

# **SubSelect**

## **Guidance for using the tool**



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## 1 Who can use SubSelect and for what?

SubSelect<sup>1</sup> is intended but not limited to be used by **FORMULATORS OF MIXTURES** and **DOWNSTREAM USERS** of substances or mixtures.

SubSelect aims to support you in your **SUBSTITUTION** activities. It can be used to **PRIORITISE SUBSTANCES** for substitution if you are unsure about where to start. Its main intention is, however, to support you in **ASSESSING**, which of the **SUITABLE ALTERNATIVES** you identified are the most sustainable<sup>2</sup> ones and should enter either the next assessment step or be tested in your production or use.

SubSelct can help:

- **EVALUATING** the sustainability of a substance or mixture **AND**
- **COMPARING** the **SUSTAINABILITY** of up to 5 substances and mixtures.

The comparison of sustainability will result in a ranking of the (maximum 5) substances or mixtures you compare with regard to their sustainability. As the tool is designed to be “quick and simple” it may be useful and necessary to further assess those alternatives that qualify as substitute, e.g. the alternatives ranked first and second.

The guidance will lead you through the entire process of using SubSelect and includes several illustrations and screenshots to facilitate understanding. Explanations about the general functions of SubSelect are provided in Section 4.

The figures of this guidance were derived from the English tool version. The Estonian, Latvian and Lithuanian versions have exactly the same design and functions but the menues are translated.

 When you see this symbol the information is not necessary but useful to understand the programme and how it works. Quick readers can skip these sections.

Before you start using the programme, it is useful that you get an overall idea of what it does. This is explained in brief in the following.

## 2 Idea of the assessments

SubSelect evaluates the sustainability of substances and mixtures using several „*main criteria*“:

- Inclusion in lists of priority substances
- Physical-chemical hazards
- Hazardousness for humans
- Hazardousness for the environment
- Mobility
- Greenhouse gas emissions
- Resource consumption
- Responsibility in the supply chain

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<sup>1</sup> SubSelct was developed in the fame of a research project of the German Environment Agency (UBA)

<sup>2</sup> In most cases (and tools), only the toxicity or risk of a substance or mixture is identified and compared. However, it is also important to consider if substitution could negatively affect human health and the environment by other means than their toxicity, e.g. because their production is disproportionately resource intensive (e.g. some nanomaterials) or because they are excavated under unacceptable working or environmental conditions (e.g. gold). Therefore, SubSelect includes a few criteria that aim to approximate other environmental impacts than toxicity.

Some of the main criteria have „*sub-criteria*“, such as the criteriou „hazardousness to human health“, which considers separately:

- hazards via inhalation, ingestion and eye contact;
- hazards via dermal contact and
- hazards from endocrine disrupting properties.

SubSelect requests data from the user to determine a value for each main criterion and sub-criterion. This value can be

- Red  
substance performs bad for the criterion (e.g. is lethal if ingested in low amounts)
- Yellow  
substance performs medium for the criterion (e.g. substance irritates the skin)
- Green  
substance performs very well for the criterion (e.g. substance is not hazardous to human health)
- Grey  
no data is available to evaluate the criterion (this is an indicator of uncertainty and an incentive for you to look for information to complete the assessment)

 If there are sub-criteria, SubSelect will develop the value of the main criterion from these. For mixtures, SubSelect will for most criteria calculate the values for the mixture based on the information and values of the individual substances.

 In its logics, SubSelect is biased against substances with very severe hazardous properties. This means for example, that mixtures containing a carcinogen are evaluated as “red” even though it may be contained in very low concentration (i.e. no “dilution of severe hazards”). Therefore, SubSelect always enable you to look at all individual assessments.

If you assess the sustainability of a substance or mixture, the result is a *sustainability profile*, which shows you the evaluation results using a colour code. If you make a comparison, you get the profiles of all compared substances next to each other and also can see numbers that indicate the *sustainability ranking* (1 is best rank).

