Essential Oils . . .

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fume chemicals (compatibility), etc., must be tested repeatedly, and the material should pass routine tests for non-irritation of human skin.

The commercial production may turn out slightly different from the small-scale synthesis, and a typical problem arises; can we establish specifications and can we correlate these with acceptable odor of this new product? Chemical analysis is an inevitable and necessary companion to the odor evaluation of all synthetic perfume chemicals. It is well known, although not always understood by other industries, that the perfume industry emphasizes odor purity above chemical purity in the sense that impurities which do not impair the odor, the effect or the stability of a perfume chemical, may be accepted if the odor of the chemical is accepted by experts in this olfactory evaluation. A product consisting of 99% Octyl aldehyde and 1% Octanoic (caprylic) acid will most conceivably be turned down on olfactory evaluation, while a product consisting of 99% Octyl aldehyde and 1% Octyl alcohol may pass the olfactory test. Analysis will, of course, show the difference, but the manufacturer may be surprised to know that 99% aldehyde is not always a guarantee of perfumery purity.

Thus, to convert the natural raw materials and the basic chemicals into suitable perfumery materials, skill and experience from organic chemists, analytical experts, extraction and distillation specialists are employed by the suppliers of such raw materials, and by the larger manufacturers of finished perfumes. Uniformity and high olfactory quality of raw materials is the beginning and the background for success in the creation of good fragrances.

Among the most important perfume types is the soap perfume. Important not only because of its considerable volume when compared to other perfume types, but particularly in view of the fact that every 2500 pounds of soap perfume helps sell one million bars of soap—or more. The soap perfume may very well mean the difference between a mediocre sales figure from the soap factory—or a mushrooming success in the sale of a soap bar.

The creation of a successful soap perfume may demand as much art and imagination but considerably more technical and scientific skill and experience than is normally required of the perfumer who specializes in handkerchief perfumes. Soap is a chemically active material containing several additives which may further affect the perfume: fillers, stabilizers, rancidity inhibitors, deodorants, etc.

Handkerchief perfume is a solution of perfume oil (the "compound") in Ethylalcohol, and this type of perfume is therefore comparatively stable, provided the original oil is so. Competition within the soap and detergent industry is the main factor deciding the low cost of a soap perfume. However, the soap manufacturers realize that the success of a soap is highly dependent upon the fragrance, and therefore they can see the advantage of having the perfume amount to a considerable percentage of the total cost of the soap.

The soap perfumer is therefore faced with a many-sided problem: odor and color stability of the materials, compatibility with the soap base and its strange, sometimes even unknown components, cost of perfume raw materials, etc. One characteristic about his work is that he cannot judge the effect of his perfume when applied directly on the skin, not even in suitable dilution. He must try it out in soap—preferably in the customer's own soap base. Tables and entire books have been written about the stability of individual materials in soap bases, the amount of discoloration or breakdown of odor to be expected, etc., but the experienced soap perfumer will know that the rules of these books and tables are rules with an unusually high percentage of exceptions. In other words, if he went strictly according to all these more or less theoretical findings, he would eliminate so many good and useful raw materials that he would hardly have any left when he took cost and other factors into consideration.

But the soap perfumer's work is to a certain degree inhibited by the above factors. A successful soap perfume, successful in fragrance and appealing in cost to the manufacturer, is only obtained by many and lengthy experiments, often with numerous disappointments and discouragements. It is true to a certain degree that in perfumery "simplicity above all" is a safe rule to follow, but it is not always possible to arrive at the desired fragrance with 12 or 15 ingredients in the perfume formula. The fewer ingredients the perfumer uses, the more of each ingredient is needed. Certain materials are only available in limited amounts, and this is particularly true about natural perfume materials. This is one reason why soap perfumes often contain a higher proportion of synthetic materials than do the handkerchief perfumes or other cosmetic perfumes. Synthetic materials are, furthermore, easier to control chemically in the sense that we can predict the possible reaction with more accuracy than in the case of the very complex essential oils and other natural materials.

The "construction" of a soap perfume is different from that of other perfume types due to the special virtues demanded for soap perfumes. Power and diffusiveness in the fragrance itself should be balanced and chained properly by the skillful use of fixatives of which there are many types. Some fixatives work simply by the physical lowering of the vapor pressure in the perfume mixture, others have a much more intangible but no less perceptible effect.

Years ago it was fashion to make snow-white soap cakes. This placed very strict limits upon the choice of materials available to the soap perfumer. Today, many successful soaps appear in various lively colors under the protection of which the soap perfumer enjoys the use of a much larger variety of materials. The recent improvement in soap packaging, the aluminum foil wrapper, has been a great help to solving the problem of stability of the perfume in the soap cake, although the foil had other missions, too. The rancidity on long-time shelf storage was greatly reduced, and this fact was in turn a welcome improvement in the stability of the perfume.

The usage of germicides or "deodorants" in soap cakes has been an addition to the many problems of the soap perfumer. The bactericidal ingredients are often of considerable odor themselves, and it may be necessary first to "mask" the odor of the germicide before introducing the soap perfume specially designed for this purpose.

In brief, a soap perfume, like any other perfume, presents a variety of problems beyond that of creating an attractive fragrance. Long experience and professional skill, a thorough knowledge of perfume raw materials including the newest synthetic chemicals, good taste and understanding of the customer's actual preference are among the prerequisites for the perfumer who wants to produce a fragrance for soaps that will yield that priceless extra sales appeal.

Heart Disease Research Symposium to Highlight U of I Lab Dedication

A symposium correlating four research areas in heart disease will be held June 16–18, 1963 at the University of Illinois in connection with dedication of The Burnsides Research Laboratory. These research areas involve: one, the clinical aspects of heart disease; two, the pathology and the composition of lipids in the aorta and the chemistry of the low density lipoproteins; three, the metabolism of lipids which may play a possible role in the development of atherosclerosis and four, factors or specific enzyme systems involved in lipid oxidation or metabolism. Complete accommodations for conference participants will be available in University dormitories. The Burnsides Research Laboratory, a new stone and glass structure consisting of two main stories, a basement and a penthouse with a total area of 21,232 square feet is occupied by the Food Chemistry Division of the Department of Food Technology. For further housing information and a copy of the program, write to: F. A. Kummerow, The Burnsides Research Laboratory, University of Illinois, Urbana, Ill.