USER MANUAL GUTSEXE

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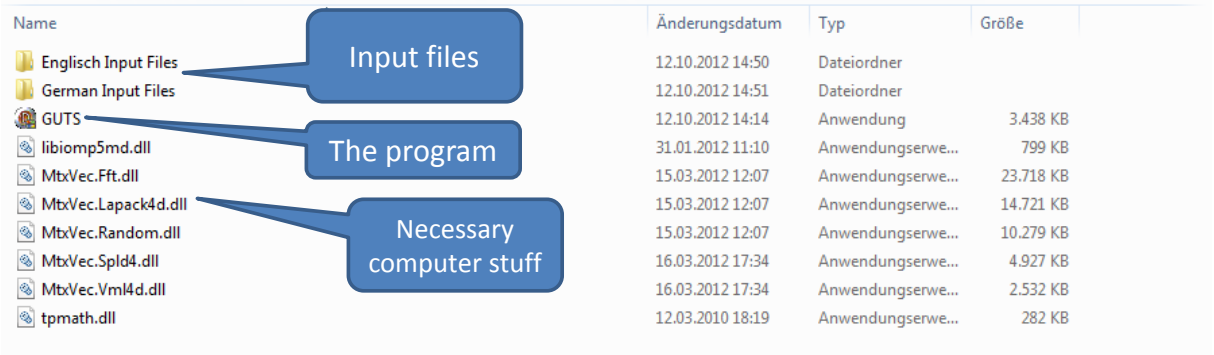
INSTALLATION:

1. Extract the zip file to a folder you like
2. You should see the following files:



3. Please make sure that all *.dll files are located in the same directory as the executable GUTSexe program.
4. There are different input files for different languages. This is only important if you use Microsoft EXCEL to open and edit the input files. GUTS can always read both kind of files

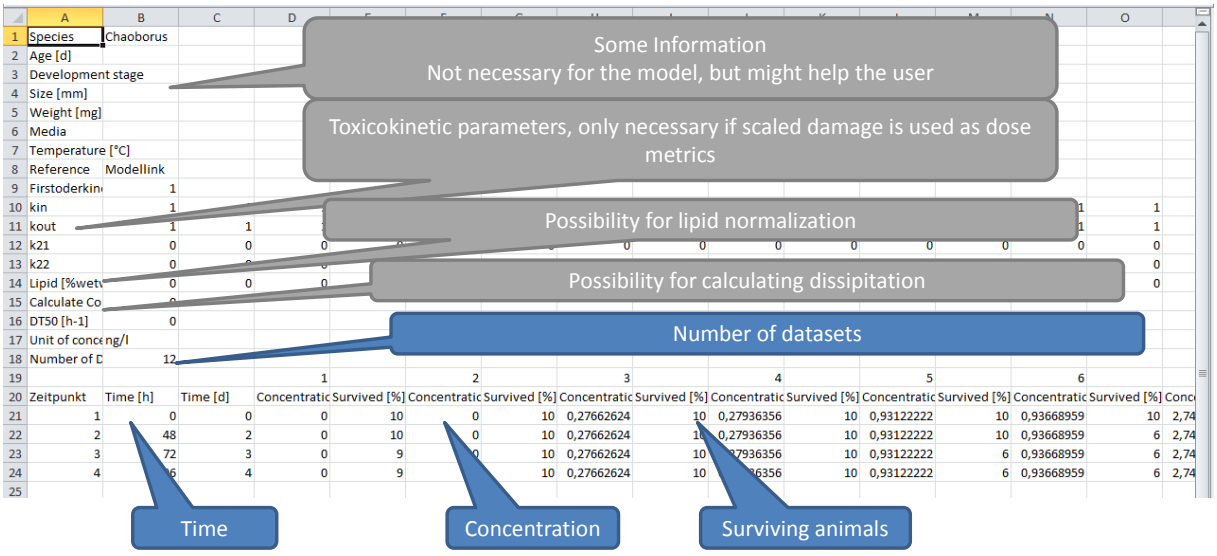
THE INPUT FILES

GUTSexe needs exposure scenarios to simulate survival. For calibration exposure scenario and related survival data are needed.