 Inclusion in priority substance lists
 Physical chemical properties
 Hazardousness for humans  Hazardousness via inhalation, ingestion and eye contact  Hazardousness via dermal contact  Endocrine disruption
 Hazardousness for the environment  PBT/vPvB  Aquatic toxicity
 Mobility of the substance  Release potential water  Release potential air (environment)  Long range transport  Release potential air (humans)  Release potential work place
 Greenhouse gas emissions from manufacture
 Resource consumption for manufacture  Renewability of raw materials  Energy consumption  Water consumption
 Responsibility in the supply chain  Supplier responsibility for workers protection  Supplier responsibility for environmental protection

 1	 1
 1	 1
 1	 1
 2	 2
 2	 2
 1	 1
 2	 1
 1	 1
 2	 2
 2	 2
 2	 2
 2	 2
 2	 2
 2	 2
 2	 2
 2	 2
 2	 2

Example sustainability profile (not complete)

Example comparison of subustainabilty (not complete)

## 3 Getting started

### 3.1 Obtain SubSelect

*Download* SubSelect. For the Estonian, Latvian and Lithuanian Version you will be asked to provide name and e-mail address, so the tool providers can contact you in case of updates.

- Estonia: <http://fitreach.eu/et/authentication-content>
- Latvian: <http://fitreach.eu/lv/authentication-content>
- Lithuanian: <http://fitreach.eu/lt/content/irankiai>
- English <https://www.umweltbundesamt.de/en/document/subselect-guide-for-the-selection-of-sustainable>
- German Version: <https://www.umweltbundesamt.de/dokument/subselect-instrument-zur-auswahl-nachhaltiger>

*Unpack the zip file* into a separate folder on your computer. The zip-file contains: a folder called „data“, a file called Readme\_EN.txt and a file SubSelect\_Vxxx<sup>3</sup>\_English.accdb.

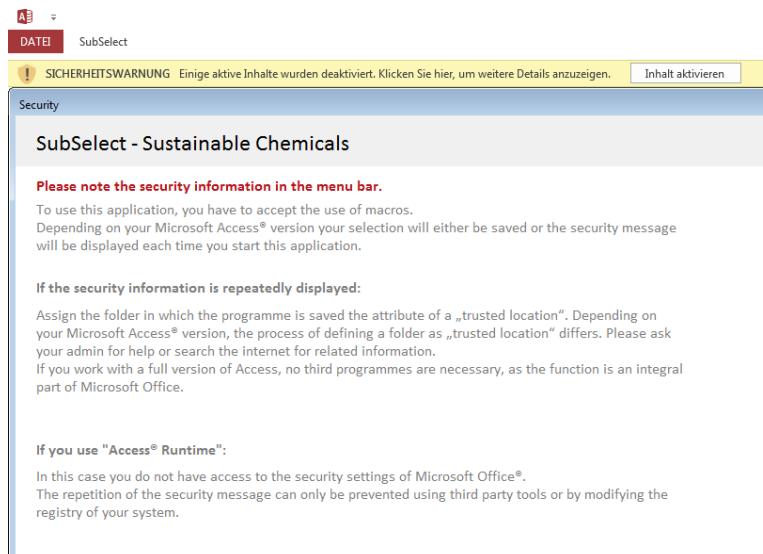
### 3.2 Check for MS Access®

SubSelect is based on Microsoft® Access® and you need to have either the full program or the so called “run-time” version. Check if MS Access is installed on your computer.

- If you have MS Access® (version 2010 or newer), do you directly continue
- If you do not have MS Access® or your version is older than 2010, you can use SubSelect if you install Runtime Access®, which is available without charge under:  
<https://www.microsoft.com/de-de/download/details.aspx?id=50040>

### 3.3 Enter SubSelect

*Doubleclick the file SubSelect\_Vxxx3\_English.accdb* and you may see the following window.



Read the text, it informs you what you should do if you do not want to see this message every time you open the file.

To proceed with SubSelect, click on the button „activate content“ in the yellow safety warning message.

Depending on your MS Access® version, you may or may not be asked to *select the data file (SubSelect\_Dat.accdb)*. This is the file where all data that is entered into the programme is

<sup>3</sup> The xxx is a place holder for the version number. Currently it is version 112

stored into. It is provided with the programme and contained *in the folder „data“*. Please follow the request.



SubSelect can only work with one data file at a time but it is possible to exchange files, e.g. with colleagues. If you rename the data file or remove it from the folder, SubSelect will not find it and open same window to re-connect the data file. If you want to open a different file (that was generated by SubSelect), you can click on “open” on the very left side of the menu bar to access this window and exchange the data you are working with.

