and ask, if you are unsure of the further processing.

11 A link is provided in Annex 4

12 You may contact your customers and ask, if you are unsure of the further processing.

b) if SVHC could be emitted, you may communicate on a precautionary basis or make a quantified worst-case assessment according to the ECHA guidance on chemical safety assessment, part R 17 to improve your understanding of risk.

Table 2: Information to analyse workers risks from SVHC-evaporation during processing

Plausibility (step a)	In addition for estimate (step b)
DF20 CMR properties	DF07a/b amount of SVHC in article
DF21 Hazardous by inhalation	DF08a/b concentration in article
DF32 SVHC properties acc. to Art. 57(f)	DF24a DNEL Workers inhalation
DF40 Containment in article	DF50 Vapour pressure
DF41 Inclusion in matrix	
DF42 Location inside article	
DF43 Migration / diffusion rate	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and/or implementation of risk management measures, you should forward an alert to your customer. Generate information on conditions of use to avoid or implement (DF61) and risk management measures to protect workers (DF70). Examples how the data fields could be filled can be found in Table 10.

WF3/4

To check if there may be dermal risks to workers during processing of the SVHC-containing article you should analyse:

a) whether the worker may come in contact with the SVHC by touching the article (if the SVHC is not on the article surface, this is rather unlikely);

b) if contact could occur, you may communicate on a precautionary basis. A quantitative assessment will not be necessary in many cases but may be useful, e.g. if very mobile CMR substances are located at the article's surface. Guidance is provided in the ECHA guidance on chemical safety assessment, part 17.

Table 3: Information to analyse workers risks from dermal contact during processing

Plausibility (step a)	In addition for estimate (step b)
DF20 CMR properties	DF07a/b amount of SVHC in article
DF23 Hazardous by dermal contact	DF08a/b concentration in article
DF32 SVHC properties acc. to Art. 57(f)	DF24b DNEL Workers dermal
DF40 Containment in article	
DF41 Inclusion in matrix	
DF42 Location inside article	
DF43 Migration / diffusion rate	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and/or implementation of risk management measures, you should forward an alert to your customer. Generate information on conditions of

use to avoid or to implement (DF62) and risk management measures to protect workers (DF72). Examples how the data fields could be filled can be found in Table 10.

WF3/5

To check if there may be risks to the aquatic environment due to emissions of SVHC from article processing or assembly you should analyse:

a) whether the article comes into contact with water and the SVHC is likely to be released from the article → check which types of processes are likely and if the SVHC could be emitted to wastewater;

b) if SVHC-emissions with water could occur, you may either communicate on a precautionary basis or make a quantified worst-case assessment according to the ECHA guidance on chemical safety assessment, part R 16 and/or 17 to improve your understanding of risk and decide on information provision. A quantitative assessment may be useful in case of water soluble SVHCs which are contained in the article's surface area without being strongly bound.

Table 4: Information to analyse risks to the aquatic environment from water emissions of SVHC during processing

Plausibility (step a)	In addition for estimate (step b)
DF30 Environmental classification	DF07a/b amount of SVHC in article
DF31 PBT/vPvB	DF08a/b concentration in article
DF32 SVHC properties acc. to Art. 57(f)	DF33a PNEC aquatic
DF40 Containment in article	DF43 migration / diffusion rate
DF41 inclusion in matrix	
DF42 location inside article	
DF51 Water solubility	
DF52 Log Kow	
DF53 Persistence	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and/or implementation of risk management measures, you should forward an alert to your customer. Generate information on conditions of use to avoid or to implement (DF63) and risk management measures to protect the environment (DF73). Examples how the data fields could be filled can be found in Table 10.

WF3/6

The assessment of environmental risks from air emissions is not easily possible, frequently because of data gaps (c.f. Section 1.4.6). To get a general understanding and indication which communication is helpful, you could carry out the following two steps:

a) Consider air emissions as relevant, when the assessment of inhalation risks for workers results in a recommendation for air extraction (DF70);

b) Recommend that the SVHC emissions from article processing should be considered in the design of waste gas treatment devices (Generate information in DF71).

Table 5: Information to analyse risks to the air compartment from SVHC emissions during processing

Plausibility
DF70 RMMs release to (workplace) air

If you generate information for DF 71, communicate Module PEA.

3.4 Information on the service life of articles

3.4.1 Introduction

Workflow 4 refers to the service life of articles, i.e. the use of the final article (FA), which may be composed of first-time articles (FTA) and interim articles (IA) containing SVHC. The core user group of final articles are consumers.

Professional users may handle some types of articles as well, such as electric power tools or office equipment. The intensity and duration of exposure of workers from substances in these articles may be significantly higher than those of consumers. However, in order to limit the complexity of the current guidance, workers are not separately addressed in the workflows.

If the final article is used by workers more frequently or under conditions which are likely to result in higher emissions and exposures of workers than consumers; e.g. due to high temperatures, the users of this workflow should make a separate assessment of data and communication needs for articles used by workers.

The aim of the workflow is to provide guidance for the identification of information on the conditions of use that need to be ensured in order to prevent risks to consumers, professionals users or the environment from the SVHC in the article.

Communication on service life of SVHC-containing articles in the supply chain may include the limitation of use possibilities of FTAs or IAs in final articles. For example, if the use of an SVHC-containing FTA is safe only under normal temperature conditions, it may not be included in/on the inside of an oven.

Communication to consumers on final articles may consist of advice on how to use or store an article (e.g. not leaving it under the car windshield in summer as high temperatures could occur).

REACH requires communication if the information is necessary for the recipient to ensure the safe use of the article. At least a rough assessment is needed to decide whether or not the communication on specific information is required. (see background document).

