

## **News – New Features - Improvements**

### **Preface**

We have now been living with the corona pandemic for more than half a year. It is actually inconceivable that the whole world is fighting against a tiny enemy. We therefore wish all of our customers and business partners as well as their families to survive this difficult time without infection.

There have also been great upheavals in the office work, e.g. working in the home office. Here the users of Oil-Expert.net have a significant advantage. Instead of measuring fat mixtures in the laboratory, they can in most cases calculate the analytical parameters of the fat blends from the home office. About 90% of product development can be relocated to the home office, with the exception of a few measurements to check the results.

We used the time to further developments of Oil-Expert.net. Since the beginning of the corona pandemic, we have expanded the software by around 6,000 program lines of code. This corresponds to 120 A4 pages with 50 lines each.

- The user management has been improved,
- The interpolation of SFC values for arbitrary temperature has been improved.
- Each project can now be linked to different documents, e.g. PDF, Word, Excel, JPEGs, videos and more. The documents can be opened, edited and printed from Oil-Expert.net.
- Templates for components and analytical parameter groups. Several components or analytical parameters can be combined with the templates and used in projects in a simple manner. They can be user-specific as well as for all users.

A detailed description of the new functions and improvements can be found in this newsletter. But first we would like to offer you our free demo version.

### **Demo Version**

We would be happy to provide you with a full-featured demo version. The demo version can be used for three months. If necessary, the term can be extended.

The demo version not only offers all functions of the full version, the data generated with the demo version can still be used with the full version. The database is compatible with both the demo and the full version.

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**And it's that quick and easy (time required approx. 15 minutes):**

- Request download link [info@oil-expert.net](mailto:info@oil-expert.net)
- Download the software package from our website
- Install Oil-Expert software
- Start Oil-Expert.net and enter the registration code
- Finished!

The software is supplied with around 40 standard components and some sample projects. Using the example projects and the PDF manual, you can quickly and easily learn how to work with Oil-Expert.net. If you have any questions, please do not hesitate to contact us - by email, phone, Skype or any other medium of your choice.

## **User Management**

In response to many requests from our users, we have improved the user management. The following changes are now implemented in the software:

- **Log out**  
When a user logs out, all open forms are set to the ReadOnly processing status. However, all changes made can still be saved afterwards. Even if the forms are closed, a query is made to save them. When logging in again, the forms can be edited at the last edited position.
- **Record locking**  
Most users of Oil-Expert.net use Microsoft ACCESS as a database. The advantage of simple administration comes at the cost of the disadvantage that ACCESS is not a server database by nature. The same data record can be edited simultaneously by several users in the network. Only when saving is there a notification that the data record has already been edited and saved by another user. Then the user only has the option to discard his own changes or to overwrite the changes made by another user.

This situation is prevented in the new version of Oil-Expert.net. If a record is already being processed by a user, a message is coming up that the record is already being processed by user XY. In this case, the form with the corresponding data record is not even opened.

