



How to derive relative potency factors (RPFs) using the EuroMix toolbox

Exercise 1

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Dose addition

- Exposure of each substance is multiplied with the relative potency factor (RPF)
- Potency scaled exposure added to get the potency scaled exposure expressed as reference substance equivalents



Relative potency factors

- Point of departure (PoD) = NOAEL or BMD for each substance in assessment group
- Relative potency factor (RPF) = PoD of reference substance / PoD substance

Substance	PoD	RPF
Reference substance	10	$10/10 = 1$
Substance 1	20	$10/20 = 0.5$
Substance 2	5	$10/5 = 2$



Sources for RPFs

- RPF data from literature
- PoD data from literature
- Experimental dose response data
- TTC values when no in vitro or in vivo data is available



Aim of the exercises



- In these exercises you will learn how to derive relative potency factors (RPFs) based on three types of data:
 - RPF data from literature
 - NOEALs from in vivo studies
 - Dose response data using benchmark dose modelling



Example

- The example is based on five* substances that have been grouped in an assessment group for liver steatosis
- Substances: Clothianidin, Flusilazole, Difenoconazole, Thiacloprid, Imazalil
- Reference substance: Flusilazole

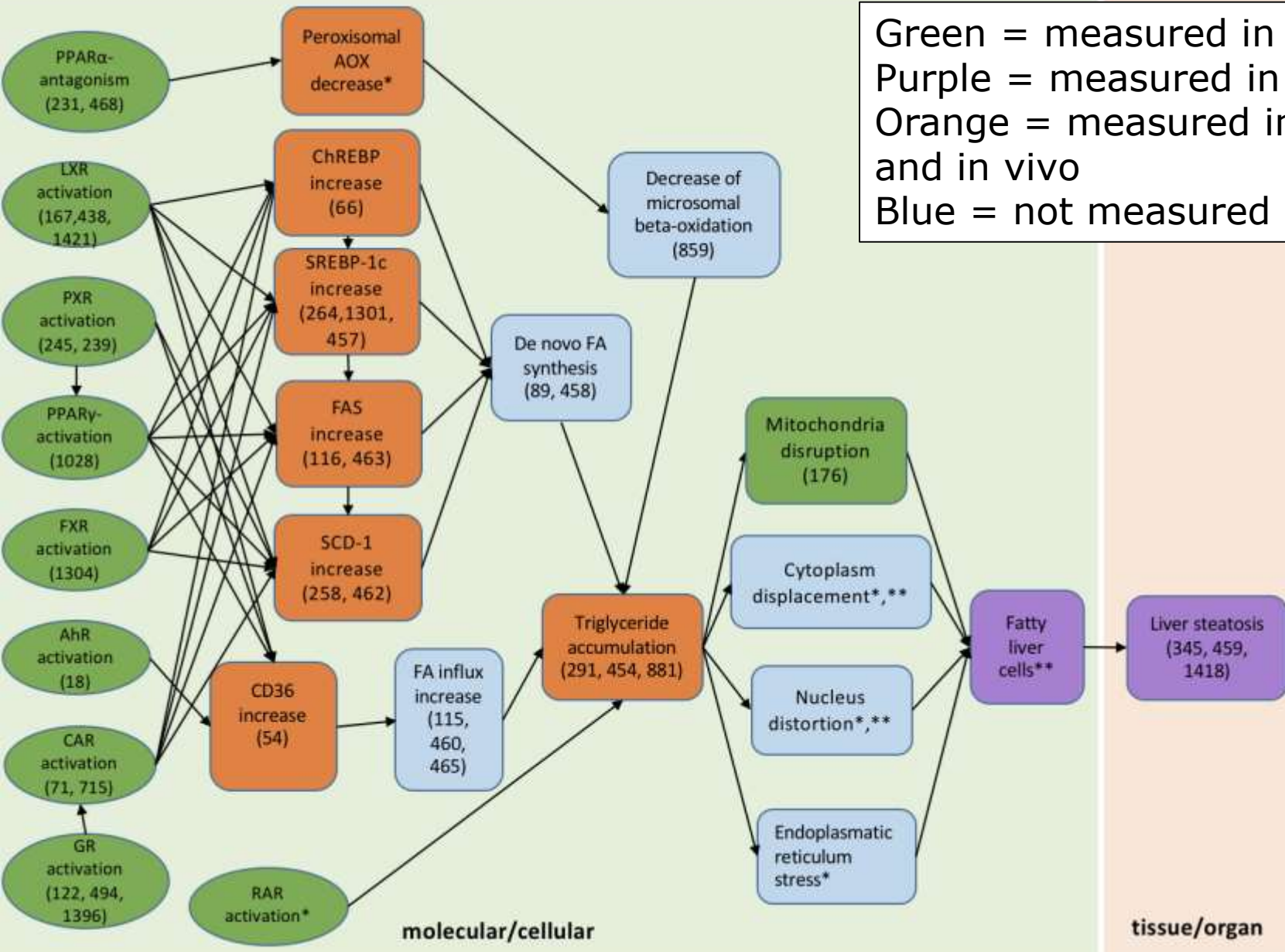
- Exercise 1: RPFs based on in vivo NOAELs from literature
- Exercise 2: NOAELs based on in vivo studies
- Exercise 3: in vitro dose response data

*Most real assessment group contain many more substances. Only five substances are used in this example to make it easy to follow