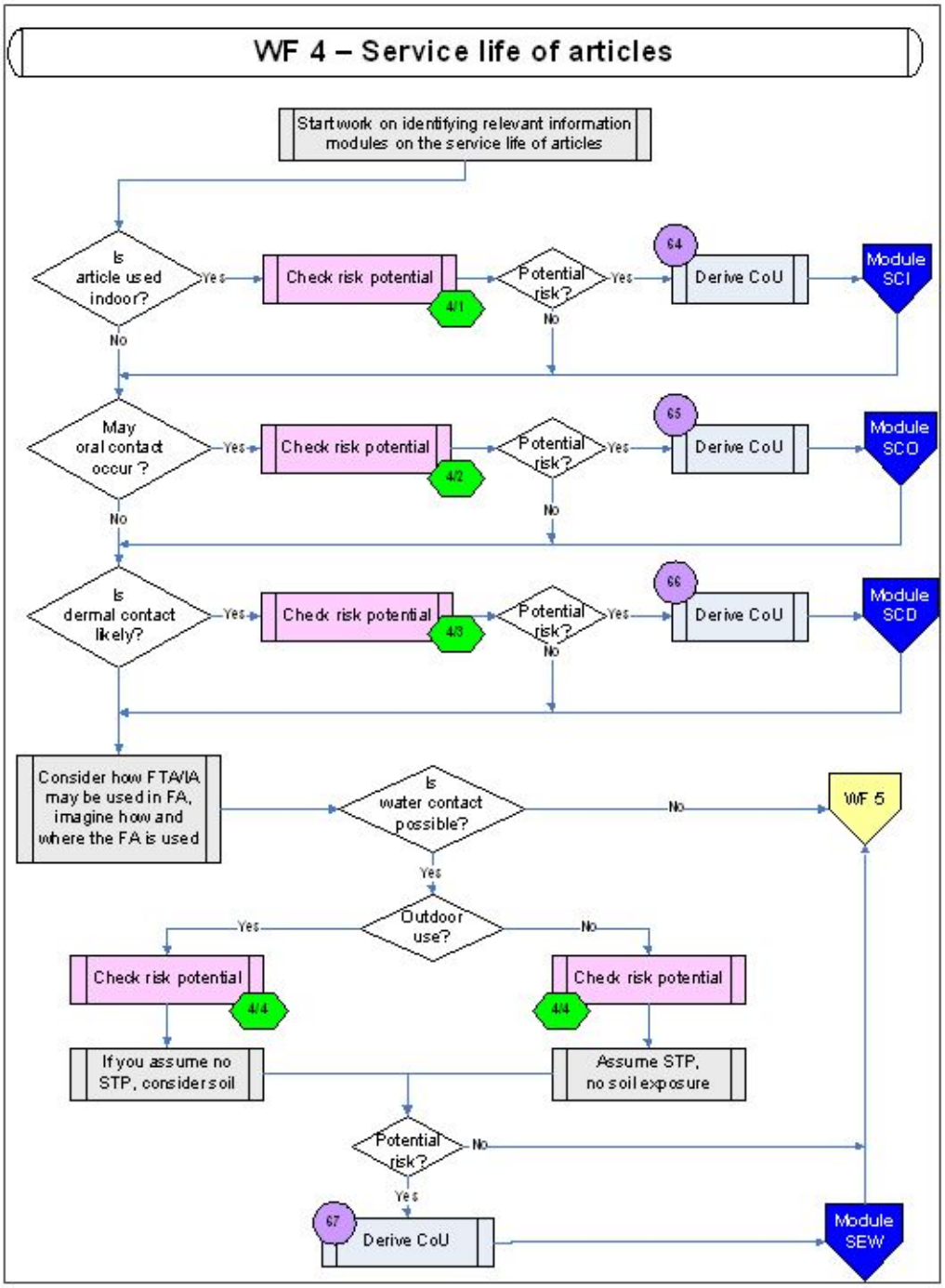
For the service life of articles normally risk management measures are product integrated, e.g. physical barriers such as metal containers or lacquers are included to prevent SVHC release. These article-integrated measures are regarded as conditions of use rather than risk management measures in the sense they are used in industrial or professional processes. Therefore, any measures to reduce emissions from articles are covered as “condition of use”.

If an exposure is likely but the substance has no related hazardous properties, the assessment result is that no communication is necessary. This is not indicated separately in the workflows. For example, if an SVHC is emitted to indoor air but is hazardous only via the skin, there is no need to communicate.

For PBT/vPvB or non-threshold CMRs it is strongly recommended that substitution should be considered by any of the article producers. Furthermore, a quantified assessment of potential risks is not necessary and information on conditions of use that lead to minimized exposures should be communicated.

3.4.2 Workflow 4

Figure 5: Information on the service life of SVHC-containing articles



3.4.3 Guidance notes for Workflow 4

WF4/1

If the final article may be used / present in children's rooms or included in toys or children's clothes you should re-check whether or not any SVHCs hazardous to human health can be phased out. Generally all articles close to children should not contain any substances with severe health hazards.

To check if there may be inhalation risks to consumers from SVHC-containing articles you should analyse:

a) whether the final article is used indoors and if so, if evaporation of SVHC from the article is likely based on how it is included and its physico-chemical properties;

b) if there may be an evaporation, you may conduct a quantified assessment based on the ECHA guidance on chemical safety assessment, part R 17[13] to improve your understanding of risk.

Table 6: Information to analyse consumer risks from SVHC-inhalation during service life of articles

Plausibility (step a)	In addition for estimate (step b)
DF04 Final article	DF07a/b amount of SVHC in article
DF20 CMR properties	DF08a/b concentration in article
DF21 Hazardous by inhalation	DF25a DNEL Consumers inhalation
DF32 SVHC properties acc. to Art. 57(f)	DF43 Migration / diffusion rate
DF40 Containment in article	DF50 Vapour pressure
DF41 Inclusion in matrix	
DF42 Location inside article	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and / or excluding that an FTA/IA is used in certain (critical) articles you should forward an alert to your customer. Generate data on the conditions of use to avoid or to implement (DF64). Examples how the data field could be filled can be found in Table 10.

WF4/2

If the final article may be mouthed by children you should ensure that no SVHCs with human health hazards are contained. If possible, ensure that the (final) article cannot be swallowed or mouthed.

To check if there may be oral risks to consumers from SVHC-containing articles you should analyse:

a) whether the final article may come into contact with food or is (included in articles) intended to be put into the mouth or body;

b) if the contained SVHC could be emitted in amounts causing relevant concentrations in the human body. A first worst-case scenario may assume full release and dilution

[13] A link is provided in Annex 4

by the body weight. More specific guidance is provided in the ECHA guidance on chemical safety assessment, part 17.

Table 7: Information to analyse consumer risks from oral exposure to SVHC during service life of articles

Plausibility (step a)	In addition for estimate (step b)
DF04 Final article	DF07a/b amount of SVHC in article
DF20 CMR properties	DF08a/b concentration in article
DF22 Hazardous by ingestion	DF25b DNEL Consumers oral
DF32 SVHC properties acc. to Art. 57(f)	DF43 Migration / diffusion rate
DF40 Containment in article	
DF41 Inclusion in matrix	
DF42 Location inside article	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and / or excluding that an FTA/IA is used in certain (critical) articles you should forward an alert to your customer. Generate data on conditions of use to avoid or to implement (DF65). Examples how the data field could be filled can be found in Table 10.

WF4/3

To check if there may be risks to consumers from dermal contact of SVHC from articles you should make a qualitative assessment of

a) whether dermal contact to the SVHC in the article is possible in general and if migration of the substance from the article is likely.

If so, you may limit the use of the article depending on the expected intensity of contact with particular view to possible exposures of children.

You should ensure that regular and/or intense contact of SVHC in the (final) article with children is avoided. Generally, all articles used in close contact to children should not contain any substances with severe health hazards.

Table 8: Information to analyse consumer risks from dermal exposure to SVHC during service life of articles

Plausibility (step a)
DF04 Final article
DF20 CMR properties
DF23 Hazardous by dermal contact
DF32 SVHC properties acc. to Art. 57(f)
DF25b DNEL Consumers dermal
DF40 Containment in article
DF41 Inclusion in matrix
DF42 Location inside article
DF43 Migration / diffusion rate

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and / or excluding that an FTA/IA is used in

certain (critical) articles, you should forward an alert to your customer. Generate data on conditions of use to avoid or implement (DF65). Examples how the data field could be filled can be found in Table 10.

WF4/4

To check if there may be risks to the environment from water emissions of SVHC from the article you should analyse

a) whether the article may come into contact with water and if the SVHC in the article may be released to it.

If the emitted amounts may result in environmental concentrations that could cause risks, a quantitative assessment (worst case assumptions) may be useful assuming

b) if the article is used outdoor: full release to the local environment and exposure of soil;

c) if the article is used indoor: full release to a municipal sewage treatment plant and no direct soil exposure[14].

