

Easy, Quick, Cost-Efficient Product Development

Three more Reasons to work with OilExpert.net

The development of an up-to-date healthy fat blend requires a lot of development activities carried out by qualified personnel in the laboratory, be it for a new or improved application, quality improvement or cost reduction. The new version of OilExpert.net includes a product development management system that covers the complete product development cycle.

From now on there is the new release 6.2.0 of OilExpert.net. In addition to many smaller improvements and extensions, there are three important new features:

- Calculation of the Solid Fat Content using statistical methods based on the triacylglyceride composition.
- Replacement of components by older releases. This function allows the rapid replacement and the calculation of blends with components that have different parameters, eg 'soft' palm oil, 'hard' palm oil, etc. The distinction is made on the version number.
- Data import module for easy import of:
 - Statistical data for the calculation of the Solid Fat Content of fat blends
 - Component/Raw material data
 - Commodity prices

Calculation of the Solid Fat Content using statistical methods

The calculation of the Solid Fat Content - SFC values - of oils and fats blends results in great difficulties, because the values do not behave linear. In principle, a calculation is possible, but only when larger quantities (greater than 5%) of liquid oils and lauric fats are excluded. The reason is that the triglycerides form so-called eutectics as they are

Component	SFC-Depression
Laurics	ca. 20%
Liquid oils	ca. 10%
Palm products	
Palm olein	ca. 6%
Palm oil	ca. 3%
Palm stearin	ca. 2%
'Trans-Fats'	0%

also known of metallic alloys. Some deviations from linear calculated values shows the table left side (values in absolute %). For mixtures with lauric fats or liquid oils, it is impossible to estimate the SFC values linear at more than 5% of these components.

For the first version of OilExpert therefore an empirical algorithm was developed, which was

based on empirical methods. Another way to calculate SFC values is based on statistical methods.

Calculating the Solid fat Content of fat blends is very complex, but can be reduced to a statistical function. The physical properties, i.a. SFC values of oils, fats and mixtures of these are depending of the triglycerides. The SFC values are thus a function of the triglyceride composition. What the calculation makes very complex, is the very large number of relevant triglycerides - that is about 50 items. That means, for a robust statistics about 100 to 150 data records are required. These include individual oils and fats and also their mixtures. For each data record, the SFC values at each respective temperature and the triglyceride composition must be measured. This assumes of course that you can determine triacylglycerides, and a sufficiently large number of data sets is available.

The procedure is as follows:

1. Definition of the relevant triacylglycerides and temperatures for the SFC values
2. Entering the existing data sets - triacylglycerides and SFC values
3. Calculation of factors for each triacylglycerid based on statistical methods.

Calculating the SFC values of fat blends is done automatically with the statistically calculated factors.

The further use of of the empirical method to calculate SFC values is of course furthermore possible. The choice of the method for SFC calculation depends on whether the triacylglycerides can be determined or not.

Calculation of Fat Blends with older Releases of Components

Since a long time parameters and components have a release management. From this version it is possible to use older components with the corresponding data for the fat recipe or to replace newer components through older.

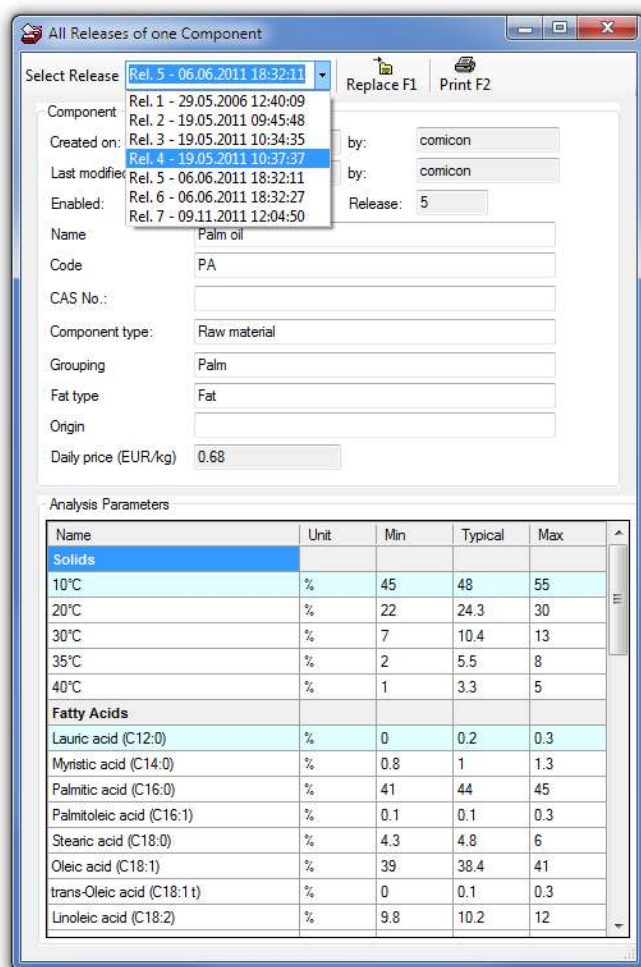
Components		
Component	Completely	Only Fat
Raw material		
Coconut oil	13.1	13.1
Palm oil		
PK Interestification		
Rapeseed oil		
Sunflower oil		

Actual release: 5, valid since 06.06.2011 18:32:11
 Latest release: 7, valid since 09.11.2011 12:04:50

Update selected component
 Update all components
Show all Releases

This provides the option to create multiple versions of a component with different parameters. For example, palm oil with different SFC values - soft, medium, hard.

The exchange takes place simply by right clicking on the component and selecting 'Show all Releases' (Please see figure on the left).



The dialog left displays all releases of one component. After selecting the release number the component is shown with the parameters corresponding to the selected release.

To replace the component in the data sheet is only a click away on the button *Replace*. The calculation of the parameter values on the data sheet takes place immediately with the new release of the component.

In the same way older releases of components can be inserted directly into a new recipe.

In the recipe section of a data-sheet, the release can be displayed by clicking the right mouse button on the component.

Data Import Module

OilExpert.net can import various data starting with release 6.2.0. There currently are provided:

- Component/Raw material data
- Commodity prices
- Data for statistical calculations of SFC values
 - Fatty acids and SFC values for the calculation of SFC values of interestifications
 - Triacylglycerides and SFC values for the calculation of SFC values of fat blends

The data must be available as a text file in a predefined format and the data files must have a predefined file extension. Besides the directory on the server or local hard disk and a number of other options can be set.

In order to use other file formats for importing data, we recommend our software cConnect. With cConnect you can convert any file format to other file formats so that the data generated by cConnect files can be read and processed directly by OilExpert.net. With cConnect even calculations are possible, for example, sum of all saturated fatty acids, etc.

If required we will make you a cost effective offer including the configuration for the required file formats.

We would be glad to provide you with further information. Please feel free to contact us:

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More informations and demonstrations of the software is also available on the following events:

- 105th AOCS Annual Meeting & Expo, San Antonio, Texas, USA
04. - 07. Mai 2014, Booth 104, EuroFedLipid
Please contact Dr. Frank Amoneit
- Seminar: Analytik von Speisefetten und Ölen, Köln
22. - 24. Juni 2014
Please contact Dr. Hans Cullmann
- 12th Euro Fed Lipid Congress, Montpellier, Frankreich
14. - 17. September 2014, Table Top Exhibition table 9, comicon/LAIX
Please contact Dr. Hans Cullmann