Then you will see the following screen and can actually start...



*Click on the picture* to continue

## 4 Overview of basic programme functions

### 4.1 Start page

This is the start page that you will see after clicking on the image. *Read* the information that is provided *before you start!*

The screenshot shows the SubSelect software start page. At the top, there is a menu bar with 'DATEI' and 'SubSelect'. The main title is 'SubSelect - Sustainable Chemicals'. Below the title, there is a section titled 'SubSelect - Guidance on the selection of sustainable chemicals' with the subtitle 'Electronic tool for the evaluation and comparison of substances and mixtures'. A text box explains the purpose of SubSelect: 'SubSelect aims to give enterprises an orientation on the sustainability of substances and mixtures and options for substitution. SubSelect supports the sustainability assessment and comparison of substances and mixtures and hence guides alternatives assessment. The evaluation of substances or mixtures using SubSelect is no certification or quality label!' To the right of this text box is a button labeled 'General information on the use of SubSelect →'. Below this, there are two sections: 'SUBSTANCES' and 'MIXTURE'. The 'SUBSTANCES' section provides instructions for evaluating individual substances and compares up to five substances. It includes a note about needing safety data sheets and supplier information. The 'MIXTURE' section provides instructions for evaluating mixtures and comparing up to five mixtures. Both sections have a 'Start substance input →' button and a 'Start mixture input →' button respectively.

As you can see, you the tool consists of a section for assessing substances and one for assessing mixtures.



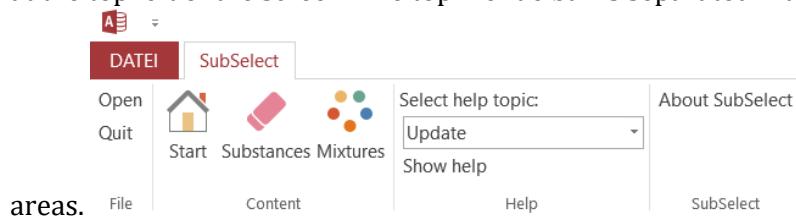
As a general principle, substance information is the basis for any assessment by SubSelect; hence, also if you assess or compare mixtures, the information about the individual substances contained (that you are aware of and) is most important and must be entered first.

Click on the button “*start substance assessment*” in parallel to reading the guidance. The next sections will explain some general options how to navigate in the tool.

## 4.2 Navigation within the tool

### 4.2.1 Top menu bar

The menu bar at the top of your screen facilitates interchanging between *basic functions*. If you do not see the top menu bar, click on “SubSelect” at the top left of the screen. The top menu bar is separated into four



- *Open/quit*: allows opening a new data file or quitting the programme
- Selection of substance or mixture assessment: if you click on “substance” or “mixtures” you are directed to the respective start window of either assessment. The button “start” brings you back to the very first page of the programme
- *Help*: Providing help according to different topics
- *About SubSelect*: basic programme information

## 4.3 Moving forward step by step

The assessment can be done step by step following the questions and instructions of the programme. To walk-through in this way, you best use the „*forward arrow*“ (looking right, middle) which is provided on almost all screens. To go back, use the „*backward arrow*“ and to close the window, use the „*x on red*“ button (far right)<sup>4</sup>.



<sup>4</sup> The „x on red“ button only closes the window and brings you back to the start page either for substances or for mixtures, depending on what you are working on. It does not close SubSelect – to close the programme click on “quit” at the far left of the programmes top menu bar.

## 4.4 Where you are

✓ Physical chemical properties
✓ Hazardousness for humans
Evaluation
✓ Hazardousness for environment
Evaluation
Mobility
Evaluation
✓ Greenhouse gas emissions
Evaluation
✓ Resource consumption
- Resources
- Energy consumption
- Water consumption

Once you start entering information on a substance or mixture, the menu bar shown at the left will appear. It lists all windows for entering data (e.g. physical chemical properties, Resource consumption – resources, Resource consumption – energy consumption etc.) and the windows, where you can access the results (evaluation).

If there is a tick at the left side of the data entry windows, data has already been entered.

If the title of a page is highlighted in right yellow, this is the one you are on at the moment.

## 5 Assess a substance

### 5.1 Management of substances

If you click on „substances“, you will see the following screen, which is the starting point for any activities you do with the programme on substances.