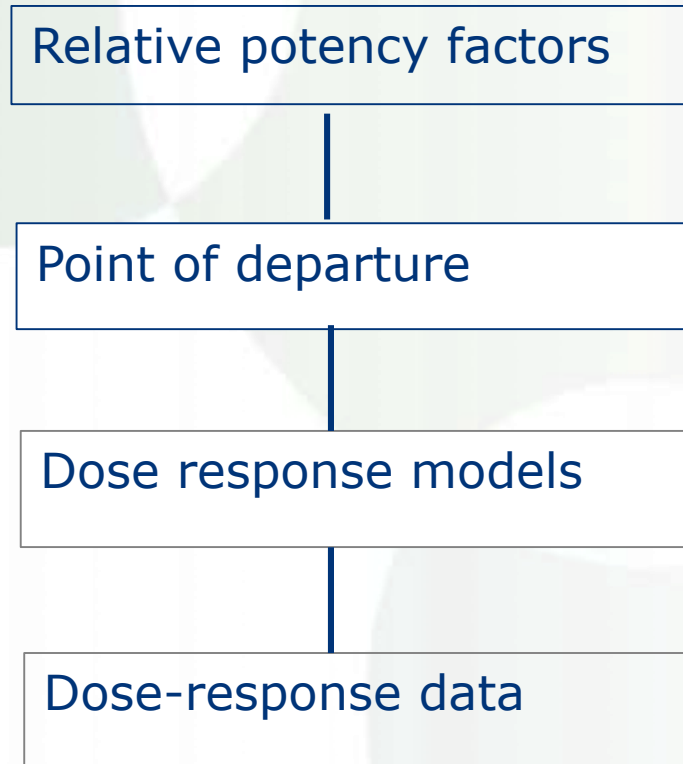


Steatosis AOP network

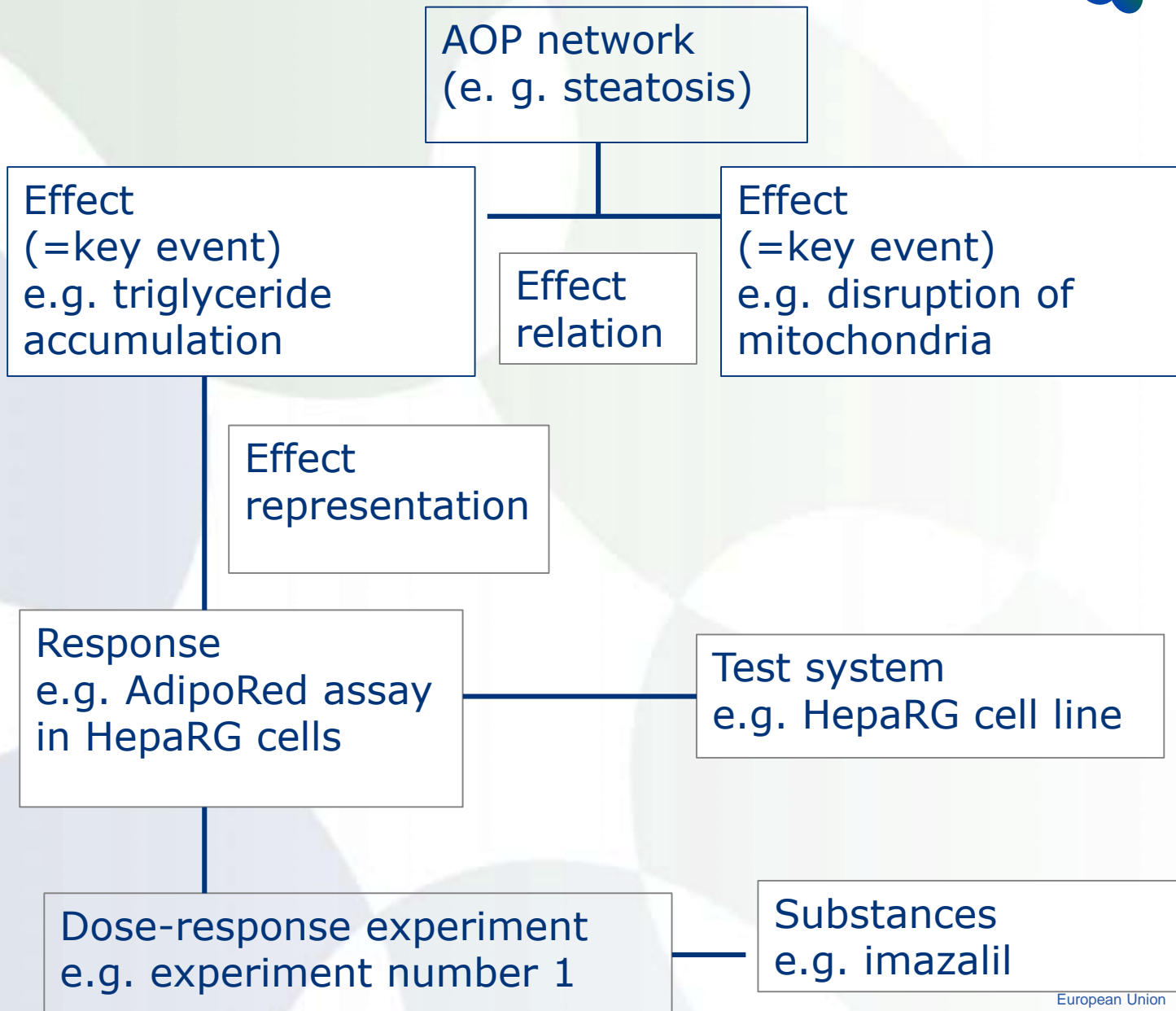
Green = measured in vitro
 Purple = measured in vivo
 Orange = measured in vitro and in vivo
 Blue = not measured



Modules for hazard data



Modules for hazard data



Information in Excel sheets

Excel sheets for

- AOP networks
- Effects
- Effect Relations
- Test systems
- Responses
- Effect Representations
- Substances
- Dose-response experiments
- Relative potency factors
- Point of departure

- Include unique codes and additional data needed for modelling or as reference

	A	B	C	D	E	
1	isEffect	CodeSystem	Name	Description	BiologicalOrganization	KeyEventProcess
2	PPARalpha-antagonism-liver	EuroMix	PPARalpha-antagonism-liver	Antagonism of Peroxisome proliferator-activated receptor alpha (PPAR	Molecular	peroxisome proliferator activa
3	LXR-act-liver	EuroMix	LXR-act-liver	Activation of Liver X receptor (LXR) signaling in liver	Molecular	signaling
4	PXR-act-liver	EuroMix	PXR-act-liver	Activation of Pregnane X receptor (PXR) signaling in liver	Molecular	signaling
5	PPARGgamma-act-liver	EuroMix	PPARGgamma-act-liver	Activation of Peroxisome proliferator-activated receptor gamma (PPA	Molecular	peroxisome proliferator activa
6	FXR-act-liver	EuroMix	FXR-act-liver	Activation of Farnesoid X receptor (FXR) signaling in liver	Molecular	signaling
7	Ahr-act-liver	EuroMix	Ahr-act-liver	Activation of Aryl hydrocarbon receptor (AHR) signaling in liver	Molecular	aryl hydrocarbon receptor act
8	CAR-act-liver	EuroMix	CAR-act-liver	Activation of Constitutive androstane receptor (CAR) signaling in liver	Molecular	signaling
9	GR-act-liver	EuroMix	GR-act-liver	Activation of Glucocorticoid receptor (GR) signaling in liver	Molecular	glucocorticoid receptor activit
10	RAR-act-liver	EuroMix	RAR-act-liver	Activation of Retinoic acid receptor (RAR) signaling in liver	Molecular	signaling
11	HSD17B10-decr-liver	EuroMix	HSD17B10-decr-liver	Decreased HSD17B10 enzyme level or activity in liver	Molecular	gene expression
12	ADX-inhib-liver	EuroMix	ADX-inhib-liver	Decreased fatty acyl-CoA oxidase (AOX) level or activity in liver	Molecular	
13	ChREBP-incr-liver	EuroMix	ChREBP-incr-liver	Increased carbohydrate response element binding protein (ChREBP) l	Molecular	signaling
14	SREBP-1c-incr-liver	EuroMix	SREBP-1c-incr-liver	Increased Sterol regulatory element-binding protein 1c (SREBP-1c) le	Molecular	SREBP signaling pathway
15	FAS-incr-liver	EuroMix	FAS-incr-liver	Increased Fatty acid synthase (FAS) level or activity in liver	Molecular	fatty acid synthase activity
16	SCD1-incr-liver	EuroMix	SCD1-incr-liver	Increased Stearoyl-CoA desaturase-1 (SCD1) level or activity in liver	Molecular	gene expression
17	SREBF1-incr-liver	EuroMix	SREBF1-incr-liver	Increased Sterol regulatory element-binding protein 1 (SREBF1) level	Molecular	signaling
18	CD36-incr-liver	EuroMix	CD36-incr-liver	Increased cluster of differentiation 36 protein (CD36) level or activity	Molecular	gene expression
19	mitFABetaox-decr-liver	EuroMix	mitFABetaox-decr-liver	Decreased mitochondrial fatty acid beta-oxidation enzyme level or ac	Molecular	fatty acid beta-oxidation
20	denovoFA-incr-liver	EuroMix	denovoFA-incr-liver	Increased de novo fatty acid synthesis liver (enzyme level or activity)	Cellular	fatty acid biosynthetic process
21	FAInflux-incr-liver	EuroMix	FAInflux-incr-liver	Increased fatty acid influx to liver	Cellular	positive regulation of fatty aci



