



## **Risk Assessments of Cyclamate, Saccharin, Neohesperidine DC, Steviol Glycosides and Neotame from Soft Drinks, “Saft” and Nectar**

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### **Author's contribution**

*The authors have prepared the draft opinion. The opinion has been assessed and approved by the Panel on Food Additives, Flavourings, Processing Aids, Materials in Contact with Food and Cosmetics of VKM.*

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### **ABSTRACT**

The Norwegian Scientific Committee for Food Safety (Vitenskapskomiteen for mattrygghet, VKM), Panel on Food Additives, Flavourings, Processing Aids, Materials in Contact with Food and Cosmetics, has at the request of the Norwegian Food Safety Authority (Mattilsynet) conducted a risk assessment of the intense sweeteners cyclamate, saccharin, neohesperidine DC, steviol glycosides and neotame in soft drinks, “saft” and nectar. The risk assessment includes exposure assessments and the calculated exposures are compared to the acceptable daily intake (ADI) for the respective sweeteners. VKM was also requested to compare the current calculated intake of saccharin and cyclamate to the calculated intake reported by VKM in 2007 (the VKM report «Impact on health when sugar is replaced with intense sweeteners in soft drinks, “saft” and nectar») when

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possible (VKM, 2007).

Six different intake scenarios with varying concentrations of added sweeteners (either the average concentration or the highest reported concentration for the respective sweetener) and varying consumption of beverages with sweeteners (either the actual reported consumption of beverages added sweetener or the assumption that all reported beverages were added sweeteners) were used for the exposure calculations.

- Scenario 1 gives the best estimate of the current situation in the population (average content of sweeteners, actual reported consumption).
- Scenario 2 is based on the average content of sweeteners and that all consumed beverages contain sweeteners.
- Scenario 3 is based on the highest reported content of sweeteners and the actual reported consumption.
- Scenario 4 is based on the highest reported content of sweeteners and that all consumed beverages contain sweeteners.

Scenarios 5 and 6 are based on the maximum allowed amounts of sweeteners within a category in accordance with the Regulation on food additives, within the categories soft drinks, "saft" and nectar in Norway (Regulation No 668 of 6 June 2011 on food additives, 2011).

- In scenario 5 the consumption of beverages with added sweeteners or sugar reported in dietary surveys were used for the calculations.
- In scenario 6 it was assumed that all consumed soft drinks, "saft" and nectar contained sweeteners (no sugar).

In the current risk assessment, the intake of the sweeteners was calculated for 2-year-old children and 18-70 year old men and women. Due to lack of new dietary surveys, the other age groups of children and adolescents were not included.

For all age groups in all scenarios, the intake of the sweeteners cyclamate, saccharin, neohesperidine DC, steviol glycosides and neotame was below their respective established ADI values. Due to possible differences in the calculation, it was not possible to compare the current calculated intake of saccharin and cyclamate to the calculated intake reported by VKM in 2007.

VKM concludes that there is no major health concern related to the intake of the sweeteners cyclamate, saccharin, neohesperidine DC, steviol glycosides and neotame from the beverage categories included in this risk assessment per today.

VKM further concludes that among young women who are high consumers of beverages with cyclamate, and 2-year-old children who are high consumers of beverages with steviol glycosides, the estimated intake approaches the ADI values. The high intakes approaching ADI are considered conservative estimates, as the highest reported content of sweetener or the maximum allowed amounts is used. Thus, these estimates are only relevant for the part of the population that are both loyal to beverages with sweeteners and a particular brand of sweetened beverage. It should be noted that intake of sweeteners from other foods or from tabletop sweeteners is not included in the intake estimates, and that a considerable contribution from these sources cannot be excluded.

**Keywords:** VKM; Norwegian scientific committee for food safety; cyclamate; neohesperidine DC; neotame; risk assessment; saccharin; "saft"; soft drink; steviol glycosides.

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