



## WHEN FLAVORS BECOME FUNCTIONAL: PART II

With consistently growing consumer demand for low sodium and low sugar products, alternatives to artificial sweeteners plus the potential tax on sugar containing products, the technical team of our partner, Aromatech France, is diligently working to find possible solutions to these challenges.

In the previous edition of our newsletter the potential, capabilities and efficacy of Sensalt® have been tackled. In the current edition, the highly anticipated functional flavor as a possible solution

to the current greatest challenge to the beverage industry will be discussed, point-by-point.

Our partner, Aromatech France, has been working on developing sweet enhancer flavors for the past five years. Each newly created flavor has its positive effect on the final product, however, due to dynamic requirements of the customers and the government, the FSL technical team continuously worked on this flavor category to appropriately meet these requirements and taste expectations of

our customers.

Sweet Enhancer Type Flavor 7.96080 is the latest creation of Aromatech France which has a huge potential to substitute sugar in drinks, with several other benefits. It contains monk fruit extract which is now a popular ingredient to substitute sugar. Monk fruit is a sub-tropical melon fruit with origins in Southeast China. The monk fruit extract is 150 – 200 times sweeter than sugar, non-caloric, known to be an antioxidant and unlike stevia, it has no bitter after-taste. Due to its flexible

properties, it could also give room to other product enhancements such as complex carbohydrates, fibers and whole grains.

Sweet Enhancer Type Flavor 7.96080 was created to substitute 25% of sugar in drinks at a dosage of 0.30%. Its effect on the organoleptic profile of a drink has been evaluated by 15 in-house panelists and found to be acceptable in sweetness and overall acceptability.

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The evaluation was done by applying Sweet Enhancer Flavor 7.96080 in mixed berries flavored drinks and was compared with other mixed berries flavored drinks containing flavoring substance with stevia as a main source of sweetness. These two drinks were then compared with a mixed berries drink containing regular sugar content of 12°Bx to determine which of the two has a potential to have almost the same level of sweetness as conceived by panelists or human senses.

Refer to Table 1 for the recipe of the drinks subjected to sensory evaluation.

**Table 1: Recipe of Mixed Berries Drinks Subjected to Sensory Evaluation**

Ingredients	Samples		
	Drink 1	Drink 2	Drink 3
<b>Sugar</b>	12%	9%	9%
<b>CMC</b>	0.08%	0.08%	0.08%
<b>Citric Acid</b>	0.15%	0.15%	0.15%
<b>Mixed Berries Flavor 7.50413</b>	0.15%	0.15%	0.15%
<b>Flavoring Substance with Stevia</b>	-	0.05%	-
<b>Sweet Enhancer Flavor 7.96080</b>	-	-	0.30%

*Legend: Drink 1 = Target, Drink 2 = Flavoring Substance with Stevia, Drink 3 = Sweet Enhancer Flavor 7.96080*

The three drinks were subjected to Duo-Trio evaluation wherein panelists were asked to state which of the two coded samples has the same or comparable sweetness as per the known target. Below are the results of the evaluation.

Panel No	Drink 2	Drink 3
1	1	-
2	-	1
3	-	1
4	-	1
5	1	-
6	1	-
7	-	1
8	-	1
9	-	1
10	1	-
11	-	1
12	-	1
13	-	1
14	-	1
15	-	1
<b>Total</b>	<b>5</b>	<b>10</b>

Evaluation has shown that Drink 3 which contains the Sweet Enhancer Type Flavor 7.96080 was selected by over 60% of panelists. The overwhelming results gave confidence that with the tweak of the drink recipe, there is a chance to further increase the acceptance level of Sweet Enhancer Type Flavor 7.96080 as a substitute to sugar in beverage.

Sweet Enhancer Type Flavor 7.96080 can be further concentrated as well to those who are willing to explore its capabilities to achieve the 5% level of sugar in drinks with the purpose to avoid being subject to taxes in the future.

## LATEST ACTIVITIES IN FSL DUBAI – FLAVORS DIVISION

The training activities continue.

As we shared in the previous newsletter edition, FSL-Aromatech held its first ever training for Basic Sensory Evaluation in order to educate and form a group of trained panellists who will be the point of contact should an in-depth evaluation be required for certain flavor projects.

On 19th of August 2019, the qualified trained panellists had their first of a series of in-depth and extensive training sessions in organoleptic profiles and flavor descriptors. The participants were given the chance to learn about different molecules used to create a strawberry flavor and how each molecule affects the profile of the flavor from being green to ripe strawberry. Most importantly, panellists were able to have a hands-on experience of making their own strawberry flavor as instructed and trained by our in-house flavorist, Juliette Desnos.

The next training session which will take place in the last quarter of the year, will focus exclusively on banana flavors.



For further inquiries and sample request  
please contact :

**Ms. Reshell Pintor**  
Customer Service Representative  
Food Specialities Limited  
Flavors Unit  
Dubai, UAE.  
+971 4 806 9774