More specific guidance is provided in the ECHA guidance on chemical safety assessment, part 17.

Table 9: Information to analyse aquatic risks from water emissions of SVHC during service life of articles

Plausibility (step a)	In addition for estimate (step b)
DF04 Final article	DF07a/b amount of SVHC in article
DF30 Environmental classification	DF08a/b concentration in article
DF31 PBT/vPvB	DF33a PNEC aquatic
DF32 SVHC properties acc. to Art. 57(f)	DF33b PNEC soil
DF40 Containment in article	DF43 Migration / diffusion rate
DF41 Inclusion in matrix	DF52 Log Kow
DF42 Location inside article	DF53 Persistence
DF43 Migration / diffusion rate	
DF51 Water solubility	

If there is a possible risk (obligatory communication) or an opportunity to reduce risks (voluntary information) by specific handling and / or excluding that an FTA/IA is used in certain (critical) articles, you should forward an alert to your customer. Generate data on conditions of use to avoid or implement (DF67). Examples how the data field could be filled can be found in Table 10.

[14] Indirect soil exposure is possible via sludge from the sewage treatment plant.

3.5 Information to the waste stage of articles

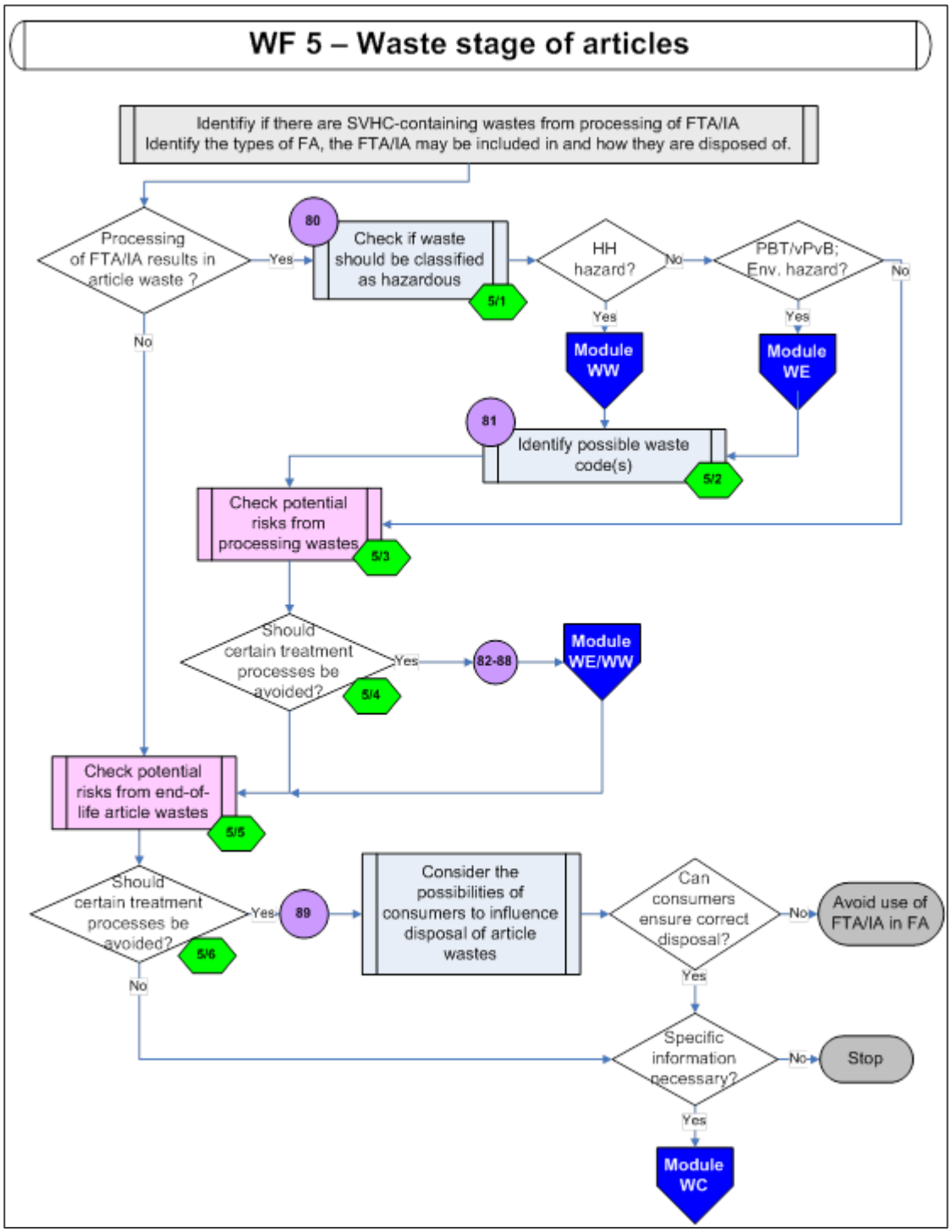
3.5.1 Introduction

Workflow 5 supports the identification of information that should be forwarded with articles in case specific conditions of use or if risk management measures are needed to ensure that no risks occur during the waste stage of articles.

The main option to influence how wastes from processing of articles and from the end-of-life (EoL) articles are treated is the selection of the disposal pathway. Consequently, communication on EoL-articles concerns how to dispose them (e.g. separate collection, municipal waste or recycling). Communication on wastes from article processing may be more differentiated, as companies have more opportunities to initiate specific waste treatment.

3.5.2 Workflow

Figure 6: Information on the waste stage of SVHC-containing articles and (processing) wastes



3.5.3 Guidance notes for Workflow 5

WF5/1

If article processing results in processing wastes, these should be classified according to waste legislation. It is likely that wastes containing SVHC in concentrations above 0.1% are to be

disposed of as hazardous waste. You cannot classify your customers' wastes but could indicate whether or not that waste may be hazardous or not. For this, compare the content of SVHC with the classification thresholds of the Hazardous Waste Directive[15].

WF5/2

You are not responsible to assign the waste codes of your customers' wastes. Nevertheless, it may be helpful for him to receive an indication of which waste codes you recommend from your perspective. Waste codes only have to be assigned for processing wastes.

WF5/3

SVHCs may cause specific problems and risks during waste processing. If risks are a result of the substance properties, they should be identified during registration and communicated along the supply chain (ES/SDS). You may therefore request your suppliers if any waste treatment processes are not compatible with the SVHC and should hence be excluded for the article.

You may also make your own assessment starting with the following list:

- PBTs/vPvBs may leach from landfills and should rather be destroyed (→ prefer thermal treatment to landfilling).
- Problematic substances could contaminate material streams in recycling processes and be contained in products manufactured from recovered materials (→ exclude recycling).
- Valuable substances could be saved and reused (→ recommend targeted recovery).
- Halogenated compounds can lead to the formation of dioxins and furans in thermal processes. These reactions can be enhanced by some metals, e.g. copper, which function as catalysts (→ avoid thermal treatment).

The ECHA guidance document on exposure assessment of the waste stage (R18) provides further detailed information on waste treatment techniques.

WF5/4

For processing wastes you can forward specific recommendations to your customers on which treatment processes to avoid, because they can influence the disposal options. This may include recommendations on on-site measures to recover and/or recycle processing wastes.