Information needed for the exercise 1



- Information on the following modules is needed. The information is in Excel sheets that are uploaded into the toolbox.
- Effects (steatosis-liver)
- Substances (Clothianidin, Flusilazole, Difenoconazole, Thiacloprid, Imazalil)
- Relative potency factors

	A	B	C	D
1	idEffect	active Substance	idSubstance	RPF
2	Steatosis-liver	Clothianidin	RF-0101-001-PPP	0,01962963
3	Steatosis-liver	Difenoconazole	RF-0133-001-PPP	0,112765957
4	Steatosis-liver	Flusilazole	RF-0218-001-PPP	1
5	Steatosis-liver	Imazalil (aka enilconazole)	RF-0246-001-PPP	0,1325
6	Steatosis-liver	Thiacloprid	RF-0417-001-PPP	0,441666667
7				
8				



Login via MCRA 9 beta

1. [Make sure you are using Google Chrome](#)
2. [Copy https://mcra-test.rivm.nl](https://mcra-test.rivm.nl) in Google Chrome
3. Click on EuroMix toolbox to get access to the EuroMix model test toolbox



MCRA 9.0 Beta

MCRA stands for **Monte Carlo Risk Assessment**.

MCRA is a web-based system for probabilistic exposure and risk assessment of chemicals in the diet.

The MCRA system brings together statistical models, shared data and data uploaded by the user.

MCRA also provides **Cumulative Exposure Assessment** for chemicals grouped in a Cumulative Assessment Group for which a single health effect is considered relevant.

Optionally exposure from other routes can be added in an **Aggregate Exposure Assessment**.

MCRA was developed in [EU project ACROPOLIS](#) and is further developed in actions for EFSA and in [EU project EuroMix](#).

[Publications and reports using MCRA](#)

Login

Username

Password

[Go to registration](#)

LOGIN

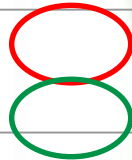
[Go to the EuroMix Test Toolbox](#)



Login EuroMix toolbox



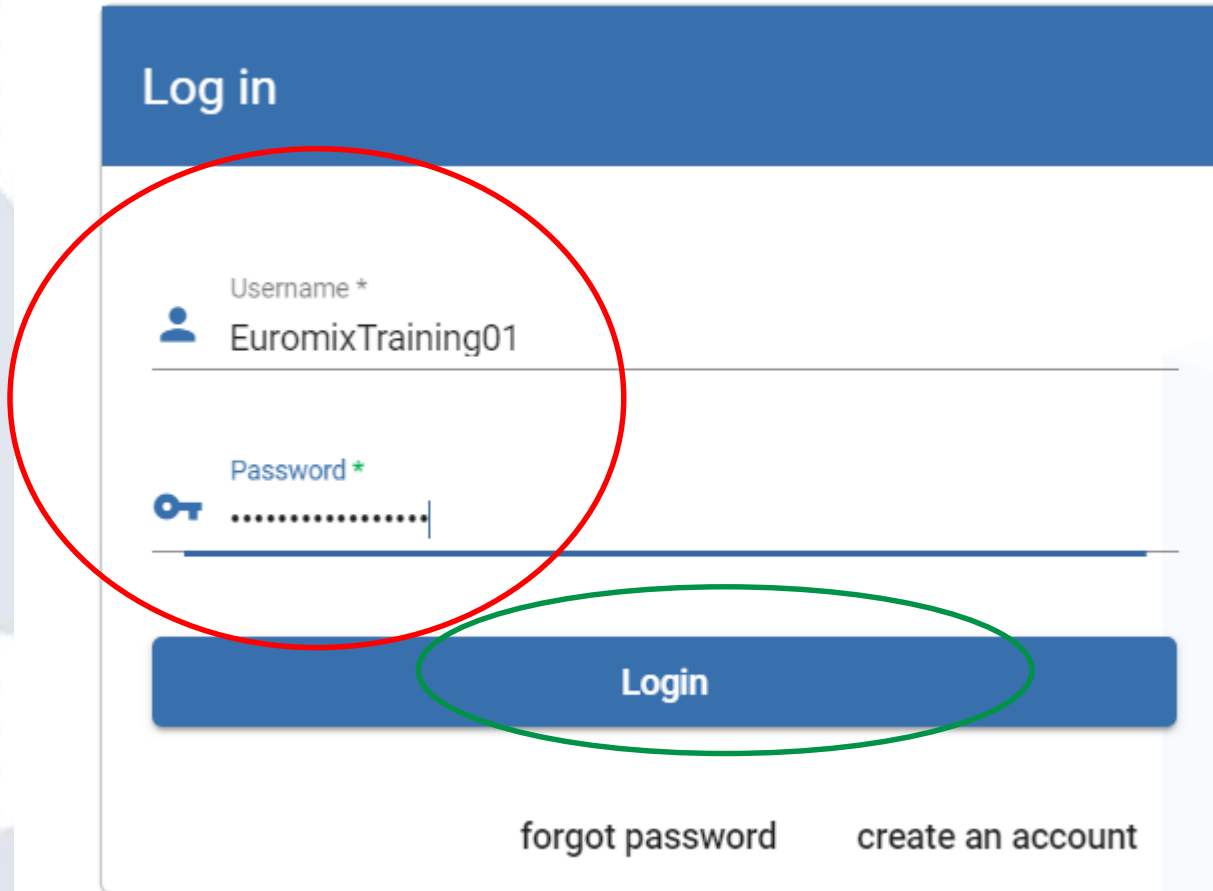
1. Log in: click on
2. Then log in



A screenshot of the "MCRA 9 - EuroMix toolbox" website. The header is blue with the text "MCRA 9 - EuroMix toolbox" and "Exposure, Hazard & Risk Assessment" below it. On the right side of the header, there is a user menu with a profile icon circled in red and a dropdown menu containing "Log in" (circled in green) and "Register" (with a plus icon). The main content area features a banner image of purple grapes. Below the image is the heading "Welcome to MCRA 9 (beta), the EuroMix toolbox" and the sub-heading "Chemical exposure, hazard and risk assessment". The text below describes the project's goal: "Every day, we are exposed to a mixture of multiple chemicals via food intake, inhalation and dermal contact. The risk to health that may result from this depends on how the effects of different chemicals in the mixture combine, and whether there is any synergism or antagonism between them. The number of different combinations of chemicals in mixtures is infinite and an efficient test strategy for mixtures is lacking. Furthermore, there is a societal need to reduce animal testing, which is the current practice in safety testing of chemicals." The final paragraph states: "The EuroMix project will deliver a mixture test strategy and test instruments using novel techniques as recently proposed by the Joint Research Centre (JRC) of the European Commission. The tests will result in data needed for refining future risk assessment of mixtures relevant to national food safety authorities, public health institutes, the European Food Safety Authority (EFSA), the European Chemical Agency (ECHA), industry, regulatory bodies and other stakeholders. Ultimately, this will provide information for future risk management decisions on the safety of chemicals in mixtures to be taken by the European Commission and the Codex Alimentarius."



Insert username password





Log in

Username *
EuromixTraining01

Password *
.....

Login

[forgot password](#) [create an account](#)

1. Login with the username and password provided by the tutor 
2. Login 



1. Click on Data



Welcome to MCRA 9 (beta), the EuroMix toolbox

Chemical exposure, hazard and risk assessment

Typical **action types** which this system can perform are: dietary exposure assessment, hazard dose assessment and risk assessment. Actions are structured in a network of modular calculators [see Overview].

