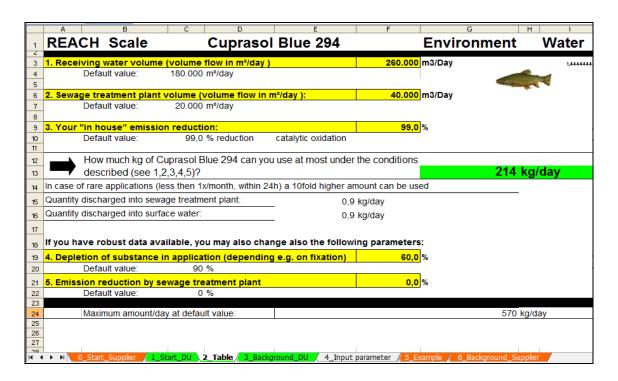


REACH: Scaling in five steps



Environmental exposure assessments by downstream users



Scaling Guidance of the Federal Environment Agency

Scaling under REACH offers an important option to check whether your conditions of use of a substance are safe, even if, for example, you use more of a product than it has been recommended in the safety data sheet of your supplier.

The German Federal Environment Agency published a guidance on scaling related to the environment – and a more detailed background report. Both are available on the internet. In addition you may also find the spreadsheet "REACH Scale Environment". It supports you in checking an exposure scenario – with the individual figures of your company.

http://reach-info.de/scaling unter reach.htm



Scaling - why?

If you use substances or mixtures classified as dangerous, you will more frequently receive extended safety data sheets with exposure scenarios in the future. Exposure scenarios describe conditions of safe use of the products. It can be that this information will be integrated in chapter 1-16 of the extended safety data sheets.

As downstream user you are in any case obliged to check whether your conditions of use are covered by the exposure scenario. If not, you might have to prepare your own chemical safety report according to REACH Art. 37.4 – including your own exposure assessments.

Whether the use of a substance or a mixture is safe or not depends on parameters which can be quantified in many cases. In a dying process, for example, it depends on the amount of the dye which stays on the material (degree of fixation). In his exposure scenario, your supplier can indicate which degree of fixation should be reached. Otherwise the amount of the substance which is released into the wastewater and the environment would be too high.

It might be, however, that you use the products under conditions which slightly differ from the description in the exposure scenario. Scaling enables you to check easily whether your use is nevertheless safe, without having to perform extensive exposure assessments.



Scaling - how? 5 steps

We recommend performing scaling in five steps:

- Step 1: Check whether the exposure scenario contains quantified parameters that are determining the exposure (such as volume of the receiving water body)
- Step 2: Check whether the exposure scenario contains guidance on scaling ("Guidance to DU (downstream users) to evaluate whether he works inside the boundaries set by the ES"). Check which parameters can be changed ("scaling parameters").
- Step 3: Identify the values of the scaling parameters for your uses.
- Step 4: Do the calculation with your figures.
- Step 5: Check whether your use is covered and decide on consequences.

The Guidance on Scaling

Our Guidance on Scaling explains how to use scaling tools, in order to evaluate whether a use is safe or not. It is written for downstream users. In addition, we address manufacturers and formulators who want to develop scaling tools for their customers.

Using scaling tools saves a lot of work and money. In our guidance, we give you three examples for scaling tools and their use.

Do you want to provide product-specific scaling tools to your customer?

As part of the guidance, a template has been developed ("REACH_Scale_Environment_Template.xls"). Here you can enter product-specific data (such as maximum amount used per day). The template generates automatically a product-specific scaling tool. You can provide your customer with this scaling tool.

The template is available in an extended version for formulators. It allows to change the concentration of a substance in a mixture.

1	REACH Scale		Enviro	nment	Water	
3	Data input for registrants/ downstream users					
4	Please fill in the data relating to your product and, if necessary, a comment:					
5	Example					
6	Name of the product	Cuprasol Blue 294			Lederplex 900	
7					_	
8	Value	Data	Unit	Comment		
9	PNEC surface water		µg/liter		2 µg/liter	
10	Volume flow of the receiving water	180.000			180.000 m³/day	
11	Volume flow of the sewage treatment plant		m³/day		20.000	
12	Efficieny of the internal emission reduction		% decrease	catalytic oxidation	99 %	
13	Reduction of the substance in the process (fixation, depletion				90 %	
14	Emission reduced in the communal sewage treatment plant	•	%		0 %	
15	Maximum amount used per day	570	kg/day		570 kg/day	
16	Harris Simile of the immediately		ı			
17	Upper limit of the input value				400 1	
18	Emission into the sewage treatment plant max.	0.000.000	kg		100 kg	
19 20	Receiving water volume max.	2.000.000	m-/day		2.000.000 m³/day	
21	Relevant substance for the calculation of the exposure	metal comi	olex dve			
22						
23	Remark 1: Take the mean of the low water volume flow (MNQ) as volume of the receiving water. You can get this value from					
24	vour local water authority.					
25	Remark 2: The maximum amount used per day results in a risk characterisation ratio (PEC/PNEC) = 0,99. It is the ratio between					
26	the predicted concentration of the substance in the environment ("PEC") und the concentration for which					
27	no adverse effects of the substance on aquatic organisms are expected.					
28	Remark 3: If the chemical safety assessment of the substance shows a critical value for the emission into the sewage treatment plant,					
29	(impact on microorganisms), type in the figure here.					
30	Remark 4: In the exposure assessment, the volume of the receiving water can't be higher than 1000 times of the					
31	volume of the sewage treatment plant. In REACH Scale a default value of 2.000.000 m³/day is taken as upper limit.					
32	-					

Limits of Scaling

Scaling can be applied on selected parameters which have a linear relationship to the exposure. Scaling is only possible if the supplier has given guidance on how to scale. More information about the limits of scaling is given in chapter 4 of our guidance.

You want to know more?

The guidance on scaling, the examples and the spreadsheets are available at:

http://reach-info.de/scaling_unter_reach.htm

Federal Environment Agency (Umweltbundesamt), Dessau / Öko-Institut e.V., Head Office Freiburg, Germany
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The guidance on scaling has been developed within a project on behalf of the Federal Environment Agency, Dessau. Guidance, background report, the spreadsheet REACH Scale Environment for the product Lederplex 900 and the templates are available for free on the following website:

http://reach-info.de/scaling_unter_reach.htm

If you have further questions related to scaling, please don't hesitate to contact us:

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