On this page, you see the *full list of all substances* that are already entered into the data file. When you first start the programme, only water is included in the list. As you enter further enter substances they will be added to the list. From here, you can start any activity for one substance:

The screenshot shows a table of substances with columns for Substance, CAS, EC No., Article number, and a dropdown menu. The 'Water (H<sub>2</sub>O)' row is selected. A context menu is open on the right, containing the following items: 'Edit substance evaluation' (highlighted with a green arrow), 'Delete substance evaluation' (highlighted with a blue arrow), 'Sustainability profile', 'Add substance', 'All substances', 'Run calculation', 'Comparison of sustainability', and 'Profile - export as CSV'. At the bottom left of the table, there is a note: 'Tag "X": Evaluation of substance only as component of a mixture'.

If you want to add a substance, you simply *click on „add substance“* (blue arrow), if you want to delete one, click on *“delete substance evaluation”* and if you want to edit data of an existing substance, click on *„edit substance evaluation“* (green arrow) after having marked the specific substance you want to work on.

Mark a substance and click on *“sustainability profile”* to the the evaluation of sustainability. You can compare several substances by clicking on *„comparison of sustainability“*, which will bring

you to a window, where you can select the substances that you want to compare (maximum of 5!).

SubSelect also enables you to export data as CSV (last button on the page). The button “run calculation” should be used, when you import a data file into a new version of SubSelect to ensure that any changes of the REACH-Candidate list are considered in the evaluations.

### 5.2 Add a substance

If you click on „add substance“ you will see the following screen.



Whenever you see a red questionmark in a box you can click on it and get some help/information on the question that you are currently working on.

*Enter the substance name* and, if you have an internal number for it, an article number.

The *CAS number* is used as unique identifier of the substance in the programme. Therefore, the correctness of the CAS number is checked and you cannot go to the next step without having entered a correct number. *Click on „Test and use CAS number“, otherwise you cannot proceed.*

A – SUBSTANCE IDENTITY

Date of change	06.06.2019	?
Substance name	DINP	?
Article number	Tenachem DINP	?
CAS number	<input type="text"/> - <input type="text"/> - <input type="text"/> <span style="border: 1px solid #ccc; padding: 2px;">Test and use CAS number</span>	?
28553-12-0		?
EC number	<input type="text"/> - <input type="text"/> - <input type="text"/> <span style="border: 1px solid #ccc; padding: 2px;">?</span>	?
<input type="checkbox"/> The substance is exclusively assessed as component of a mixture <span style="border: 1px solid #ccc; padding: 2px;">?</span>		

Then you just answer all the questions that you are asked when you walk through the programme (forward arrow button). After information for a criterion is completely entered (tick in the left navigation bar), you will be shown the assessment results in a separate screen.

## 5.3 Enter substance data

### 5.3.1 Hazard classification

EVALUATION OF SUBSTANCE

DEHP

Description of the substance  
 Classification (H statements)  
 Inclusion on lists  
 Physical chemical properties  
 Hazardousness for humans  
Evaluation  
 Hazardousness for environment  
Evaluation  
Mobility  
Evaluation  
Greenhouse gas emissions  
Evaluation  
 Resource consumption  
- Resources  
- Energy consumption  
- Water consumption  
- Evaluation  
Responsibility in supply chain  
Evaluation  
Sustainability profile

B – CLASSIFICATION

CLASSIFICATION OF PHYSICAL CHEMICAL PROPERTIES OF THE SUBSTANCE  
No information on physical chemical properties ?  
Selection of H statements

CLASSIFICATION OF HEALTH HAZARDS  
H360FD - May damage fertility. May damage the unborn child ?  
Exposure pathway  
Not specified  
Selection of H statements

CLASSIFICATION OF ENVIRONMENTAL HAZARDS  
No information on environmental hazards ?  
Selection of H statements

Use the safety data sheet of the substance or, if not available, any public database to obtain the classification of the substance, such as ECHA's classification and [labelling inventory](#). Enter the *H-statements* for all three areas from the drop-down lists. If the substance is *not classified* check if this is due to data indicating that *no classification applies* (first option in the lists) *or* if it is not classified because there is a *lack of data* (third option in the drop-down list).