You have to organize your work in one or more **workspaces**. The work consists of specifying **tasks** of a specific action type. Tasks may need subtasks of other action types.

After running a task, **outputs** are available. Outputs are in the form of screen reports and print reports, and may also include data that may be useful as input in other tasks.

All tasks need input data, and some tasks produce output data. Data, but also saved tasks and outputs, are organised in a data repository, which includes shared items from other users and user groups.



Start by clicking **Workspaces** or **Data**, or use wizard options

WORKSPACES

DATA



Data folders

1. Click on data 
2. The data folder will be unfolded (see second screenshot)
You will see EuroMix Training01 which is your own folder. You can upload your own files on this folder. For the training you click on EuroMix Training 

 MCRA 9 - EuroMix toolbox
Exposure, Hazard & Risk Assessment

☰ Data / EuromixTraining01

Name ▾

Version

 ↑ (Data)

 MCRA 9 - EuroMix toolbox
Exposure, Hazard & Risk Assessment

☰ Data

Name ▾

  EuroMix Training

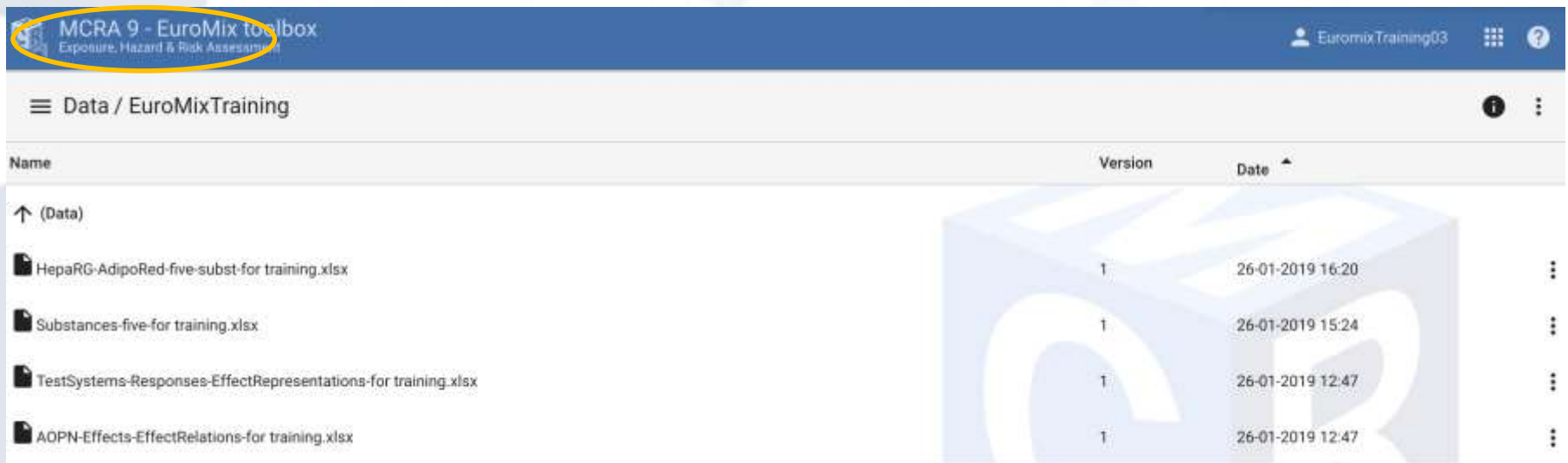
 EuromixTraining01



Data folders

The shared folder contains Excel files with:

1. Description of Effects
2. Description of Substances
3. Relative potency factors
4. Go to EuroMix toolbox main page by clicking on MCRA 9 – EuroMix toolbox 



Name	Version	Date
↑ (Data)		
HepaRG-AdipoRed-five-subst-for training.xlsx	1	26-01-2019 16:20
Substances-five-for training.xlsx	1	26-01-2019 15:24
TestSystems-Responses-EffectRepresentations-for training.xlsx	1	26-01-2019 12:47
AOPN-Effects-EffectRelations-for training.xlsx	1	26-01-2019 12:47

Actions needs to be done in workspaces EuroMix

1. Click on workspaces and create a new workspace



Welcome to MCRA 9 (beta), the EuroMix toolbox

Chemical exposure, hazard and risk assessment

Typical **action types** which this system can perform are: dietary exposure assessment, hazard dose assessment and risk assessment. Actions are structured in a network of modular calculators [see Overview].

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All tasks need input data, and some tasks produce output data. Data, but also saved tasks and outputs, are organised in a data repository, which includes shared items from other users and user groups.

Start by clicking **Workspaces** or **Data**, or use wizard options

WORKSPACES

DATA



Create a new workspace (1)

1. Click on + and a new window pops up



 MCRA 9 - EuroMix toolbox
Exposure, Hazard & Risk Assessment

Workspaces

Name ▼

Tags



Create a new workspace (2)

1. Insert a name for the new workspace



2. Click on ok



Create new workspace

Create a new workspace, please provide a descriptive name.

workspace name *

Relative potency factors training



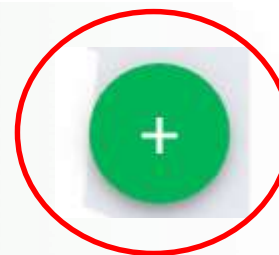
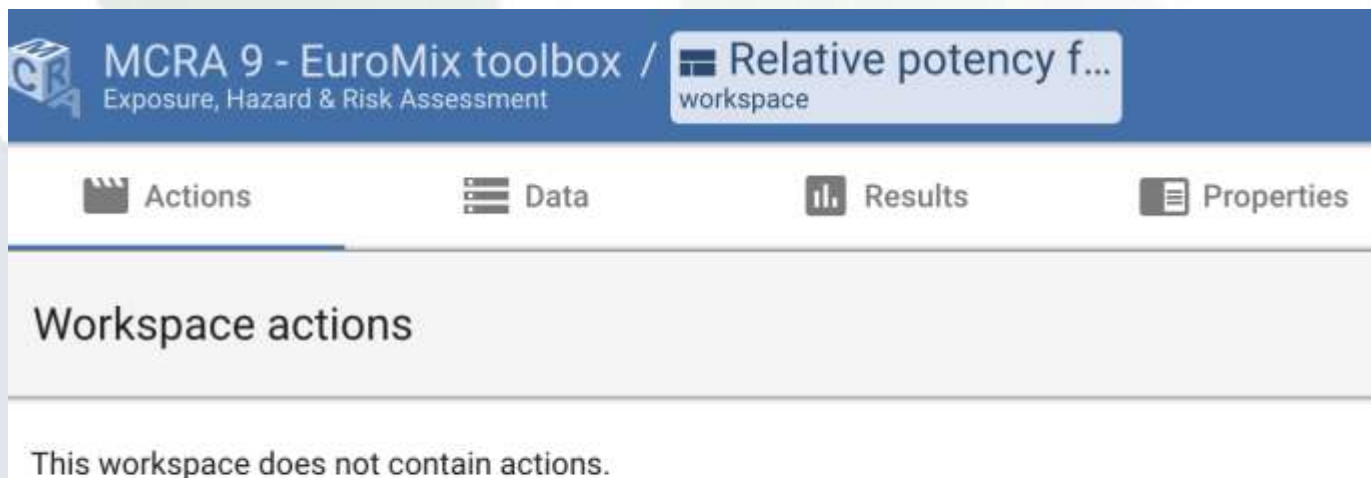
OK

