HSM applications for the flavour and fragrance industry
Special properties, reports and calculations

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In principle the requirements for a hazardous substance management like HSM NAV by manufacturers of flavours and fragrances do not differ from those posed by other manufacturers of chemical products.

As manufacturers e.g. of alcoholic extracts but also of waterbased concentrates, their products are subjected to the legislation on hazardous substances and dangerous goods in many cases. Normally these products are complex mixtures of numerous ingredients, which have to be classified and labelled in accordance with chemicals- and transport legislation and be placed on the market accompanied with the required documents, i.e. Safety Data Sheets and various kinds of transport documents like ADR Transport document, delivery note, IMO-Declaration etc.

By the way, for the substances listed in the EFFA Code of Practice Prosisoft provides the information contained therein, especially the hazardous substance classification according to the Dangerous Substances Directive and to the CLP Regulation.

Even the standard tasks mentioned above are characterised by a high complexity in general, coming along with numerous national variations, and which furthermore are subjected to a permanent change. This already shows that HSM NAV is a both powerful and flexible tool, predestined for tasks going far beyond hazardous substance management in the narrower sense.

Special requirements for flavour manufacturers

Flavours are subjected to various other legal requirements, depending on their application area - especially food and cosmetics. These can be added by product declarations and certificates of origin arising from religious dietary prescriptions or labelling requirements for allergics, diabetics etc. Moreover, purchasers may demand customer specific certificates and declarations of conformity, which they need in turn in order to obtain certain product awards, and which are going beyond legal requirements.

Data structures

In HSM NAV the required data structures can be built and modified if necessary, without the need to alter the table structures existing in the database. Thus it is possible to create and modify new properties anytime and to arrange them in so-called views, i.e. specially configured input- and output structures (reports).

Special properties for the flavour- resp. food sector are e.g.:
- Allergen sources (according to Directive 2007/68/EC)
- Contaminants (according to Regulation (EC) No 1881/2006)
- Germ counts
- Brix density
- Content of fat, carbohydrates, proteins, sodium etc.
- Calorific nutritional values (kJ / kcal)
- Shelf life information

- Application dosage levels
- Status information: Kosher, Halal, GMO etc.
- ID-Numbers: FLAVIS, FEMA etc.

These and other pieces of information can be grouped for data input in views and chapters in accordance with the users' own requirements and can be configured for output on various reports like product informations (technical data sheets) or special declarations of conformity, certificates of analysis etc.

Evaluations and calculations

By means of the FCC (Flow Chart Calculator), a special Prosisoft module, any kind of evaluation and calculation, stored as configuration in rule tables, can be carried out without the necessity of programming on the level of NAV Code Units. Thus for this purpose data structures and program code of a NAV installation may remain unchanged.

FCC configurations [1] can represent complicated classifications and calculations like e.g. the classification of mixtures according to GHS or the determination of the Danish MAL Code for paints and varnishes. Apart from that, a big number of evaluations and matchings with listings for all kinds of products can be defined, e.g. in order to safeguard and document that all ingredients are listed in a substance inventory such as TSCA, IECSC, DSL etc. or that certain components are listed in certain positive lists.

Important examples in the area of food and food additives are the evaluation and declaration of allergen sources and the calculation of calorific nutritional values and nutrient components.

Formulation levels

In principle these evaluations can be carried out on different recipe levels (formulation levels), and it is also possible to combine such evaluations. In the first place formulation levels are raw materials and the basic chemical substances (identified by CAS No., EC No. REACH Registry Number. etc.) contained in these raw materials.

So a certain basic substance as such may be no allergen. But if the respective raw material formulation component has been manufactured from a certain potential allergen source, e.g. from eggs, for the products made thereof this information must be forwarded accordingly. In this case the property Allergen source = egg must be entered at the raw material.

On the other hand the basic substance Fructose (CAS No. 57-48-7) is a carbohydrate with a certain calorific value. Accordingly maintained basic substances can e.g. be declared as nutrient category carbohydrates (weight %), and it is also possible to calculate and display a calorific nutritional value (kJ / kcal) for the overall product.

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[1] On the multitude of readily available FCC configurations you can inform yourself in our module description. In principle customer specific configurations can be realized by Prosisoft or by the customers themselves.