Some parameters are *automatically assessed* by SubSelect, such as the *inclusion on priority lists* (based on the CAS-Number) and *substance hazards* (H-statements). The next figure shows the evaluation result: the red dot shows that DEHP is not sustainable with a view to the toxicity; it is included on several lists and has CMR and EDC properties.

**Red (not sustainable at all)  
Large square (main criterion)**

**EVALUATION OF SUBSTANCE**

DEHP

- ✓ Description of the substance
- ✓ Classification (H statements)
- Inclusion on lists**
- ✓ Physical chemical properties
- ✓ Hazardousness for humans
  - Evaluation
- ✓ Hazardousness for environment
  - Evaluation
  - Mobility
  - Evaluation
- Greenhouse gas emissions

**2 - INCLUSION ON PRIORITY SUBSTANCES LISTS**

**Evaluation of listing on priority substances lists**

The substance is included in the lists indicated below:

- Candidate list
  - List of persistent organic pollutants (POPs)
- Annex X of the Water Framework Directive (WFD)
- OSPAR list of priority substances
  - HELCOM list of priority substances
  - List of ozone depleting substances (Montreal list)
- SIN list
  - EU list following Danish criteria (endocrine disruptors)

The substance is..

- vPvB (very persistent, very bioaccumulative)
- PBT (persistent, bioaccumulative, toxic)
- CMR substance (carcinogenic, mutagenic, nephrotoxic)
- Endocrine disrupter

**In bold: hazardous properties  
why substance is on the list(s)**

The screen as shown in the above figure informs you of the evaluation of the criterion for which you just entered information. If you notice a mistake, you can directly go back (backwards arrow).



*You do not have to save* anything, the programme automatically saves all data you enter!

If you have no information for a specific criterion, then you can select the option “no information”. This is reflected in the presentation of results by grey/light blue colour. This is exemplarily shown in the next figure.

**EVALUATION OF SUBSTANCE**

DEHP

- ✓ Description of the substance
- ✓ Classification (H statements)
- ✓ Inclusion on lists
- Physical chemical properties**
- ✓ Hazardousness for humans
  - Evaluation
- ✓ Hazardousness for environment

**2 - PHYSICAL CHEMICAL PROPERTIES**

**Evaluation of physical chemical properties**

The hazardousness could not be derived.

**DETAILED EVALUATION OF THE CLASSIFICATION**

**No information on physical chemical properties**

### 5.3.2 Hazardousness for humans

The criterion hazardousness for humans has three sub-criteria, of which the one on *endocrine disruption requires input* in addition to the classification. The screen allows you to select one of the options shown below. For the example substance, a structural similarity to an EDC exists and the respective option is selected.

3 – HAZARDOUSNESS FOR HUMANS

Please enter if you are aware of information that the substance is an endocrine disruptor.

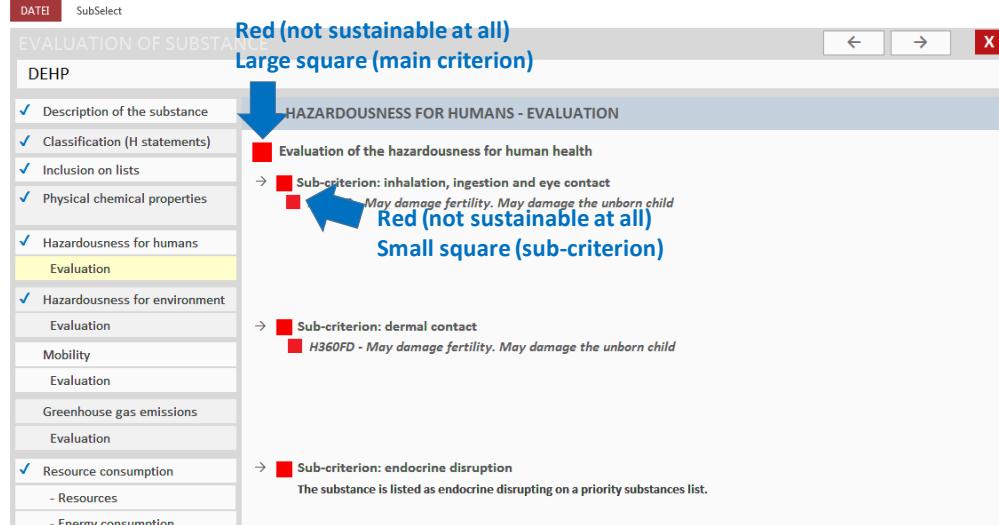
YES - Information from studies  
 There are indications as structurally similar substances are identified as EDCs  
 No indications on ED properties  
 No information available  
 I want to skip the sub-criterion  
 (not yet assessed)

