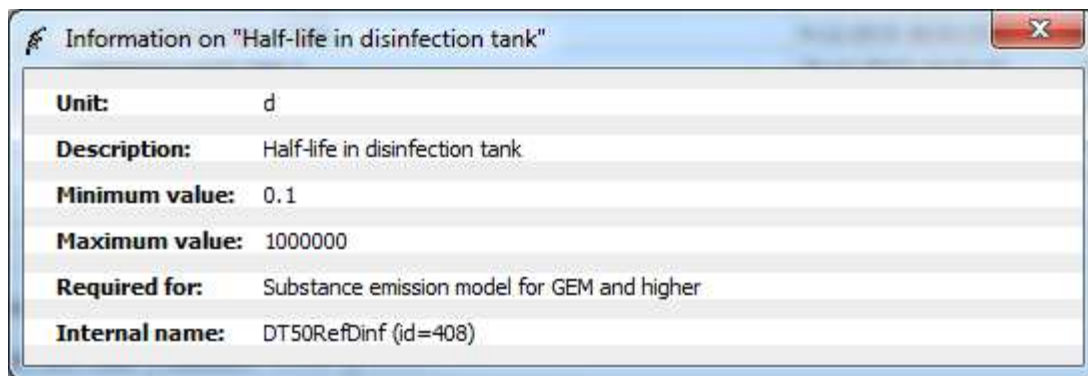


## Note to the half-life in the disinfection tank

Louise Wipfler, d.d. February 2016.

The half-life in the disinfection tank of the soilless system is currently restricted between 0.1 d and  $10^6$  d. These limits are set in SPIN2.2. Users requested to enable the calculation of PECs for substances with lower half-lives. We are currently working on a new version of SPIN, that allows for pesticides with half-lives in the disinfections tank lower than 0.1 d. The release of this version of SPIN is planned for mid-2016.

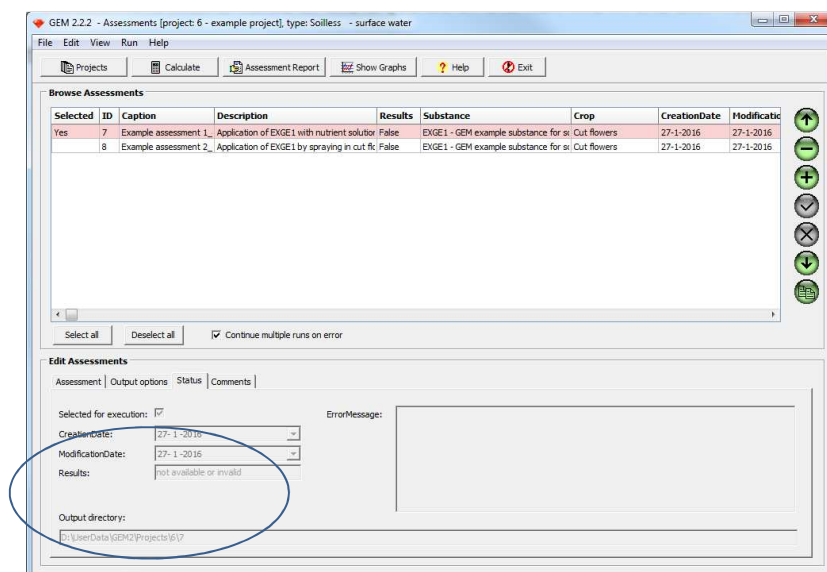


A new version of the Substance Emission Model (the greenhouse fate-model) was taken up in GEM2.2.2 which is able to calculate concentrations in emission water for a half-life in the disinfection tank between  $10^{-5}$  d and  $10^6$  d. After the new version of SPIN is released, GEM2.2.2 may be coupled to the new SPIN. Then, GEM2.2.2 can be run also for substances with lower values of the half-life in the disinfection tank then 0.1 d

In the short term we recommend to use a work-around:

Step 1: run an assessment for the substance of interest, but with a value of the half-life in the disinfection tank of 0.1 d

Step 2: go to the directory of this run. This directory can be found in lower corner of the status-tab of the assessment:



Step 3: open the .inp file in the substance directory. In the example this would be: D:\UserData\GEM2\Projects\6\7\SUBSTANCE\7.inp and change the value of DT50RefDinf\_[substance name] into the required value (see figure below).

```

7_sub.inp - Notepad
File Edit Format View Help
*----- test.sub
* INPUT FILE for Substrate model A - test version A
*-----
* Section 1: Control Section
*-----
01-Jan-2000      TimStart
31-Dec-2006      TimEnd
Day              OptDelTimPrn
*Hour           OptDelTimPrn
Greenhouse_Emission_Model_1.0 CallingProgram
*
0.0005          EquThiLam (m)
No              OptFileCloseOnly
rose_2015-17     watFluxFile
*-----
* Section 2: substrate characteristics
*-----
0.6             ThetaSub (-)
1000           RhoSub (kg.m-3)
0.1            cntomSub (kg.kg-1)
*-----
* Section 3: Compound characteristics
*-----
EXGE1          SubstanceName
table compounds
EXGE1
end_table
table RecwatFraPrtDau (mol.mol-1)
end_table
*----- Parent: EXGE1 -----
255.7          MolMas_EXGE1 (g.mol-1)
1000.          DT50RecwatRef_EXGE1 (d)
25.            TemRefTraRecwat_EXGE1 (C)
0.1           DT50RefDinf_EXGE1 (d)
25.            TemRefTraDinf_EXGE1 (C)
75.            MolEntTraRecwat_EXGE1 (kJ.mol-1)
45.            MolEntTraAir_EXGE1 (kJ.mol-1)
3.71          cofactwat_EXGE1 (-)
0              FraRedEndOfPipe_EXGE1 (-)
20.            TemRefDif_EXGE1 (C)
20.            TemRefTraAir_EXGE1 (C)
0.43          cofDifAirRef_EXGE1 (m2.d-1)
4.E-10        PrevapRef_EXGE1 (Pa)

```

Step 4: Re-run the substance emission model outside the user interface by clicking the run\_...bat file in the same directory.

Step 5: copy the outfile: \*.g2t to the TOXSWA directory ( in the example to: D:\UserData\GEM2\Projects\6\7\TOXSWA\.. ) and use the run\_...bat file in this folder to run TOXSWA.

Step 6: The results of the calculation can be found in the \*.sum output file created by TOXSWA.