

Ice Cream

Featured Ingredient: **Tagatose**



Ice Cream Formula

Ingredient	%
Whole Milk (3.5% fat)	55.08
Heavy Cream (38% fat)	25.00
Tagatose	14.00*
Non-Fat Dry Milk	5.70
Emulsifier/Stabilizer Blend	0.22
Total	100.00

**The FDA's maximum usage limit of tagatose in ice cream is 7.5%. Usage limits may vary in other countries.*

Method

1. Mix whole milk and non-fat dry milk until well combined.
2. Heat milk mixture, then add Tagatose and emulsifier/stabilizer blend.
3. Continue mixing until there are no clumps.
4. Add heavy cream.
5. Pasteurize by heating to 155°F then raise temperature to 170°F and bring it back to 155°F for the remaining time. Must be above 155°F for 30 minutes. Alternate approved combination of time and temperature can be utilized.
6. Cool to no lower than 130°F while homogenizing. Recommended homogenization pressure (2000 PSI first stage and 500 PSI second stage).
7. Cool mix and store overnight under refrigeration.
8. Freeze the mix through continuous freezer with desired overrun.
9. Package and store at -20 °F.



Tagatose Overview

Tagatose is a rare sugar which tastes and performs like sucrose. It is 90% as sweet as sucrose with 60% fewer calories. With a low glycemic index of 3, Tagatose does not raise blood glucose levels when consumed on its own. In addition, it does not promote tooth decay and has been shown to have prebiotic effects.

Benefits

of Using Tagatose in Ice Cream

Our testing shows that Tagatose ice cream:

- Is lower in calories than ice cream prepared with sucrose
- Has similar sweetness and dairy taste profile to ice cream prepared with sucrose
- Maintains the smooth, creamy texture and mouthfeel found in traditional sucrose ice creams
- Has similar "scoopability" throughout the product's shelf life, akin to sucrose

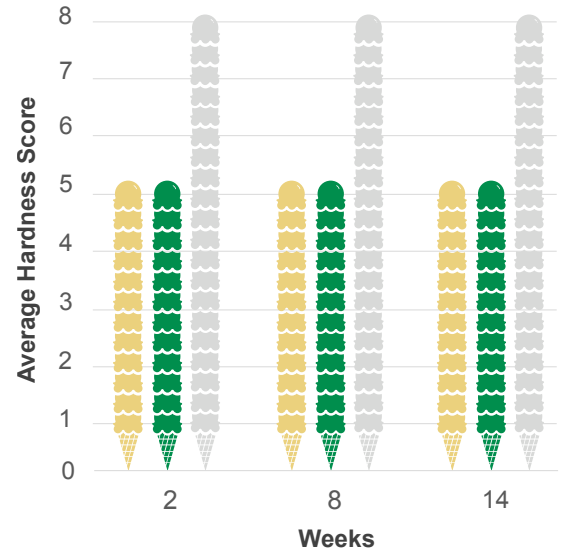
Scoop Test

for Ice Cream Prepared with Various Sweeteners



KEY TAKEAWAY:

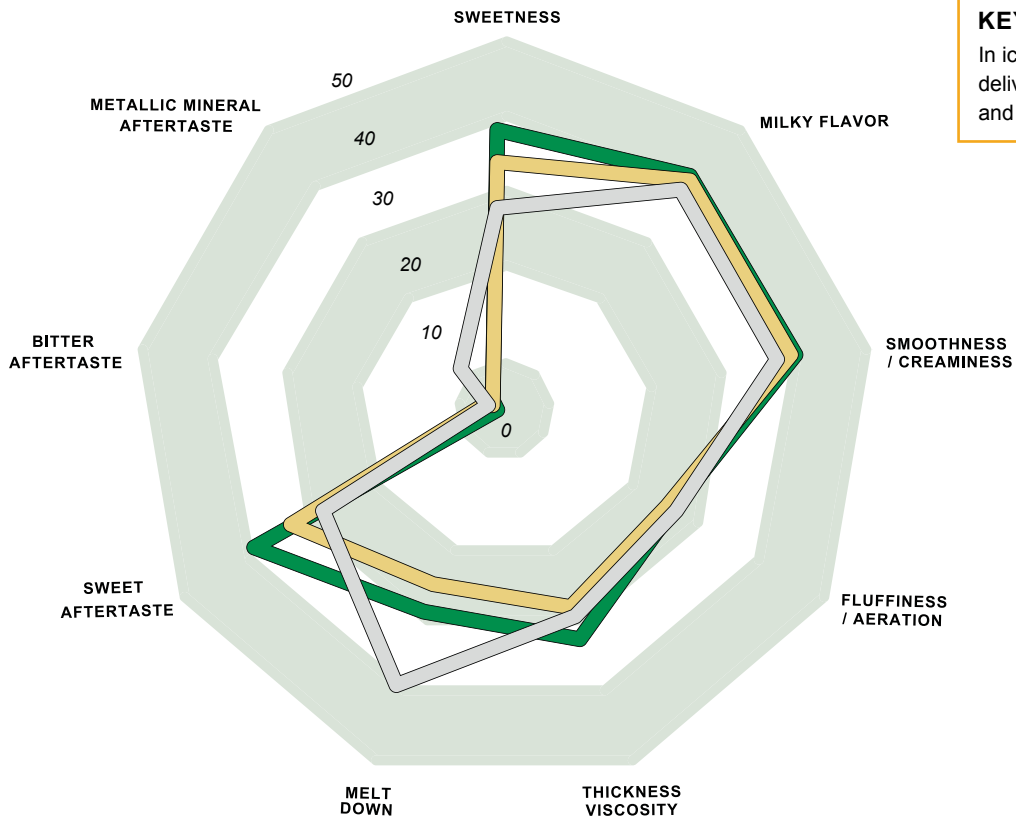
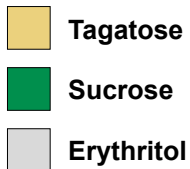
Unlike erythritol, Tagatose ice cream scoops very similarly to sucrose ice cream.



Sensory Profile

for Ice Cream Prepared with Various Sweeteners

* Source: Merlin Development, Tagatose Applications Testing, 2022.



KEY TAKEAWAY:

In ice cream, Tagatose delivers similar taste and texture to sucrose.

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