This exposure and survival data can be read into GUTSexe by comma separated text files (CSV). Comma separated text files can also be read by any spread sheet calculation program like Microsoft EXCEL. Unfortunatly Microsoft decided to ignore worldwide standard for EXCEL. So in the German version EXCEL uses comma as decimalseparator and semicolons to separate columns in the so called comma separated text files…. No comments to that ;-)

GUTSexe always read in files in which the decimalseparator is fullstop and he columns are separated by comma.

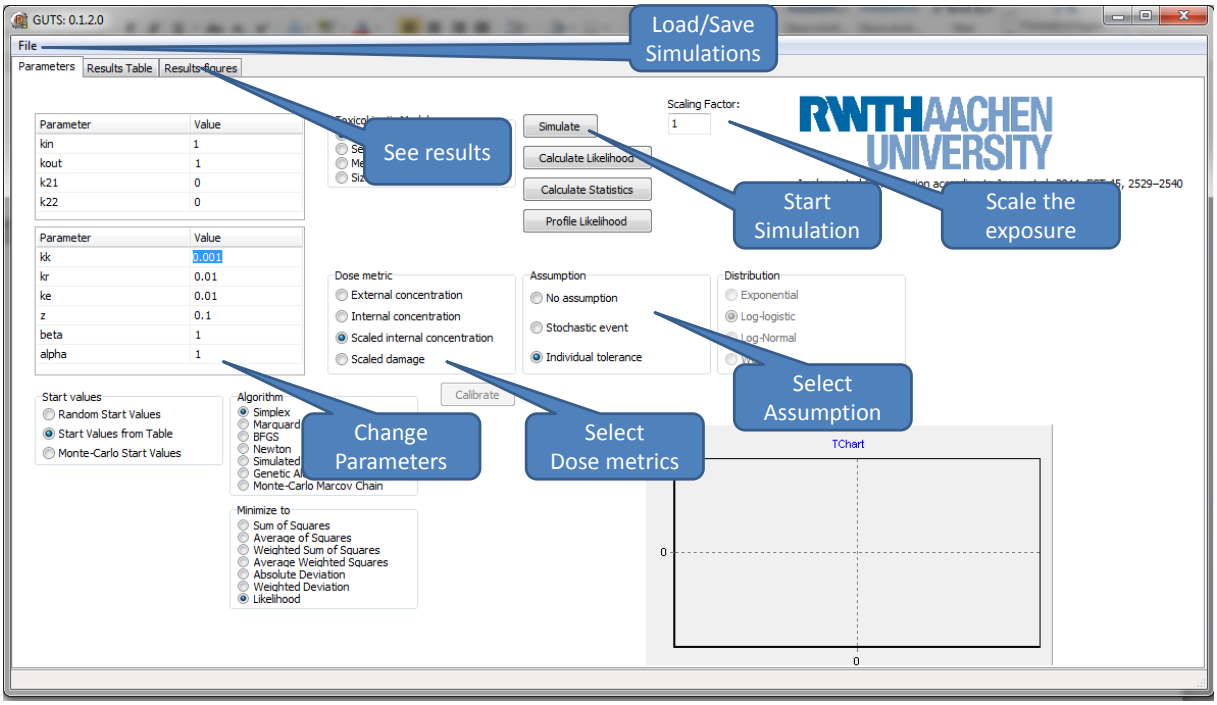
If you successfully open one of the sheets you see and can edit the following:



RUNNING GUTSEXE

1. Open the executabel exe GUTS
2. FILE > LOAD DATASET
3. Select one of the datasets
4. Press SIMULATE
5. Look RESULT FIGURES
6. Press on one of the arrows