WF 5/5

Consider if there may be risks or limitations for the disposal of end-of-life articles due to the SVHC content. Check the list given in WF5/3. Consider in addition, if the FTA/IA in the FA should be removed and separately treated and which disposal routs occur normally.

WF5/6

Consumers only have three options to dispose of end-of-life articles: their municipal waste bin, the collection schemes for recycling (metals, paper, glass etc.) and specific collection systems, e.g. for electronic devices or hazardous mixtures. If the possibilities of disposal cannot ensure that specific treatment is avoided (e.g. the municipal waste bin is the only disposal option but

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[15] Classification rules and the list of waste are contained in the COMMISSION DECISION of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.

waste incineration should be prevented), then you should recommend that the FTA/IA is not used to produce that FA.

3.6 Information requests on specific articles

3.6.1 Introduction

Workflow 6 supports the identification of information that should be available and, if missing, be requested from the suppliers in order to fulfil legal obligations, take producer responsibility and/or to forward comprehensive information to the customers.

Any actor producing, importing or distributing articles should communicate the substance identity and the mixture[16] / article in which it is included with any information request.

Article producers (FTA/IA) who include SVHCs as such or in mixtures into the articles should have safety data sheets (and potentially also exposure scenarios) with information on the SVHC[17]. Before requesting information from suppliers, it should be checked which information is already available.

If non-classified mixtures are used in the article, production information on the content of candidate substances and substances with a community-wide occupational exposure limit value can be requested and must be provided, if they are contained in the mixture above 0.1% (REACH Art 31).

If the content of SVHCs in an article is unknown, as a first step this should be requested from the suppliers WITHOUT going through the decision trees. Requests should be specific and either make reference to substance lists (e.g. the candidate list for authorisation) or to substances properties that the inquiry is about. Note that suppliers are not legally obliged to provide information on the content of substances other than the candidate substances, if their concentration exceeds 0.1%.

It may be easier to identify basic substance information from public information sources than to communicate along the supply chain. This refers to information on the substances' physic-chemical properties and their hazards (c.f. Annex 3 for links to information sources).

The result of using the workflow is a list of communication modules that should be requested from the suppliers in order to a) check legal compliance (workers' health, environmental production and chemical product safety) in the own activities and b) to forward information to your customers. For the latter, workflows 2 to 5 should be consulted.

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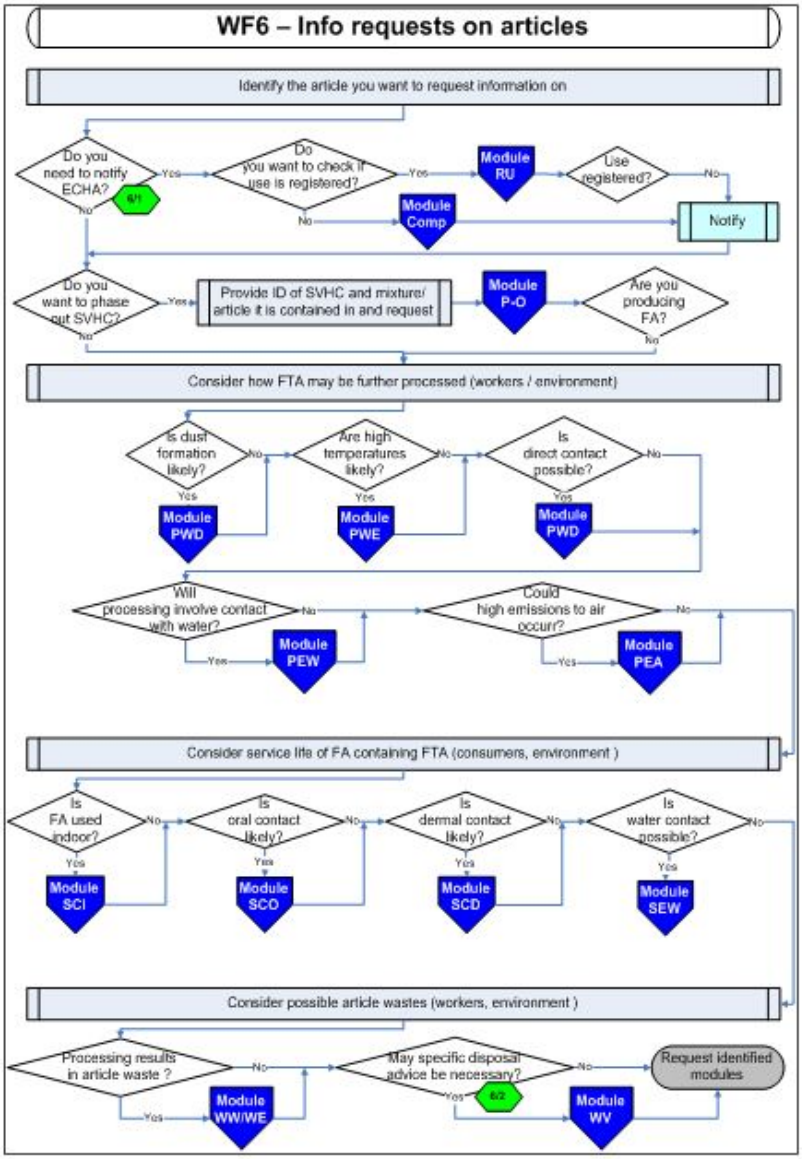
[16] Article producers including SVHC in mixtures into articles should clearly identify the specific name of that mixture to facilitate information retrieval from the supplier.

[17] Formulators may only provide concentration ranges of SVHC in mixtures. For a detailed assessment you may have to ask the exact concentration.

3.6.2 Workflow 6

Figure 7: Information requests by producers of first-time articles and interim articles



3.6.3 Guidance notes for Workflow 6

WF6/1

You may suspect that you have to make a notification to ECHA according to Art. 7(2) but you are unsure because you lack the actual concentration / content of the SVHC in the article and/or mixture you use. Guidance on how to calculate the concentration is given in WF2/2.

You may claim an exemption from notification when you can demonstrate that the use is already registered. For that you may check ECHA Chem for registered use descriptors.

If you don't want to claim an exemption, you should request the amount and concentration of the SVHC in the article from your supplier.

WF6/2

If you suspect that the end-of-life articles may have to be separately collected and disposed of, you should ask if that is the case and which information should be forwarded with the final article.

4 Data fields

Table 10: Data fields to which reference is made in the workflows and/or in the information modules

Data field	Name of data filed / type of information	Explanation (Guidance)	Information source
► Information related to the substance and the article			
DF01	Substance name		SDS, Art. 33 info
DF02a	Registration number		SDS; Art 33 info, supply chain[18]
DF02b	EINECS / ELINCS number	Number in European Inventory of Existing Substances or European List of New Chemical Substances"	ECHA Chem[19], EINECS[20]
DF02c	CAS number	International Identification Number from Chemical Abstracts Service	ECHA Chem, CAS[21]
DF03a	Product name	Name of the first-time article (FTA), interim article (IA) or final article (FA), name is given by the user of the workflow	Company
DF03b	Internal product identifier	Identifier / code used in the company for the article; possibility to link to company material data systems	Company
DF04	Intended final article	In what type of final article is the first-time article included in? In case there are diverging routes / different FAs in the supply chain, it may be necessary to differentiate the communication[22]	Company, supply chain
DF05a	Concentration of SVHC in mixture (% w/w)	Concentration in the mixture; normally a range is provided by the formulator; in this case the exact concentration should be requested.	SDS, supply chain request
DF05b	Amount of mixture included into/onto FTA/IA (g)	Amount of mixture that is applied to and finally included in the article during production by "adding" a mixture (e.g. a lacquer or glue). Note: the amount applied is not necessarily the amount included as e.g. solvents may be applied but evaporate and don not remain in the article.	Company
DF06a	Weight of first-time article (kg)	Weight of the first-time article, the SVHC is included in.	Company

[18] The term "supply chain" means that the information is either available in safety data sheets or technical information or that it can be requested from the suppliers.

