

PERFUME CREATION FOR AGARBATHI

Till recently many perfumers worldwide have concentrated their expertise in making perfumes for soaps (functional perfumes), personal perfume, EDT, etc., and many have not concentrated on making a blend to attain a perfect perfume for incense sticks.

Some perfumery and Agarbathi houses have created exclusive work on perfume creation for Agarbathi, which is captive in nature and secret maintained by the creative houses for their own consumption and their brand value.

What is Agarbathi fragrance? A perfume that blends well with base (Agarbathi:- coal, white chips and Joss) and diffuses on lighting an incense sticks, bringing an exotic long lasting effect, even when the incense stick lit is already used off.,

When incense sticks is burned, fragrance starts evaporating, some molecules are diffusive and some are less diffusive, making a balance between their molecules to get the same fragrance at various intervals of time is the real art, diffusivity is related to many factors and combination of Boiling Point, Vapor pressure, molecular weight, odor threshold, intermolecular attraction and some unknown factors.

Diffusivity is one of the most important consideration for creating any type of fragrance. Many Agarbathi perfumers, knowingly or unknowingly add, Sulphur or Nitrogen molecules to impact diffusivity and also intensity, e.g.: Indole, Pyrazine, Thio- Esters, Anthranilate, etc.

Odor analysis of perfumery ingredients;

Selection of perfuming ingredients is most important aspect of perfume creations. They must comply with the following considerations: Diffusivity, Threshold, Intensity, Burning characteristics, tenacity, and polarity and finally cost.

The requirement for an incense perfume is that it should vaporize these molecules prior to the reaching of the stage of Pyrolysis, i.e., incense sticks should release molecules before these are burnt by the burning tip.

Matrix (incense sticks) and the fragrance bond balancing is crucial, to give the best outcome in this respect.

Composition of Matrix does effect the overall diffusivity of the incense, solvents like DEP, Mineral oils also affect the volume of the diffusion and susceptible to burning.

Incense sticks is basically a mixture of coal, joss (gum) and wood powder, scientifically decoded as Cellulose, hemi cellulose and lignin's, which act as an adhesive.

Contributions of wood and wood powder is mainly based on Pyrolysis, i.e., thermal decomposition of cellulose and reactions of Pyrolysis products with each other with gases in the air (oxygen). Heat is generated at the tip of incense at about 350 degree to 500 degree Celsius. At this point some fragrant molecules evaporate or vaporize as their flash points/

Boiling Points are quite low. Only those fragrant molecules will perform on incense, which are able to vaporize before these attain a state Pyrolysis.

Polarity of the matrix is also a point of study, if the matrix is polar the release of non-polar molecules becomes easier and when composition of matrix is changed to non-polar, it will be nearly impossible for non-polar especially high boiling molecules to come out of the matrix before reaching the burning tip. E.g. Mineral oil addition makes the matrix non polar.

When honey (sugar syrup) is in the composition of the matrix, it becomes polar and so fragrance molecules especially with H.B point, release the fragrance better. Perfumers normally test their fragrance molecules by burning the molecule at the tip of the matrix (Incense sticks) and assessed.

The fragrance created for incense is normally decided by the composition of base raw bathi (Matrix) and is in the ratio of TOP NOTE 30/40%, MIDDLE NOTE 25/30%, and BASE 30/35/100.

If base is increased in the incense stick, the problem of low diffusivity rises when fragrance is heavy.

Normally perfumes like floral do not diffuse well on incense due to all low boiling molecules, but some can be enhanced with Esters, Nitrogen compounds to last longer, but Chypre and Fougere do well on incense sticks which are non-polar. For polar Matrixes, fougere and chypre have to be overloaded with fragrant molecules that are heavier, e.g.; Vanilin, Yara, Jasmine powder to give desired results.

Combine the science of perfumery with the art of perfumery, the result are diffusively fragrant.

- KASHINATH PATAWARDHAN