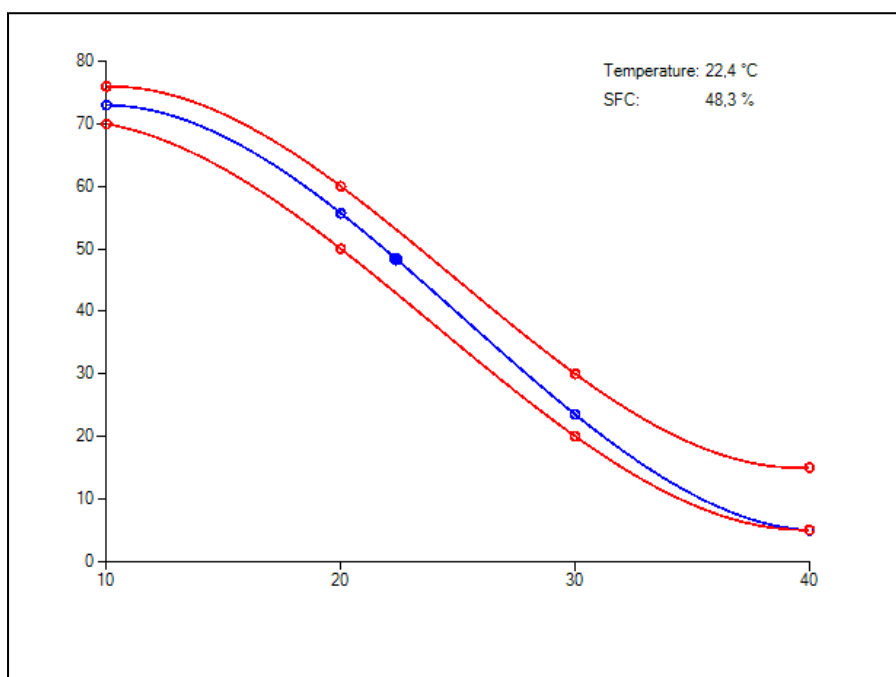
## Interpolation of SFC values

In order to calculate SFC values for any temperature, the SFC curve must be interpolated. The SFC curve is calculated from four values each, corresponding to the SFC values for the temperatures 10 ° C, 20 ° C, 30 ° C and 40 ° C. All values between these temperatures, e.g. 15.5 ° C, are calculated by interpolation. The temperature grid is 0.1 ° C.

So far, the interpolation has been calculated using the Lagrange interpolation formula. This form of interpolation is relatively easy to use, but the function obtained tends to 'overshoot', which can be prevented by technical software features. However, this sometimes results in a little strange SFC curve that is horizontal at first and then drops off abruptly.

In the new version, the interpolation is carried out using Bezier curves. The principle of the Bezier curves comes from numerical mathematics and works in a similar way to a curve ruler, which was previously used to draw curves. Thanks to the Bezier curves, the SFC curve can be adapted much better to the support points (measured SFC values at 10, 20, 30 and 40°C).

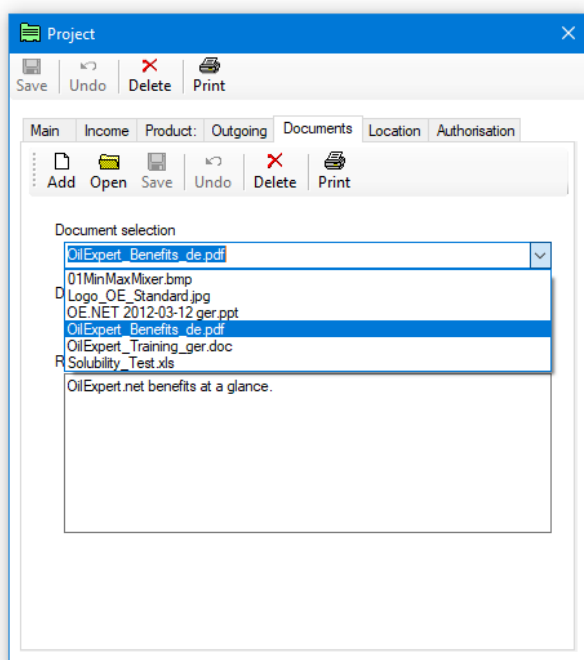
The following figure shows the component mixer as an example. The four support points of the SFC curve at 10, 20, 30 and 40 ° C are calculated from the values of the selected components in the desired blending ratio. The complete curve is then calculated using the interpolation points. If you move the mouse along the diagram from left to right or vice versa, the SFC value is calculated for the respective temperature and displayed at the top right in the diagram



## Document Management

From now on you can assign documents in any format to each project. The only requirement is the application to open and edit the document, e.g. Word, Excel, PDF reader, etc. The following standard document formats are possible: Word, Excel, PowerPoint, PDF, text, JPEGs, etc. The assignment is made in the project form under the tab *Documents* on the project form(see below). The following functions are available to the user:

- **Add**  
Assignment of a new document. The selection is made in a file dialog. The assigned document remains unchanged, including the storage location. Only a link is created. In addition, a comment can be made.
- **Open**  
The selected document is opened with the corresponding application and can be edited with it.
- **Save**  
Save new or changed assignments.
- **Undo**  
Undo all changes, including new ones.
- **Delete**  
The link to the document is deleted. The document is retained.
- **Print**  
Print the selected document without first opening it in the application.