[19] http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances

[20] http://esis.jrc.ec.europa.eu/

[21] Chemical Abstract Service http://www.cas.org/

[22] A metal sheet (FTA) may e.g. be used as a part of a car chassis or as part of a toy. The information that should be forwarded is different in both cases due to the different potential exposures and risks to be considered by the article producers using the metal sheet.

DF06b	Weight of interim article (kg)	The data field is only necessary, if an interim article producer adds an SVHC as such or in a mixture to a first-time article. In this case, the concentration in the article changes and needs to be recalculated. C.f. Guidance note WF2/2. The weight is calculated from the weight of the first-time article and the weight of the mixture included into or onto the article.	Company
DF07a	Amount of SVHC first-time article (g)	The total SVHC amount in the first-time article is calculated by multiplying the amount of the used SVHC – containing mixture with the SVHC concentration in it.	Calculation
DF07b	Amount of SVHC in interim article (g)	This data field is only necessary, if an interim article producer adds an SVHC as such or in a mixture to a first-time article. In this case, the concentration in the article changes and needs to be recalculated. C.f. Guidance note WF2/2. The amount is calculated by adding up the amount contained in the first-time article or interim article which is treated with a mixture containing the same SVHC. This amount is the product of the amount of the mixture used on the article and the SVHC concentration in it.	Calculation
DF08a	Concentration (% w/w) of SVHC in the first-time article	The concentration of an SVHC in a first-time article is calculated by dividing the used SVHC amount in the production of that article divided by the article weight.	Calculation
DF08b	Concentration of SVHC in the interim article (% w/w)	The concentration of an SVHC in an interim article resulting from the treatment of a first-time article with a mixture containing the same SVHC is calculated by dividing the total amount of SVHC in the FTA and the mixture by the weight of the article plus the weight of the mixture that is added to it.23	Calculation
► Information related to the intended use of the substance			
DF10	Substance function	The substance function can be described using the list in the ECHA guidance R12.	SDS; know-how of article producer, supply chain
DF11	Registered ACs	ACs covering the FTA, IA or FA the SVHC are listed in ECHA Chem or other information sources as registered, the information is needed to decide if the use of the SVHC in the article is registered.	ECHA Chem, supply chain
DF12	Registered PROCs	PROCs in the supply chain of the FA are listed in ECHA Chem or other information sources as registered. The information on registered PROCs is needed to decide if the use of the SVHC in the article is registered.	ECHA Chem, supply chain
DF13	Registered PCs	PCs relevant in the supply chain of the FA are listed in ECHA Chem or other information sources as registered, the information is needed to decide if the use of the SVHC in the article is registered.	ECHA Chem, supply chain

[23] According to the interpretation of the 0.1% threshold of the German authorities, this concentration is relevant for Art. 33 communication regardless of whether or not the FTA is merged with other articles (which do or do not contain SVHC). However, if an FTA is treated with an SVHC – containing mixture, e.g. a lacquer or a glue a new assessment and determination of the SVHC concentration may be necessary. Then the article weight of the FTA is changed by adding the total weight of the mixture added (as coating or layer of glue) and the amount of SVHC is added to that already contained in the FTA if it is the same substance to determine the concentration in the article. Guidance on borderline cases is under development.

DF14	Registered SUs	SUs relevant in the supply chain of the FA are listed in ECHA Chem or other information sources as registered, the information is needed to decide if the use of the SVHC in the article is registered.	ECHA Chem, supply chain
DF15	Use registered	Decision by the producer of the first-time article based on the use descriptors in the registration.	Decision by article producer
► Information related to the human health hazards of the substance			
DF20	Classification as CMR	Is the substance classified as CMR? This is indicated by the following H-phrases: 340, 341, 350, 350i, 351, 360F, 360D, 360FD, 361f, 361d, 361fd	SDS, ECHA Chem
DF21	Hazardous by inhalation	Is there an inhalation hazard from the substance? This is indicated by the following H-phrases: 330, 331, 332, 334, 335. In addition, depending on the specified exposure route: 370, 371, 372 and 373	SDS, ECHA Chem
DF22	Hazardous by ingestion	Is there an oral hazard from the substance? This is indicated by the following H-phrases: 300, 301, 302, 304. In addition, depending on the specified exposure route: 370, 371, 372 and 373	SDS, ECHA Chem
DF23	Hazardous by dermal contact	Is there a dermal hazard from the substance? This is indicated by the following H-phrases: 310, 311, 312, 314, 315, 317. In addition, depending on the specified exposure route: 370, 371, 372 and 373	SDS, ECHA Chem
DF24a	DNEL/DMEL Workers inhalation	What is the lowest DNEL for inhalation exposure of workers (mg/m^3)	SDS, ECHA Chem
DF24b	DNEL/DMEL Workers dermal	What is the lowest DNEL for dermal exposure of workers (mg/m^2)	SDS, ECHA Chem
DF25a	DNEL/DMEL Consumers inhalation long term	What is the DNEL for long-term inhalation exposure of consumers workers (mg/m^3)	SDS, ECHA Chem
DF25b	DNEL/DMEL Consumers oral long term	What is the DNEL for long term oral exposure of consumers (mg/kg bw)	SDS, ECHA Chem
DF25c	DNEL/DMEL Consumers dermal	What is the DNEL for dermal exposure of consumers (mg/m2)	SDS, ECHA Chem
► Information related to the environmental hazards of the substance			
DF30	Environmental classification	Is the substance classified as hazardous to the aquatic environment? This is indicated by the following H-phrases: 400, 410, 411, 412, 413	SDS, ECHA Chem
DF31	PBT/vPvB	Is the substance a PBT or a vPvB according to REACH Annex XIII	SDS, ECHA Chem
DF32	SVHC properties acc. to Art. 57(f)	Does the substance have properties falling under Art. 57(f): endocrine disruption or PBT/vPvB properties not covered by Article 57 (d) or (e) or which are of "equivalent concern" e.g. respiratory sensitisation	SDS, ECHA Chem
DF33a	PNEC aquatic	What is the (lowest) PNEC for the aquatic environment (mg/l)	SDS, ECHA Chem
DF33b	PNEC soil	What is the (lowest) PNEC for soil (mg/kg dw)	SDS, ECHA Chem
► Information on how the SVHC is included in the article			