Cancel



Create an action in the workspace (1)

1. Click on + and a new window pops up



Create an action in the workspace (2)



1. Create a new action Hazard



Create new action



☰ Action types

- Primary entities <
- Consumption <
- Occurrence <
- Exposure <
- Hazard <**
- Risk <

Name

Create Cancel



Create an action in the workspace (3)



1. Create a new action type Relative potency factors



Create new action



≡ Action types

- Primary entities <
 - Consumption <
 - Occurrence <
 - Exposure <
 - Hazard <
 - Risk <
- Hazard characterisations
 - Inter-species conversions
 - Intra species factors
 - Kinetic models
 - Molecular docking models
 - Points of departure
 - QSAR membership models
 - Relative potency factors**

Name _____

Create

Cancel



Create an action in the workspace (4)

1. Insert a name for the action

2. Click on create

Create new action



☰ Action type: Relative potency factors

Primary entities <

Consumption <

Occurrence <

Exposure <

Hazard <

Risk <

General

Calculation

Uncertainty sources

Relative potency factors module

Scope: Substances Effects

Selection inputs: AOP networks

Data or calculation module, Relative potency factors (RPFs) can be given as data or computed from target hazard doses. If possible, computation from target hazard doses will be used (overruling RPF data). The index substance for the RPFs is chosen when specifying the Assessment group memberships. Uncertainty about RPFs can be specified by providing or calculating multiple values for each RPF

Name


Relative potency factors-exercise 1

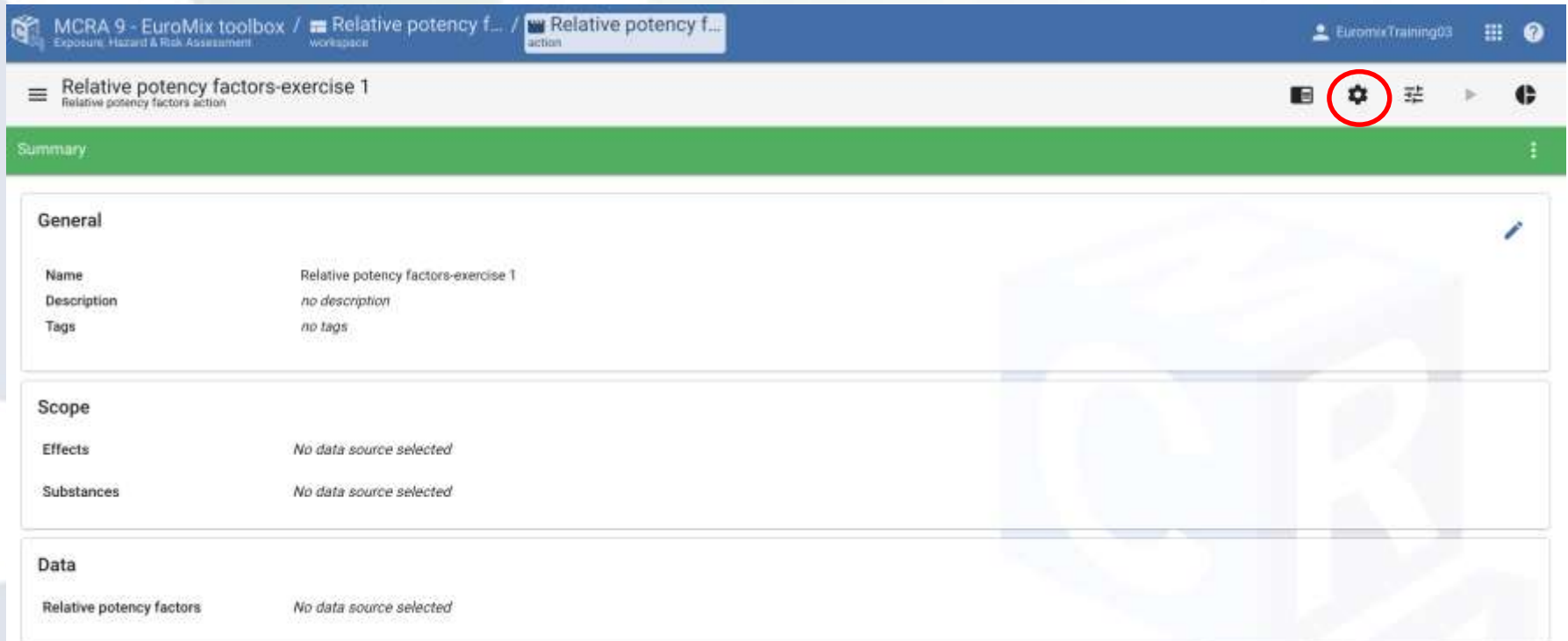
Create

Cancel



Action settings

1. You entered the summary overview.
2. Go to action settings 



MCRA 9 - EuroMix toolbox / Exposure, Hazard & Risk Assessment / workspace / Relative potency f... / Relative potency f... / action

EuroMixTraining03

Relative potency factors-exercise 1
Relative potency factors action

Summary

General

Name	Relative potency factors-exercise 1
Description	no description
Tags	no tags

Scope




Effects	No data source selected
Substances	No data source selected

Data

Relative potency factors	No data source selected
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Specify Substances (1)

1. Since you will use data for Relative potency factors in the first exercise, click on Use data 
2.  indicates that something needs to be done
3. If you are using the toolbox for the first time, we advise you to work from top of the screen.
4. Start with inserting data for Substances. Click on Substances. 



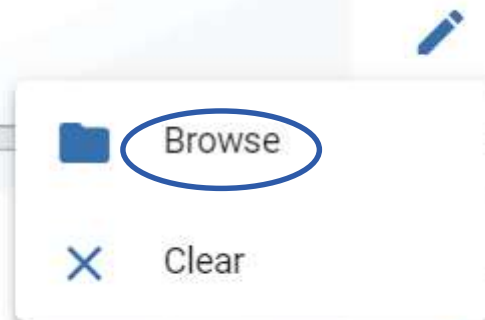
The screenshot shows the EuroMix software interface. The top navigation bar includes 'MCRA 9 - EuroMix toolbox / Exposure, Hazard & Risk Assessment', 'Relative potency f... / workspace', and 'Relative potency f... / actions'. The user is logged in as 'EuronixTraining03'. The main title is 'Relative potency factors-exercise 1'. Below this, there is a green bar for 'Relative potency factors' with a '749d09ef' ID. The 'Scope' section lists 'Substances' (circled in blue) and 'Effects'. The 'Relative potency factors' section has 'Use data' (circled in red) and 'Compute' buttons. The 'Relative potency factors data source' is currently 'Not specified'. A small European Union flag is visible in the bottom right corner.

Specify Substances (2)

1. A  indicates that you can insert data
2. Click on pencil 
3. After you clicked on pencil a window pop-up, select Browse  and you will be connected to your data folders





The screenshot shows the software interface for 'Relative potency factors-exercise 1'. The 'Substances data source' field is currently set to 'Not specified'. A red circle highlights the pencil icon in the top right corner of this field, indicating that it can be edited. Below this field is the 'Substance settings' section, which includes a 'Save Changes' button.



The pop-up window contains two options: 'Browse' (with a folder icon) and 'Clear' (with an 'X' icon). The 'Browse' option is circled in blue, indicating it is the correct choice for the next step.

Specify Substances (3)

1. Click on EuroMixTraining 
2. A second window will open. Click on Substances-five-for-training.xlsx. The file contains information on Substances. 