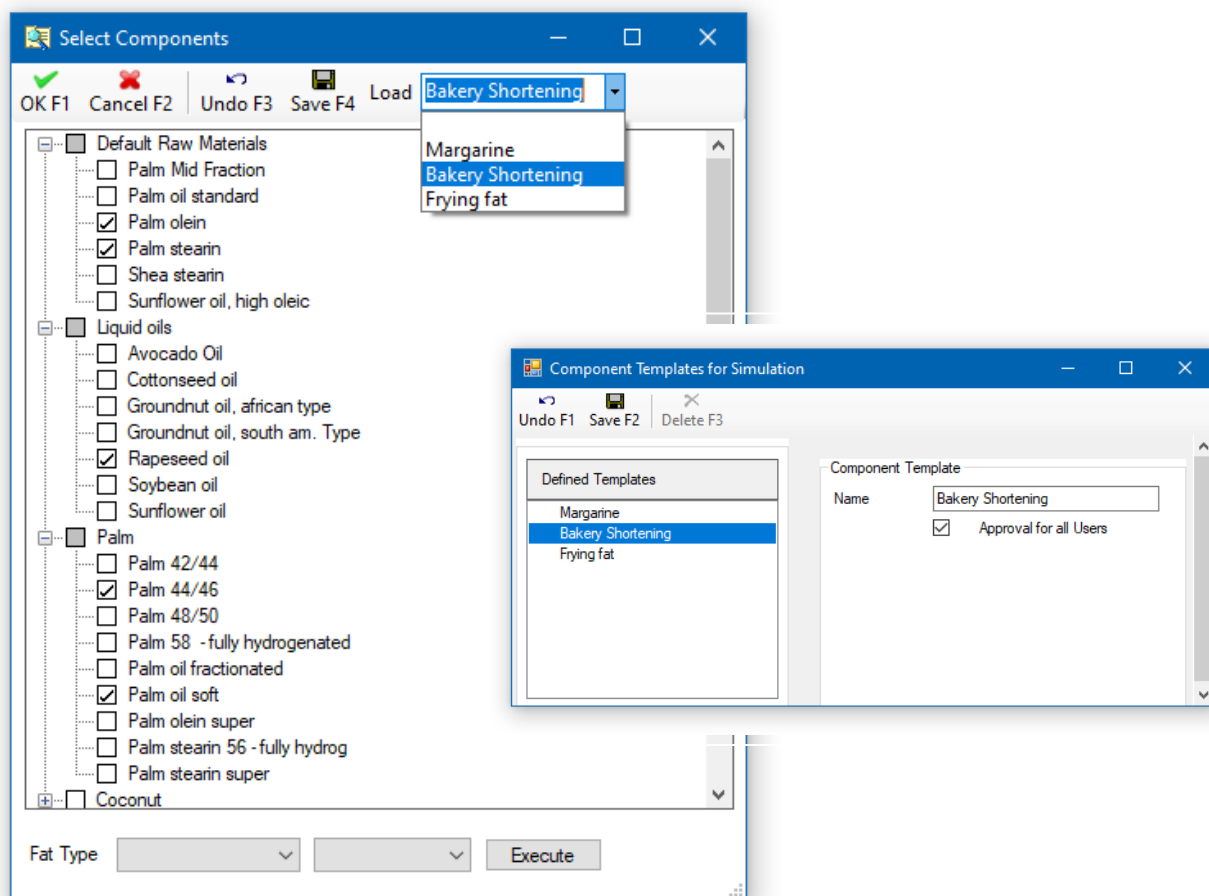


## Templates for Components and Analytical Parameters

In order not to have to re-enter the components and analytical parameters for each individual calculation, templates have been around for a long time. A calculation for margarine, for example, requires different components and analytical parameters than a calculation for a liquid oil mixture or a shortening. So far, however, only one template could be defined per user. From now on this restriction is lifted.

Any number of templates for both components and analytical parameters can now be named for each user. The predefined templates can also be made available to all users and they can be edited - names assigned and changed, deleted and the number and type of components or analytical parameters can also be changed later.

The following figure shows the functionality for component templates as an example. Templates for analysis parameters work in the same way.



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## **Imprint**

We would be glad to provide you with further information. Please feel free to contact one of our distributors.

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