DF40	Containment of SVHC in article	How is the substance included in the article? Examples are: The SVHC is included as such or in a mixture inside a physical barrier / container. Example: battery acid inside a battery The SVHC is include in a matrix that constitutes (part of) the article. Example: The SVHC is used as additive in polymers of garden furniture (→ go to DF41) Surface layer of an article Example: SVHC is contained in the lacquer on a window frame (→ go to DF41) Other way of inclusion	AP-FTA generates information; Art. 33
DF41	Inclusion of SVHC in matrix	If the substance is included in a matrix that constitutes (parts) of the article or its surface, how is it bound to that matrix? Covalent binding to matrix Metallic binding to matrix Ionic binding to matrix Mixed, firm binding to matrix Dissolved in matrix (only very weak van der Waals forces)	AP-FTA generates information; Art. 33
DF42	Part of article SVHC is included in	In which part of an interim article or final article is the SVHC included? This should specify the "location" of the SVHC as described in DF40, if possible	Company
DF43	Migration / diffusion rate	If the migration / diffusion rates are available, please specify	Measurements of APs
► Information on the physical – chemical properties of the substance			
DF 50	Vapour pressure	Specify the vapour pressure at 20°C	ECHA Chem
DF 51	Water solubility	Specify the water solubility (mg/l)	ECHA Chem
DF 52	LogKow	Specify the LogKow for the substance	ECHA Chem
DF 53	Persistence	Is the substance degradable? Check information on the degradability and/or if the P-criterion in Annex XIII is fulfilled Rapidly degradable Inherently degradable Inherently degradable (failing 10 days window) Not degradable Persistent according to Annex XIII Very Persistent according to Annex XIII	ECHA Chem
► Information on the operational conditions of use			
DF60	OCs on dust formation	Information to be forwarded with the article could be: Avoid the formation of dusts from the article, e.g. from abrasive processing SVHC may be released with article dusts; consider them in the risk assessment of workplaces Do not include in articles which may undergo abrading or dust generating processing	Derived from risk analysis, received in SDS/ES and Art. 33
DF61	OCs on emissions to workplace air	Information to be forwarded with the article could be: Avoid high temperatures during processing Avoid high energy / friction processing due to heating of the article SVHC may be released from the article to workplace air; consider that in the risk assessment of workplaces Don't include in articles which are used at high temperatures	Derived from risk analysis, received in SDS/ES and Art. 33

DF62	OCs on dermal contact of workers	Information to be forwarded with the article could be: Avoid dermal contact by process automation Avoid dermal contact by the organisation of the work processes Don't include in articles subject to intensive dermal contact during use by workers	Derived from risk analysis, received in SDS/ES and Art. 33
DF63	OCs release to water	Information to be forwarded with the article could be: Avoid water contact during processing Prevent specific article parts from water contact Collect wastewater from processing Don't include in articles subject to water contacts	Derived from risk analysis, received in SDS/ES and Art. 33
DF64	CoU inhalation consumer	Information to be forwarded with the article could be: Avoid high temperatures Don't include in articles which are used at high temperatures No (inclusions in) articles for indoor use No (inclusion in) articles for indoor use where high temperatures could occur (e.g. oven) No (inclusion in) articles in children's rooms or close to children Article should be kept out of reach of children	Derived from risk analysis, received in SDS/ES and Art. 33
DF65	CoU ingestion consumer	Information to be forwarded with the article could be: Prevent oral exposure No (inclusion in) articles with food contact No (inclusion in) articles intended for placement in the mouth or body (medicinal applications, snorkel) Article should be designed so that swallowing or mouthing by children can be excluded (article size, containment) Article should be kept out of reach of children	Derived from risk analysis, received in SDS/ES and Art. 33
DF66	CoU dermal consumer	Information to be forwarded with the article could be: Prevent dermal contact No (inclusion in) articles where dermal contact could occur No (inclusion in) articles used for clothing, furniture etc. where direct contact could occur No (inclusion in) articles used as children's toys Article should be kept out of reach of children	Derived from risk analysis, received in SDS/ES and Art. 33
DF67	CoU environment	Information to be forwarded with the article could be: Prevent emissions to the environment No (inclusion in) articles for outdoor use No (inclusion in) articles which come into regular contact with water	Derived from risk analysis, received in SDS/ES and Art. 33

► Information on risk management measures			
DF70	RMMs release to (workplace) air	Information to be forwarded with the article could be: Processing of articles should be enclosed and equipped with an air extraction system (inhalation exposure) Processing of articles should be conducted with local exhaust ventilation (medium inhalation risk) If processing of articles results in dust or vapour emissions, workers should wear respiratory protection (only in addition to technical measures or if these are not possible to implement) The processing of articles may result in SVHC-containing dusts and vapours. Consider this in your workplace risk assessment and implement risk reduction measures, if necessary	Derived from risk analysis, received in SDS/ES and Art. 33
DF71	RMMs release to air	Information to be forwarded with the article could be: Treat waste gas collected from the process and destroy SVHCs (e.g. incineration) Remove SVHC from waste gas via filtration, absorption etc. and dispose of in landfills for hazardous wastes Consider the content of SVHC in waste gas in planning your waste gas treatment devices	Derived from risk analysis, received in SDS/ES and Art. 33
DF72	RMMs dermal contact	Information to be forwarded with the article could be: Workers should wear gloves when processing the articles with intensive skin contact The processing of articles may result in intense dermal contact of workers with SVHC-containing surfaces of the article. Consider possible exposures in your risk assessment and implement risk reduction measures, if necessary	Derived from risk analysis, received in SDS/ES and Art. 33
DF73	RMMs release to water	Information to be forwarded with the article could be: Treat wastewater on-site to eliminate SVHC from emissions to the municipal sewage treatment plant.	Derived from risk analysis, received in SDS/ES and Art. 33
► Information related to the waste stage			
DF80	Hazardous waste	Classify the waste using information from SVHC content and content of other substances Yes/No	Derived from waste classification rules
DF81	Waste code in the list of waste	Assign waste code	AP-FTA; AP-IA: Consideration of production wastes from article processing

DF82	OCs on workplace air from waste	Information to be forwarded with the article on workers protection during waste treatment could be: Avoid formation of dusts from the processing of EoL-articles and article processing wastes, e.g. from shredding SVHC may be released with dusts or as vapours from EoL-articles and article processing wastes; consider them in the risk assessment of workplaces SVHC may be released from EoL and article processing wastes under high temperatures, ensure that any treatment involving heat is enclosed	Derived from risk analysis, received in SDS/ES and Art. 33
DF83	OCs on dermal contact from waste	Information to be forwarded with the article on workers protection during waste treatment could be: Avoid dermal contact with article processing and EoL-article wastes by process automation Avoid dermal contact with wastes from processing or EoL-article wastes by work or process organisation	Derived from risk analysis, received in SDS/ES and Art. 33
DF84	OCs release to water from waste	Information to be forwarded with the article on environmental protection during waste treatment could be: Avoid water contact during waste treatment Collect and wastewater from waste treatment processes	Derived from risk analysis, received in SDS/ES and Art. 33
DF85	RMMs release to (workplace) air from waste	Information to be forwarded with the article on RMMs for waste treatment could be: Waste treatment processes should be enclosed and equipped with an air extraction system (high potential of inhalation risk); emissions to the environment should be treated (incineration, filtration) If processing of waste articles results in dust or vapour emissions, workers should wear respiratory protection (only in addition to technical measures or if these are not possible to implement)	Derived from risk analysis, received in SDS/ES and Art. 33
DF86	RMMs dermal contact from waste	Information to be forwarded with the article for waste treatment could be: Workers should wear gloves if processing article wastes involves intensive skin contact	Derived from risk analysis, received in SDS/ES and Art. 33
DF87	RMMs release to water from waste	Information to be forwarded with the article could be: Treat wastewater from waste treatment processes on-site to eliminate SVHC from emissions to the municipal sewage treatment plant.	Derived from risk analysis, received in SDS/ES and Art. 33
DF88	Treatment technologies to avoid	Information on treatment technologies to be avoided could be e.g.: Prevent article (processing) wastes from recovery/recycling processes Prevent article (processing) wastes from landfilling Prevent article (processing) wastes from thermal treatment processes SVHC are contained in the article component *[name component]*. It should be treated separately. Recommend disposal of article (processing) wastes to recovery processes Encourage re-use of FTA/IA	Derived from consideration if substances could end up in unsafe uses; stability of substance during processes, nature of substance (e.g. metal)