The result of an assessment of DEHP looks are shown in the following figure with explanation of the meaning of the outcome shown

DATEI = SubSelect - Sustainable Chemicals

EVALUATION OF SUBSTANCE

**Red (not sustainable at all)**  
**Large square (main criterion)**



HAZARDOUSNESS FOR HUMANS - EVALUATION

- Evaluation of the hazardousness for human health
- Sub-criterion: inhalation, ingestion and eye contact
  - May damage fertility. May damage the unborn child
- Sub-criterion: dermal contact
  - H360FD - May damage fertility. May damage the unborn child
- Sub-criterion: endocrine disruption
  - The substance is listed as endocrine disrupting on a priority substances list.

**Small square (sub-criterion)**

### 5.3.3 Mobility

SubSelect requires data on the mobility of the substance to estimate the exposure potential for humans and the environment. You can either enter qualitative or quantitative information, if that is available. Only if you select „*numeric value is available*“ from the drop down list, you are allowed to *enter these specific values*. For many substances you can find this information in [ECHA's database on registered substances](#). Use the „key values for safety assessment“, which are frequently provided in the substance data of that data base.

5 – MOBILITY OF THE SUBSTANCE

Skip criterion

Please enter the aggregate state of the substance at processing temperature

Please enter the water solubility of the substance in mg/l  ?

Please enter the vapour pressure of the substance in Pascal (at 20°C)  ?  
 Help  
 Numeric value  X 10  Pa =   
 Translation from bar into pascal  bar =

Please enter information on the substance's half-life in air  ?  
 Days

From the results of the evaluation of the „overall mobility“ (main criterion), you can see that the programme does not average the results of the sub-criteria (e.g. two yellow and three green sub-criteria does NOT result in light green but in yellow) but takes the worst result to derive the main criterion.

SubSelect - Sustainable Chemicals

EVALUATION OF SUBSTANCE

DEHP

Description of the substance

Classification (H statements)

Inclusion on lists

Physical chemical properties

Hazardousness for humans  
Evaluation

Hazardousness for environment  
Evaluation

Mobility  
Evaluation

Greenhouse gas emissions  
Evaluation

Resource consumption  
- Resources  
- Energy consumption  
- Water consumption  
- Evaluation

Responsibility in supply chain  
Evaluation

Sustainability profile

5 – MOBILITY OF THE SUBSTANCE - EVALUATION

Evaluation of the mobility of the substance

- ■ Sub-criterion: Release potential water  
Water solubility of 0,003 mg/l.
- ■ Sub-criterion: Release potential air (environment)  
Vapour pressure of 0 Pa.
- ■ Sub-criterion: Long range transport  
The substances partitions in air (vapour pressure 0 Pa) and is only moderately degraded in air (half-life between 1 or 2 days).
- ■ Sub-criterion: Release potential air (humans)  
Vapour pressure of 0 Pa.
- ■ Sub-criterion: Release potential at the work place  
Aggregate state: Liquid

### 5.3.4 Greenhouse gas and resource consumption

The information input for the following criteria require non-chemical information. If you find this data, *select the colour as indicated* in the options to select (e.g. more than 20 kg; between 1 and 20 kg and below 1 kg CO<sub>2</sub> per kg. Substance in the figure shown below). If you do not have this data, you can skip the question or select „*average value*“ or select information from similar substances. *Reference lists* to see substances which would be evaluated as red, yellow or green can be opened by clicking on the respective buttons.

SubSelect - Sustainable Chemicals

EVALUATION OF SUBSTANCE

DEHP

Description of the substance

Classification (H statements)

Inclusion on lists

Physical chemical properties

Hazardousness for humans  
Evaluation

Hazardousness for environment  
Evaluation

Mobility  
Evaluation

Greenhouse gas emissions  
Evaluation

Resource consumption

6 – GREENHOUSE GAS EMISSIONS FROM MANUFACTURE

Please assess the lists of substances falling into the categories red, yellow or green. Look for substances which are structurally similar (similar molecule), which are manufactured in a similar way (synthesis, extraction etc.) or which are derived from similar raw materials. If you already know the specific CO<sub>2</sub> emissions resulting from the manufacture of the substance, compare the value with those indicated for the three categories. Select the category for your substance which you consider appropriate.