Browse datasources



≡ Data

Name	Version	Date
------	---------	------

 EuroMixTraining

 EuromixTraining03

Browse datasources



≡ Data / EuroMixTraining



Name	Version	Date
------	---------	------

↑ (Data)



 Substances-five-for training.xlsx

1

26-01-2019 15:24



Specify Substances (4)

1. The file Substances-five-for-training.xlsx contains information on Substances.
2. Check that Substances is selected and blue. 
3. Click on Select. 

Browse datasources

☰ Data / EuroMixTraining 

Name	Version	Date ^	
↑ (Data)			
 Substances-five-for-training.xlsx	1	26-01-2019 15:24	⋮
 Secondary input data exposure.mdb	1	21-01-2019 14:36	⋮
 Concentrations-klein.mdb	1	21-01-2019 13:59	⋮

Selected: Substances-five-for-training.xlsx

Data groups: Toggle single Toggle all

Substances




Select Cancel

European Union

rizon
the



Specify Substances (5)

1. Substances data source: The green tick means that the data connection is ok 
2. Substances selection: Substances: 5 in scope means that your file contains 5 Substances. 
3. Optional: You can click on the pencil to see the code and name of the Substances.
4. Substance settings: Click on Index substance to choose Flusilazole 



MCRA 9 - EuroMix toolbox / Relative potency f... / Relative potency f...

Relative potency factors-exercise 1

Relative potency factors / Substances

Substances data source

> Substances-five-for training.xlsx v1

Substances selection

Substances: 5 in scope

Substance settings




Index substance

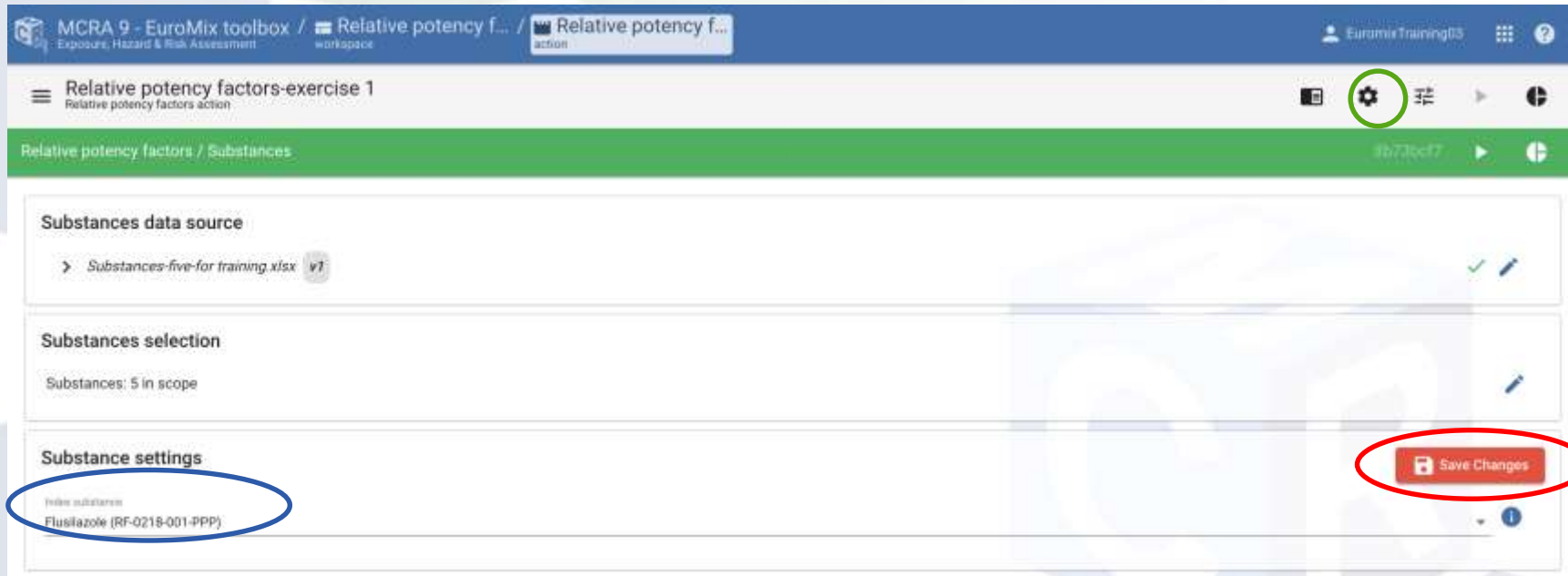
Clothianidin (RF-010/001-PPP)

Save Changes



Specify Substances (6)

1. Substance settings: Index substance is Flusilazole 
2. Click on Save changes 
3. Go back to action settings in the navigation 



The screenshot shows the 'Relative potency factors-exercise 1' interface. The 'Substance settings' section is highlighted with a blue circle and contains the text 'Index substance: Flusilazole (RF-0218-001-PPP)'. The 'Save Changes' button is highlighted with a red circle. The 'Substances data source' section shows 'Substances-five-for training.xlsx v1'. The 'Substances selection' section shows 'Substances: 5 in scope'. The 'Relative potency factors / Substances' breadcrumb is visible at the top of the content area.



Specify Effects (1)

1. Substances: The green tick means that the data connection is ok. 

2. Now the specific Effect must be selected. 




3. Click on Effects. 



The screenshot shows the EuroMix software interface. The top navigation bar includes 'MCRA 9 - EuroMix toolbox / Exposure, Hazard & Risk Assessment', 'Relative potency f... / workspace', and 'Relative potency f... / action'. The main title is 'Relative potency factors-exercise 1' with a sub-title 'Relative potency factors action'. The 'Relative potency factors' section is highlighted in green. Under the 'Scope' section, 'Substances (5 in scope)' is listed with a green checkmark icon circled in red. 'Effects' is listed below it and is circled in green. A blue circle highlights a green triangle icon next to the 'Effects' entry. The 'Relative potency factors' section has 'Use data' and 'Compute' buttons. The 'Relative potency factors data source' section is currently 'Not specified'.

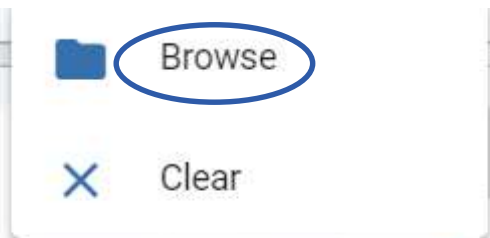


Specify Effects (2)

1. A  indicates that you can insert data
2. Click on pencil 
3. After you clicked on pencil a window pop-up, select Browse  and you will be connected to your data folders



The screenshot shows the 'Effects data source' section of the EuroMix software. The text 'Not specified' is displayed. A pencil icon in the top right corner of this section is circled in red. Below this is the 'Effect settings' section, which includes a dropdown menu for 'Focal effect' (currently showing 'Please select a health effect') and a checkbox for 'Include key events (effects) of AOP network'.



The screenshot shows a file selection dialog box. It has a blue folder icon on the left. The word 'Browse' is circled in blue. Below it is a blue 'X' icon followed by the word 'Clear'.



Specify Effects (3)

1. Click on EuroMixTraining 
2. A second window will open. Click on AOPN-Effects-EffectRelations-for-training.xlsx. The file contains Effects data. 