DF89	Specific collection schemes for article wastes	Pull down: Recycling: paper, glass, metal Recovery/recycling: WEEE, Cars Municipal waste	

5 Communication modules

Communication modules are fixed sets of information that enable the user to perform a specific task or assessment in relation to the content of SVHC in articles.

The aim of using communication modules is to structure and systematise information collection on SVHC along the supply chain by grouping relevant and necessary information according to specific purposes. In connection with the workflows, which provide a structured approach for identifying potential areas of risks from SVHC in articles, the user can identify which issues to communicate on and what types of information belong to a COMPLETE and COMPREHENSIVE communication. By exchanging communication modules, also a certain degree of standardisation will take place regarding the provision and request of information. Finally, the information structure of each communication module allows a quick overview of which information is already available and which information is missing and should be obtained, either from publicly available information sources, from supply chain communication or as result of each actors' risk considerations. The data field table lists the most relevant information sources and suggests examples of communication phrases for e.g. the conditions of use and risk management measures in a certain risk area. The communication models should ensure that only information is provided or requested which is necessary and helpful.

For any module, the identification of the SVHC is to be communicated by substance name (DF1). In addition, the following information should be forwarded as good practice: registration number (DF2) and EINECS (DF3) or CAS number (DF4). Table 11 contains information on the different communication modules:

In the first column, the abbreviation used in the workflows is given and the second column contains its full title.

The column "content enables" describes the purpose of the communication; i.e. which assessments can be carried out or which tasks are supported.

In the column DF, the data fields relevant for the communication module are listed. The content of the data fields can be identified in Table 10 together with related explanation, information on possible information sources.

Table 11: Communication modules to structure information provision and requests on SVHC in articles

Nr.	Name of module	Content enables	DF to provide
Comp	Compliance	**Checking if 0.1% concentration is exceeded; communication of legal minimum (name)**	
		Substance identity	01, 02a, 02b, 02c
		Products	03a, *03b*[24],04
		Concentrations, weights, amounts[25]	06a, 06b, 07a, 07b, 08a, 08b
Loc	Allocation of SVHC	**Identify specific article part SVHC is contained in**	
		Substance identity	01, 02b, 02c
		Products	03a, 04
		Location in the article	40, 41, 42, 43
P-O	Phase out	**Understanding conditions, limitations and opportunities for substitution of SVHC**	
		Substance function	10
		Location in the article	40, 41, 42, 43
RU	Registered use	**Check if a use has been registered**	
		Registered use descriptors	11, 12, 13, 14, 15
PWD	Processing Workers Dust	**Check risk of dust inhalation and communicate OCs/RMMs**	
		Substance identity	01, 02b, 02c
		Concentration	08a, 08b
		Human health hazards (inhalation)	20, 21, 24a, 32
		Location in the article	40, 41, 42, 43
		Operational conditions workers dust	60
		Risk management measures workers dust	70,
PWE	Processing Workers Evaporation	**Check risks of inhalation of vapours and communicate OCs/RMMs**	
		Substance identity	01, 02a, 02b, 02c
		Concentration	08a, 08b
		Human health hazards (inhalation)	20, 21, 24a, 32
		Location in the article	40, 41, 42, 43
		Release information	50
		Operational conditions workers evaporation	61
		RMMs workers evaporation	70
PWS	Processing Workers Skin	**Check risks of dermal contact and communicate OCs/RMMs**	
		Substance identity	01, 02a, 02b, 02c
		Concentration	08a, 08b
		Human health hazards (dermal)	23, 24b, 32
		Location in the article	40, 41, 42, 43

[24] The internal product identifier is only used so that a link can be established to the internal material an product data management system. It is not meant to be communicated.

[25] The needed data field depends on which actor communications and on which article. AP-FTA may request the content of SVHC in the mixture he uses in the production of the article, whereas the AP-FA may request information on SVHC in an article. Hence, for data fields 6 to 8 either a) or b) are to be used. The use of DF06a excludes the use of 06b and makes the DFs 07b and 08b superfluous.

		Release information	43, (52)
		Operational conditions workers evaporation	62
		Risk management measures workers dermal	72
PEW	Processing Environment Water	**Safe handling of article during processing regarding emissions to water**	
		Substance identity	01, 02a, 02b, 02c
		Amounts	07a, 07b
		Environmental hazards	30, 31, 32, 33a, 33b
		Location in the article	40, 41, 42, 43
		Release and fate information	51, 52, 53
		Operational conditions environment water	63
		RMMs environment water	73
PEA	Processing Environment Air	**Safe handling of article during processing regarding emissions to air**	
		Substance identity	01, 02a, 02b, 02c
		Amounts	07a, 07b
		Environmental hazards	30, 31, 32, 33a, 33b
		Location in the article	40, 41, 42, 43
		Release and fate information	50, (51, 52, 53)
		Operational conditions environment air	60, 61
		RMMs environment, air	71
SCI	Service-life Consumers Inhalation	**Check risks for consumers via inhalation**	
		Substance identity	01, 02a, 02b, 02c
		Amounts[25]	07a, 07b, 08a, 08b
		Human health hazards (inhalation)	20, 21, 25a, 32
		Location in the article	40, 41, 42, 43
		Release information	50
		OCs consumers evaporation	64
SCO	Service-life Consumers Oral	**Check oral risks for consumers**	
		Substance identity	01, 02a, 02b, 02c
		Amounts[25]	07a, 07b, 08a, 08b
		Human health hazards (oral)	22, 25b, 32
		Location in the article	40, 41, 42, 43
		Release information	50
		Operational conditions consumers ingestion	65
SCD	Service-life Consumers Dermal	**Check dermal risks for consumers**	
		Substance identity	01, 02a, 02b, 02c
		Amounts[25]	07a, 07b, 08a, 08b
		Human health hazards (dermal)	23, 25c, 32
		Location in the article	40, 41, 42, 43
		Release information	43, (52)
		Operational conditions consumers dermal	66
SEW	Service-life Environment Water	**Conditions, under which the article can be used without risk to the environment during service life**	
		Substance identity	01, 02a, 02b, 02c