RED -- greater than 20 kg CO<sub>2</sub> equivalents per kg

YELLOW -- between 1 and 20 kg CO<sub>2</sub> equivalents per kg

GREEN -- less than 1 kg CO<sub>2</sub> equivalents per kg

Use average value

No information available

(not yet assessed)

[Skip criterion](#)

[Reference list RED](#)

[Reference list YELLOW](#)

[Reference list GREEN](#)

## 5.4 Evaluation

When you finished data entry, you can get a sustainability profile by clicking on the respective button. It should look like this.

The screenshot shows the 'EVALUATION OF SUBSTANCE' interface for the substance DEHP. On the left is a sidebar with a tree view of evaluation categories, many of which have checkmarks. The main area is titled '9 – SUSTAINABILITY PROFILE'. It contains several sections with sub-categories and color-coded icons (red for hazard, green for low risk, yellow for information). A scroll bar is visible on the right side of the main content area.

Use the scroll bar on the right to see the results at the bottom of the window.

If you make a comparison, e.g. with water the the result looks like this.

The screenshot shows the 'SUSTAINABILITY COMPARISON OF SUBSTANCES' interface comparing DEHP and Water ( $H_2O$ ). The comparison table includes columns for both substances across various environmental and social impact categories. Blue arrows and annotations highlight specific features:

- An arrow points to the question mark icon in the top-left corner of the comparison table, with the text: "Here you find information on how to read this comparison".
- An arrow points to the 'Print preview' button in the top-right corner, with the text: "Here you can first see how it will be printed and can also initiate the print (next window)".
- An arrow points to the 'Water ( $H_2O$ )' column header, with the text: "The numbers indicate the sustainability rank; as water is not hazardous it always gets rank number 1".
- An arrow points to the DEHP row in the 'Mobility of the substance' section, with the text: "Here, DEHP is also uncritical hence, it shares first rank with water".

## 6 Assessing mixtures

If you want to assess a mixture, *you first insert information on the substances contained* in the mixture. For this, enter all substances that you know are contained (safety data sheet of the mixture) in the substances section (c.f. Chapter 5). You may select the box „*substance is exclusively used in mixtures*“ because then you are not asked to enter some of the information, which is not needed in the mixture assessment at the level of individual substances.

A – SUBSTANCE IDENTITY

Date of change	22.11.2016	?
Substance name	Butanon	?
Article number	3023001	?
CAS number	<input type="text"/> - <input type="text"/> - <input type="text"/> Test and use CAS number	?
	78-93-3	
EC number	201 - 159 <b>Select this field, if substance is only used in mixtures</b>	?
<input type="checkbox"/> The substance is exclusively assessed as component of a mixture		?

### 6.1 Define a new mixture

Select the mixture section and click „*add mixture*“ in the starting window. Then you assign the name and also select *your role* in relation to the mixture (the knowledge of some information differs when you are a formulator or a downstream user. This is considered in some questions by the programme). If you produce mixtures, check formulator, if you use them end-user and if you sell them only, make a tick in the box for the retailer.

1 – IDENTITY OF MIXTURE

Date of change	09.08.2019
Name of mixture	Test mixture
Article number	123-987
Please specify if you produce the mixture (formulator) or if you use the mixture (end-user) or if you trade the mixture.	<input checked="" type="checkbox"/> Formulator <input checked="" type="checkbox"/> End-user <input type="checkbox"/> Retailer <input type="checkbox"/> (not selected)
<b>Specify your role; This influences which data you will be asked to enter</b>	
<b>Please first provide information on substance properties in the section for substances. After that select the substance as component of the mixture.</b>	



Before you can assess the mixture, please enter all substances that you are aware of which are contained in it via the “substance” section of SubSelect. Check the safety data sheet of the mixture and/or ask your supplier about the main (hazardous) ingredients to get the information.