Browse datasources




≡ Data

Name	Version	Date
 EuroMixTraining		
 EuromixTraining03		



Browse datasources

≡ Data / EuroMixTraining

Name
↑ (Data)
 AOPN-Effects-EffectRelations-for training.xlsx



Specify Effects (4)

1. The file AOPN-Effects-EffectRelations-for-training.xlsx contains Effects data.
2. Check that Effects is selected and blue. 
3. Click on Select. 

Browse datasources

≡ Data / EuroMixTraining

Name	Version	Date	
↑ (Data)			
 AOPN-Effects-EffectRelations-for training.xlsx	1	26-01-2019 12:47	⋮
 Secondary input data exposure.mdb	1	21-01-2019 14:36	⋮

Selected: AOPN-Effects-EffectRelations-for training.xlsx






Data groups: Toggle single Toggle all

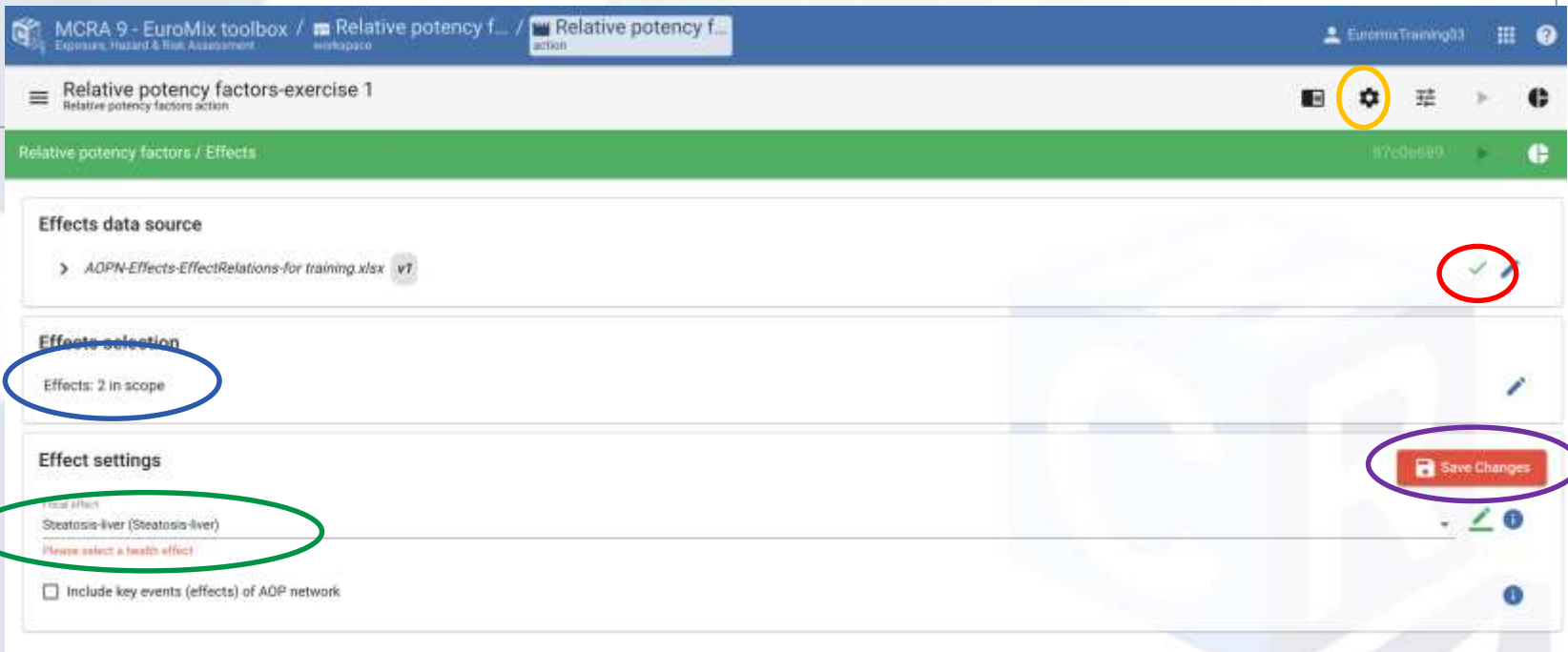
Effects AOP networks

Select Cancel






Specify Effects (5)

1. Effects data source: The green tick means that the data connection is ok. 
2. Effects selection: Effects: 2 in scope means that your file contains 2 Effect. 
3. Optional: You can click on the pencil to see the code and name of the Effects
4. Effect settings: Click to select the Focal effect steatosis-liver 
5. Click on Save changes 
6. Go back to action settings in the navigation 



Specify Relative potency factors data (1) EuroMix

1. A  indicates that you can insert data
2. Click on pencil 
3. After you clicked on pencil a window pop-up, select Browse  and you will be connected to your data folders



MCRA 9 - EuroMix toolbox / Relative potency f... / Relative potency f...
Exposure, Hazard & Risk Assessment / workspace / action

EuromixTraining03

Relative potency factors-exercise 1
Relative potency factors action

Relative potency factors

77fb2a3e

Scope

Substances (5 in scope) ✓

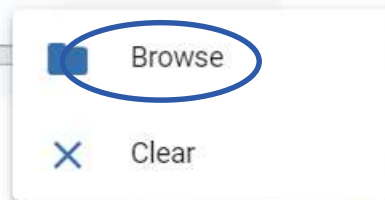
Effects (2 in scope) ✓


Relative potency factors


Use data Compute

Relative potency factors data source

Not specified 



 Browse

 Clear



Specify Relative potency factors data (2) EuroMix

1. Click on EuroMixTraining 
2. A second window will open. Click on RPF-five-subst-for-training.xlsx. The file contains Relative potency factor data. 


Browse datasources ✕

≡ Data

Name ▾	Version	Date
 EuroMixTraining		
 EuromixTraining03		



Browse datasources

≡ Data / EuroMixTraining


Name ▾
↑ (Data)
 RPF-five-subst-for-training.xlsx



Specify Relative potency factors data (3) EuroMix

1. The file RPF-five-subst-for-training.xlsx contains Relative potency factor data
2. Check that Relative potency factors is selected and blue. 
3. Click on Select. 

Browse datasources

☰ Data / EuroMixTraining 

Name ▾

Version

Date

↑ (Data)

 RPF-five-subst-for-training.xlsx	1	06-02-2019 14:35	
---	---	------------------	---

Selected: RPF-five-subst-for-training.xlsx



Data groups: Toggle single Toggle all

Relative potency factors

Select Cancel



Specify Relative potency factors data (4) EuroMix

1. Relative potency factors data source: The green tick means that the data connection is ok 
2. Now all settings are done, Click on Summary in the navigation 



MCRA 9 - EuroMix toolbox / Relative potency f... / Relative potency f...

