# Edit material

The main dialog (Figure 1(a)) to edit a material shows the saved material information in the upper part. The as-saved material can be transformed to a model and can be saved to be used for the main functions to 'Design a batch' or 'Verify a receipt'. By clicking the button, a save-dialog opens. Furthermore, the displayed material information can be accessed and changed (Figure 1(b)).
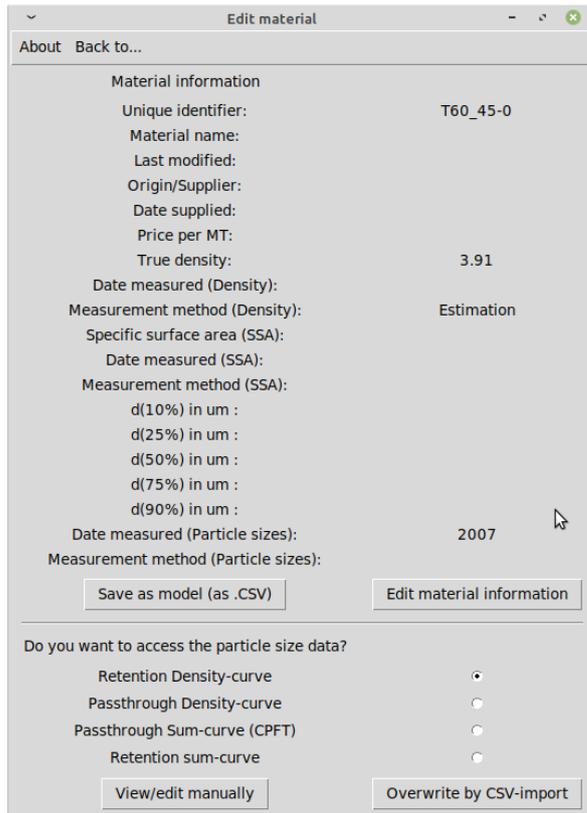
(a) Edit material dialog
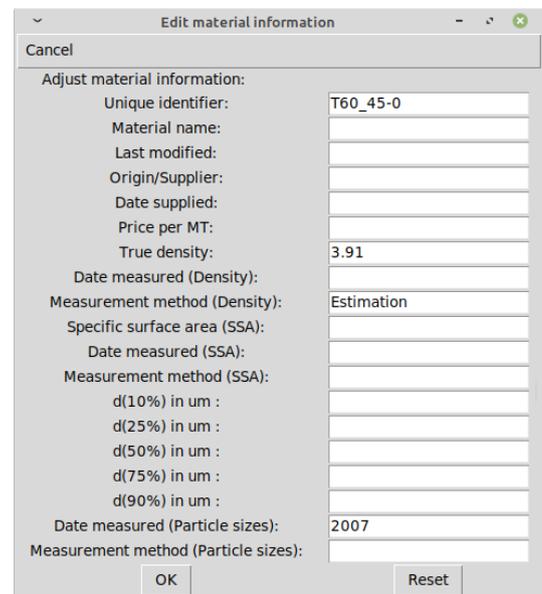
(b) Select one or materials to be removed

Figure 1: Edit material and edit material info dialogs

The unique identifier is mandatory and may not be deleted, but can be also changed. It will be listed in the dialogs where materials can be selected from a database. All fields can be given or changed. For the database, the units of the given information is not predefined, but it has to be consistent within the same database. For the fields price, true density, specific surface area and the d(CPFT)-values, only numbers are recognized—other inputs are deleted/blanked for these fields.

In the lower part of the main edit material dialog (Figure 1(a)), the particle size distribution data of the material can be accessed. The particle size distribution of the selected type (retention/passthrough density/sum-curve) can be viewed by clicking on 'View/edit manually' which opens dialogs where the particle size distribution could be also changed, cf. Figure 2(a). The alternative is to import a new particle size distribution of the selected type for the material. This overwrites the old data without further inquiry after the user selected the prepared raw-material CSV file in an open file dialog.