## 6.2 Enter the mixture composition

**2 - COMPOSITION OF MIXTURES**

**CLASSIFIED COMPONENTS**

**Concentration**

**NON-CLASSIFIED COMPONENTS**

**UNKNOWN COMPONENTS (SUM)**

**SubSelect calculates the share of the mixture of which you have no information on the identity of the ingredients**

**Get information from mixture safety data sheet**

**Get information from supplier**

**100 %**

**+ Water**

**+ Classified substance**

**+ Non-classified substance**

You have to click on the buttons at the bottom to add the components of the mixture. SubSelect differentiates between *water*, *classified ingredients* and *non-classified ingredients*. The latter are most likely to be unknown to end-users of chemicals, where formulators may have at least some knowledge of these substances.

When you click on one of the three buttons, a new window opens allowing you to enter their concentration or concentration range in the mixture.

Then you simply continue entering the requested information, just as for the substances using the "forward arrow". As for the substances, you are shown the interim result per each main criterion. As the mixture results are based on the evaluations of the components and not all of these can be shown, you have the possibility of looking them up by clicking on „Details“.

**EVALUATION OF MIXTURES**

**Test mixture**

- Description of the mixture
- Composition of the mixture
- Inclusion in lists
- Physical chemical properties
  - Evaluation
- Hazardousness for humans
- Hazardousness for environment
- Mobility
  - Evaluation
- Greenhouse gas emissions
- Evaluation
- Resource consumption
- Evaluation
- Responsibility in supply chain
- Evaluation

**Sustainability profile**

**7 - MOBILITY - EVALUATION**

**Here you see that the results for the main criterion are not An average but the worst assessment counts**

**Evaluation result on mobility for mixtures without a matrix**

→ <span style="color: red;">█</span>	Sub-criterion release to water	<a href="#">Details..</a>
→ <span style="color: yellow;">█</span>	Sub-criterion release to air (environment)	<a href="#">Details..</a>
→ <span style="color: yellow;">█</span>	Sub-criterion long range transport	<a href="#">Details..</a>
→ <span style="color: yellow;">█</span>	Sub-criterion release to air (humans)	<a href="#">Details..</a>
→ <span style="color: green;">█</span>	Sub-criterion release at the workplace	<a href="#">Details..</a>

**If you click on "Details" you will be shown the results for the individual Substances in the mixture, which are underlying the evaluation of the mixture for toxicity and mobility**

It should be considered in the evaluation that a share of components amounting to 32 % of the mixture consists of components of which it is not clear if they have hazardous properties (either as their identity is not known or data is insufficient for classification). For these components, the mobility in the mixture is not evaluated and they may therefore change the result if information becomes available.

## 6.3 Comparison of sustainability

If you want to compare mixtures, you first enter the mixtures and then select the compare sustainability function, which allows you to select up to 5 mixtures the sustainability performance of which can be evaluated.

As for the substances, the results of the main criteria and the sub-criteria for are shown for the mixture. The numbers next to the coloured squares indicate the sustainability rank. In the case of lists of substances e.g. the ranking is worse for mixture B, because the concentration of listed substances is higher than in test mixture B. In test mixture B less substances are contained that are soluble in water and hence, here the rank is better than for the other, however still not good (yellow).

?	Test mixture	Test mixture B
Inclusion in priority substances lists	1	2
Physical chemical properties	1	
Hazardousness for humans	1	2
Inhalation, ingestion, eye contact	1	2
Dermal contact	1	2
Endocrine disruption	1	2
Hazardousness for the environment	1	
PBT/vPvB	1	1
Aquatic toxicity	1	
Mobility of the substance	2	1
Water	2 →	1 →
Air (environment)	2 →	1 →
Long range transport	1 →	2 →
Air (humans)	2 →	1 →
Work place	1	1
Greenhouse gas emissions	1	1
Resource consumption	1	1
Renewability of raw materials	1	2
Energy consumption	1	1
Water consumption	2	1
Responsibility in the supply chain	1	1
Worker	1	1
Environment	1	1
Social	1	1
Share of unknown components	32 %	5 %

## 7 Updates

Unfortunately, the tool cannot (yet) automatically run an update, when the candidate list of REACH is updated. Therefore, a new version is provided after every update of the candidate list. If you download and use a new version of SubSelect, keep your „old“ data file and connect it to the programme (click „open“ in the main top menu!).

Then click „run calculation“ on the overview page of substances and mixtures to ensure that if you entered substances that were just included on the candidate list are evaluated with the most recent version of the candidate list!