EuroMixTraining03

Relative potency factors-exercise 1
Relative potency factors action

Relative potency factors

7762e3e

Scope

Substances (5 in scope) ✓

Effects (2 in scope) ✓

Relative potency factors


Use data Compute

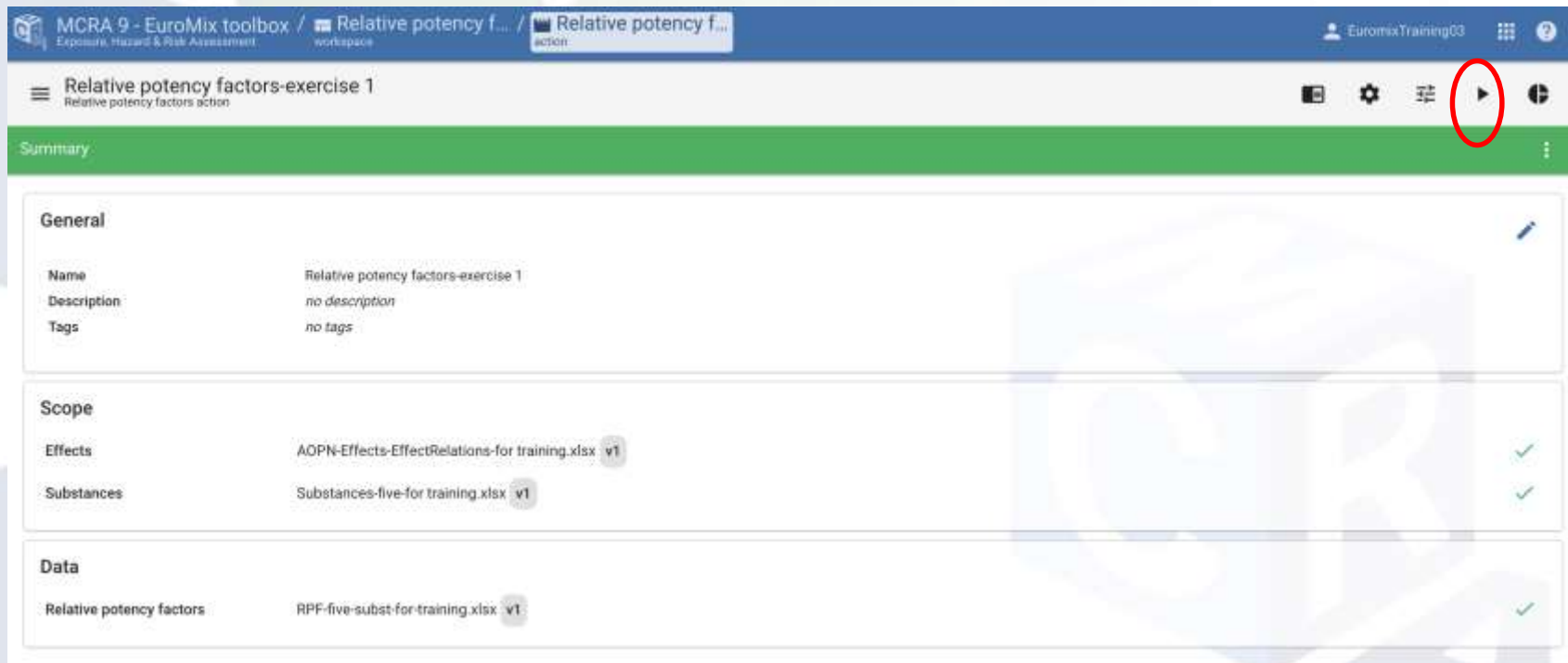
Relative potency factors data source

> RPF-five-subst-for-training.xlsx v1 ✓



Summary overview

1. In the summary overview you can see the settings.
2. If all settings are ok, click on run to start the run. 



The screenshot shows the software interface for 'Relative potency factors-exercise 1'. The top navigation bar includes 'MCRA 9 - EuroMix toolbox / Exposure, Hazard & Risk Assessment', 'Relative potency f... / workspace', and 'Relative potency f... / action'. The user 'EuromixTraining03' is logged in. The main header shows the title 'Relative potency factors-exercise 1' and a toolbar with icons for home, settings, data, and a red-circled 'run' button. The 'Summary' section is expanded, showing three categories: 'General', 'Scope', and 'Data'. Each category has a table of details and a checkmark icon.

General	
Name	Relative potency factors-exercise 1
Description	no description
Tags	no tags

Scope	
Effects	AOPN-Effects-EffectRelations-for training.xlsx v1 ✓
Substances	Substances-five-for training.xlsx v1 ✓

Data	
Relative potency factors	RPF-five-subst-for-training.xlsx v1 ✓



Run the calculation of relative potency factors



1. After you start running the calculation, you see a screen with waiting for activation. This takes 10-20 seconds. ○
2. Then waiting for activation changes into running. This might take 3-4 minutes. If it takes longer than 10 minutes abort the job. ○
3. After 3-4 minutes you see Run to completion. ○
4. To see the result, click on Relative potency factors training. ○




Output	Status	Message	Date	Running time
<input type="checkbox"/> Relative potency factors training	Waiting for activation	Job scheduled for execution (waiting for available resources)...	-	-

Output	Status	Message	Date	Running time
<input type="checkbox"/> Relative potency factors training	Running	Computing dose response models	-	-

Output	Status	Message	Date	Running time
<input type="checkbox"/> Relative potency factors training	Run to completion		27-01-2019 10:39	00:00:03



View the output (1)

1. Action settings shows the settings for the run. 
2. Sub-action results shows intermediary results of the run. 
3. Relative potency factors shows the final result of the run. 
4. Click on Relative potency factors to view the results.



The screenshot displays the EuroMix software interface. The top navigation bar includes the text "MCRA 9 - EuroMix toolbox / Exposure, Hazard & Risk Assessment" and "Relative potency f... / Relative potency f...". Below this, the main header shows "Relative potency factors-exercise 1" and "Relative potency factors action". A green bar indicates the current results view. The navigation menu on the left lists several options: "Action settings" (circled in red), "Sub-action results" (circled in blue), "Relative potency factors" (circled in green), "Run settings", "Uncertainty settings", and "Output settings". A large, semi-transparent "MCRA" logo is visible in the background of the main content area.



View the output (2)

1. Results are shown in a graph and a table
2. The relative potency factors are used for the dose addition approach

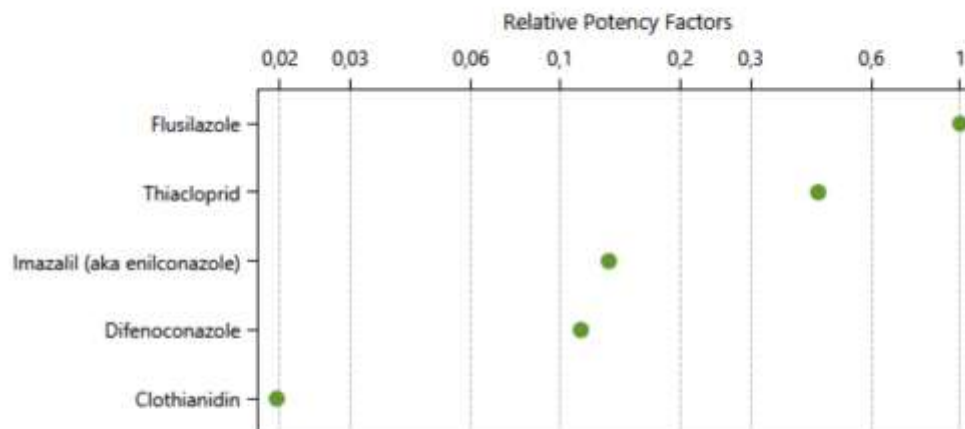
Results / Relative potency factors-exercise 1

Action settings

Sub-action results

Relative potency factors

Relative potency factors



Substance name	Substance code	RPF (nominal) scaled to reference
Clothianidin	RF-0101-001-PPP	0.0196
Difenoconazole	RF-0133-001-PPP	0.113
Flusilazole	RF-0218-001-PPP	1
Imazalil (aka enilconazole)	RF-0246-001-PPP	0.133
Thiacloprid	RF-0417-001-PPP	0.442