The different types of particle size distributions (retention/passthrough density/sum-curves) are explained in the Methodology Documentation and how a prepared raw-material file looks is described in the Technical Documentation. Depending on the type of particle size distribution, the data has
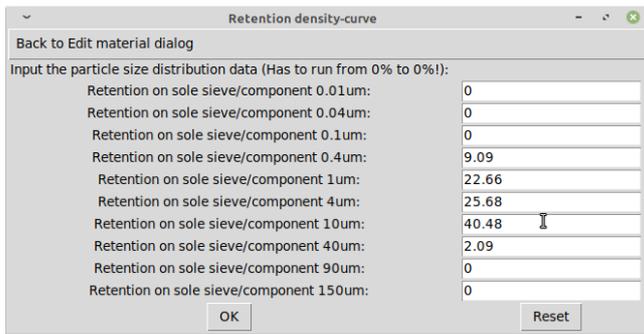
(a) Access particle size data manually
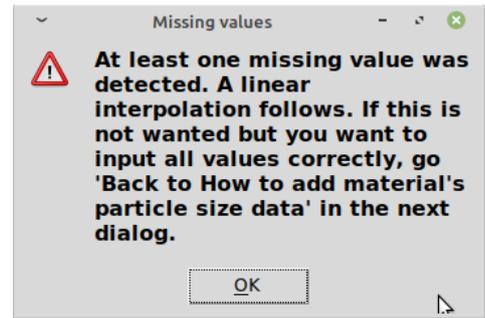
(b) Information about missing values to be interpolated

Figure 2: View/edit particle size data manually for chosen particle size distribution type

to run from 0 % to 0 % for the density curves or from 0 % to 100 % or vice-versa for the cumulative curves. For the program to work correctly, it is essential that the raw material's minimum particle size is larger than the minimum component size of the database and that the material's maximum diameter is smaller than the maximum component size of the database. Otherwise, the material can obviously not be integrated into the database completely.

The data has to be given completely (from 0 % to 0 % for density curves, ...), but not necessarily for every component size. Values for the missing component sizes are linearly interpolated and the user informed (Figure 2(b)). If the particle size data is given for other diameters in the raw material file than the ones defined in the database, the particle size distribution is calculated for the database by linear interpolation. It can be noted that a linear interpolation is directly only possible for a cumulative curve without changing all other values. Therefore, the inputted or imported particle size data is transformed to CPFT-values and then interpolated.
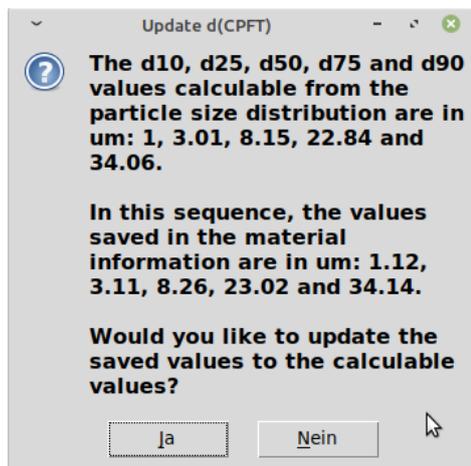
(a) No missing values in database
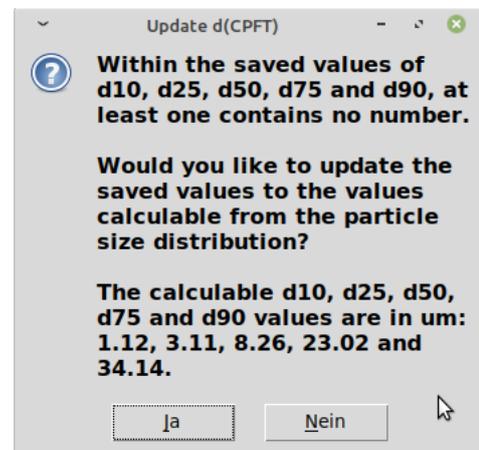
(b) Missing values in database

Figure 3: Updating d(CPFT) values

From the changed particle size distribution, d(CPFT) values are calculated and if they differ from the saved ones, the user is asked if these specific fields of the material information should be updated (Figure 3). There are two possible cases. Firstly, the information was compeltely filled out or there were empty fields which could for example happen if a user decided to use the datasheet value for d50 and the other fields were empty.