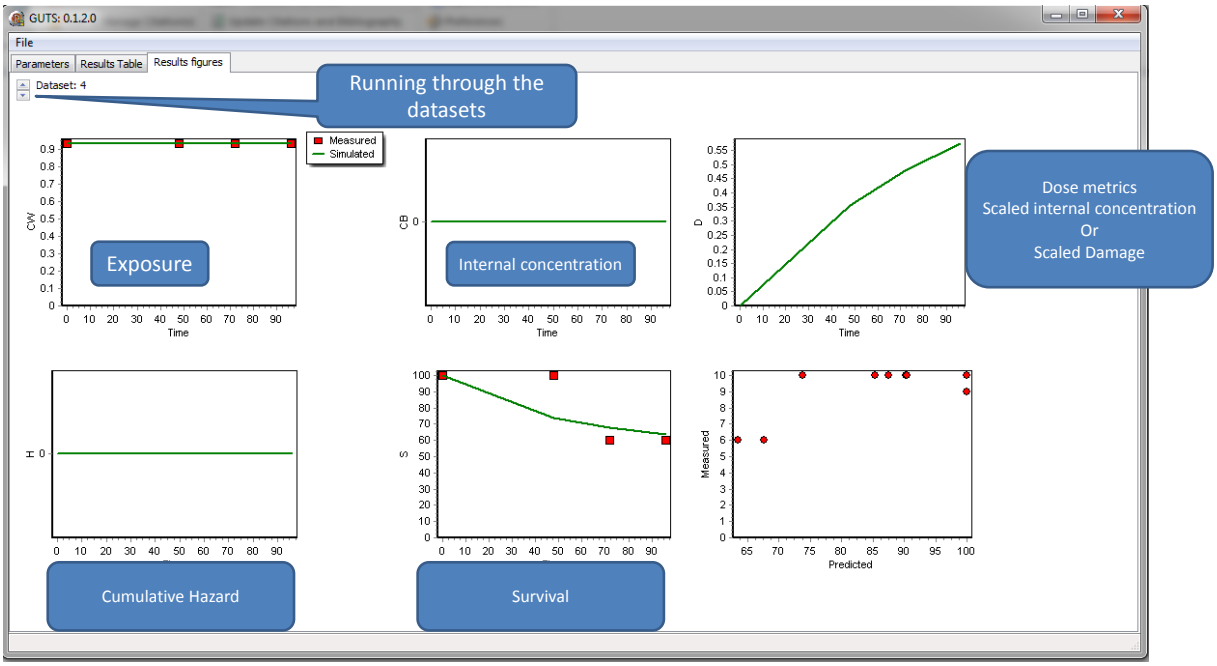
THE GUI:



You can load input data or save simulation results.

By pressing Simulation the model calculates survival depending on the parameters give in the sheet, the selected dose metrics and the selected assumption. For further information see[1]. Be aware for stochastic death kk (killing rate), z (threshold) is needed whereas for individual tolerance alpha and beta are necessary. If Dose metrics s scaled internal concentration ke (dominate rate constant) is needed for scaled damage kr (recovery rate) as well as toxicokinetic information (upper table). The toxicokinetic model can be a first or second order kinetic or a pseudo second order kinetic in means of metabolism.

After Simulation is finished the results can be seen in the RESUTLS FIGURES.



If you do not see a dataset press one of the arrows!

By pressing the arrows you can run through all datasets simulated. For each dataset (exposure + survival) you see the exposure, internal concentration, dose metrics (either scaled internal concentraton or scaled damage), cumulative hazard and the survival.

All diagrams can be copied by clicking on it. Afterwards you can paste them into Word, Powerpoint whatever.

[1] Jager T, Albert C, Preuss TG, Ashauer R. 2011. General Unified Threshold Model of Survival - a Toxicokinetic-Toxicodynamic Framework for Ecotoxicology. *Environmental Science & Technology* 45:2529-2540.