		Amounts	07a, 07b
		Environmental hazards	30, 31, 32, 33a, 33b
		Location in the article	40, 41, 42, 43
		Release and fate information	50, (51, 52, 53)
		Operational conditions environment	67
WW	Waste Workers	**Check workers health risks from handling hazardous wastes**	
		Substance identity	01, 02a, 02b, 02c
		Concentration	08a, 08b
		Waste information	80, 81, 88
		Human health hazards (inhalation & dermal)	20, 21, 23, 24a, 24b, 32
		Location in the article	40, 41, 42, 43
		Release information	43, (52)
		Operational conditions workers waste	82, 83
		Risk management measures workers, waste	85, 86
WE	Waste Environment	**Check environmental risks from waste processing**	
		Substance identity	01, 02a, 02b, 02c
		Amounts	07a, 07b
		Waste information	80, 81, 88
		Environmental hazards	30, 31, 32, 33a, 33b
		Location in the article	40, 41, 42, 43
		Release and fate information	50, (51, 52, 53)
		Operational conditions environment waste	84
		RMMs environment, waste	87
WC	Waste Consumers	**Provide information to consumers on how to dispose of the article**	
		Substance identity	01, 02a, 02b, 02c
		Specific waste disposal	89

6 Annex 1 – List of substance functions

Table 12: List of substance functions mentioned in the ECHA guidance document R-12

Aerosol propellants
Agents adsorbing and absorbing gases or liquids
Anti-condensation agents
Anti-freezing agents
Anti-set off and adhesive agents
Anti-static agents
Binding agents
Biocide substances
Bleaching agents
Colouring agents, dyes
Colouring agents, pigments
Complexing agents
Conductive agents
Corrosion inhibitors and anti-scaling agents
Dust binding agents
Explosives
Fertilisers
Fillers
Fixing agents
Flame retardants
Flotation agents
Flux agents for casting
Foaming (blowing) agents
Food/feedstuff additives
Fuels and fuel additives
Heat transfer agents
Impregnation agents
Intermediates
Laboratory chemicals
Lubricants and lubricant additives
Odour agents
Oxidizing agents
Pharmaceutical sub-stance
Photosensitive agents and other photo-chemicals
pH-regulating agents
Plant protection active substance
Plating agents and metal surface treating

agents
Pressure transfer agents
Process regulators, other than polymerization or vulcanization processes
Process regulators, used in vulcanization or polymerization processes
Processing aid, not otherwise listed
Reducing agents
Reprographic agents (Toners)
Semiconductors and photovoltaic agents
Softeners
Solvents
Stabilisers
Surface active agents
Tanning agents
Viscosity adjustors
Other

7 Annex 2 – Template for data field table

Table 13: Template of data fields

Data field	Name of data filed / type of information	Data
► Information related to the substance and the article		
DF01	Substance name	
DF02a	Registration number	
DF02b	EINECS / ELINCS number	
DF02c	CAS number	
DF03a	Product name	
DF03b	Internal product identifier	
DF04	Intended final article	
DF05a	Concentration of SVHC in mixture (% w/w)	
DF05b	Amount of mixture used to produce FTA/IA (g)	
DF06a	Weight of first-time article (kg)	
DF06b	Weight of interim article (kg)	
DF07a	Amount in first-time article (g)	
DF07b	Amount in interim article (g)	
DF08a	Concentration (% w/w) of SVHC in the first-time article	
DF08b	Concentration of SVHC in the interim article (% w/w)	
► Information related to the intended use of the substance		
DF10	Substance function	
DF11	Registered ACs	
DF12	Registered PROCs	
DF13	Registered PCs	
DF14	Registered SUs	
DF15	Use registered	
► Information related to the human health hazards of the substance		
DF20	Classification as CMR	
DF21	Hazardous by inhalation	
DF22	Hazardous by ingestion	
DF23	Hazardous by dermal contact	
DF24a	DNEL/DMEL Workers inhalation	
DF24b	DNEL/DMEL Workers dermal	
DF25a	DNEL/DMEL Consumers inhalation long term	
DF25b	DNEL/DMEL Consumers oral long term	
DF25c	DNEL/DMEL Consumers dermal	
► Information related to the environmental hazards of the substance		
DF30	Environmental classification	
DF31	PBT/vPvB	

DF32	SVHC properties acc. to Art. 57(f)	
DF33a	PNEC aquatic	
DF33b	PNEC soil	
► Information on how the SVHC is included in the article		
DF40	Containment of SVHC in article	
DF41	Inclusion of SVHC in matrix	
DF42	Part of article SVHC is included in	
DF43	Migration / diffusion rate	
► Information on the physical – chemical properties of the substance		
DF 50	Vapour pressure	
DF 51	Water solubility	
DF 52	Log Kow	
DF 53	Persistence	
► Information on the operational conditions of use		
DF60	OCs on dust formation	
DF61	OCs on emissions to workplace air	
DF62	OCs on dermal contact of workers	
DF63	OCs release to water	
DF64	CoU inhalation consumer	
DF65	CoU ingestion consumer	
DF66	CoU dermal consumer	
DF67	CoU environment	
► Information on risk management measures		
DF70	RMMs release to (workplace) air	
DF71	RMMs release to air	
DF72	RMMs dermal contact	
DF73	RMMs release to water	
► Information related to the waste stage		
DF80	Hazardous waste	
DF81	Waste code in the list of waste	
DF82	OCs on workplace air from waste	
DF83	OCs on dermal contact from waste	
DF84	OCs release to water from waste	
DF85	RMMs release to (workplace) air from waste	
DF86	RMMs dermal contact from waste	
DF87	RMMs release to water from waste	
DF88	Treatment technologies to avoid	
DF89	Specific collection schemes for article wastes	

8 Annex 3 – Links to information sources

ECHA GUIDANCE ON SUBSTANCES IN ARTICLES
HTTP://ECHA.EUROPA.EU/DOCUMENTS/10162/13632/ARTICLES_EN.PDF

ECHA GUIDANCE ON EXPOSURE ESTIMATION FROM ARTICLES
HTTP://ECHA.EUROPA.EU/DOCUMENTS/10162/13632/INFORMATION_REQUIREMENTS_R17_EN.PDF

ECHA GUIDANCE ON EXPOSURE ASSESSMENT OF THE WASTE STAGE
HTTP://ECHA.EUROPA.EU/DOCUMENTS/10162/13632/INFORMATION_REQUIREMENTS_R17_EN.PDF

BAUA INFORMATION 6 ON SUBSTANCES IN ARTICLES (GERMAN)
HTTP://WWW.BAUA.DE/DE/PUBLIKATIONEN/BROSCHUEREN/REACH-INFO/REACH-INFO-06.HTML?NN=666518

ECHA CHEM – DATABASE ON REGISTERED SUBSTANCES
HTTP://ECHA.EUROPA.EU/INFORMATION-ON-CHEMICALS/REGISTERED-SUBSTANCES

CLASSIFICATION AND LABELLING INVENTORY
HTTP://ECHA.EUROPA.EU/INFORMATION-ON-CHEMICALS/CL-INVENTORY

OECD ECHEM PORTAL WITH LINKS TO DIFFERENT DATA BASES ON SUBSTANCE PROPERTIES
HTTP://WWW.ECHEMPORTAL.ORG/ECHEMPORTAL/INDEX?PAGEID=0&REQUEST_LOCALE=EN

EUROPEAN SUBSTANCE INFORMATION SYSTEM (ESIS)
HTTP://ESIS.JRC.EC.EUROPA.EU/