

CULINARIA EUROPE e.V.



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## Joint Position paper on Potassium chloride used as salt substitute

### Summary

Potassium chloride (potassium salt) is a salt substitute, which has for a long time been safely used by the food industry as an alternative salt to facilitate the improvement of the nutritional profile of processed food. Potassium as a mineral is also well-known to have beneficial effects on the cardiovascular system. Evidence shows that consumers are becoming increasingly conscious about their salt intake. However they are more and more suspicious about ingredients with unfamiliar names, despite the proven safety of these ingredients.

The above-mentioned stakeholders within the food industry in Europe are committed to helping consumers reduce their sodium intakes by continuously reducing the salt levels in their products. To that end we want to promote the use of potassium chloride as an alternative salt, without compromising on consumer acceptance with regard to taste, texture, cost, shelf life, food safety and ingredient labelling. We consider **“potassium salt” or similar/equivalent terms** as the most appropriate descriptive names to be used for labelling of potassium chloride, when used as salt substitute.

### Background information

Non-communicable diseases (NCDs) are the main contributor to mortality and morbidity globally<sup>12</sup>. While excess sodium intake (mainly in the form of sodium chloride, commonly known as salt) is associated with increased blood pressure, a major risk factor for certain non-communicable diseases such as cardiovascular disease, increased potassium intake may reduce blood pressure, decrease risk of cardiovascular disease, have beneficial effects on bone-mineral density, and mitigate the negative consequences of high sodium consumption<sup>345</sup>.

<sup>1</sup> WHO. Global health risks: Mortality and burden of disease attributable to selected major risks. Geneva, World Health Organization (WHO), 2009

([http://www.who.int/healthinfo/global\\_burden\\_disease/GlobalHealthRisks\\_report\\_full.pdf](http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf)).

<sup>2</sup> WHO. Preventing chronic disease: a vital investment. Geneva, World Health Organization (WHO), 2005

([http://www.who.int/chp/chronic\\_disease\\_report/contents/en/](http://www.who.int/chp/chronic_disease_report/contents/en/)).

<sup>3</sup> Dietary Guidelines Advisory Committee. *The report of the Dietary Guidelines Advisory Committee on Dietary Guidelines for Americans*. Washington, D.C., Department of Health and Human Services and Department of Agriculture, 2005 (<http://www.health.gov/dietaryguidelines/dga2005/report/default.htm>).

<sup>4</sup> Whelton PK, He J, Cutler JA et al. Effects of oral potassium on blood pressure. Meta-analysis of randomized controlled clinical trials. *Journal of the American Medical Association*, 1997, 277(20):1624–1632

(<http://www.ncbi.nlm.nih.gov/pubmed/9168293>).

<sup>5</sup> WHO. Prevention of recurrent heart attacks and strokes in low and middle income populations: Evidence-based recommendations for policy makers and health professionals. Geneva, World Health Organization (WHO), 2003

([http://www.who.int/cardiovascular\\_diseases/resources/pub0402/en/](http://www.who.int/cardiovascular_diseases/resources/pub0402/en/))

With a view to the above, the World Health Organization (WHO) recommends an increase in potassium intake from food, to reduce blood pressure and the risk of cardiovascular disease, stroke and coronary heart disease in adults and children<sup>6</sup>. In Europe, potassium chloride is a generally permitted additive in many food categories according to Regulation (EC) No 1333/2008 on food additives without maximum limit, thus it may be used in accordance with the “quantum satis” principle in these food categories. Apart from that, potassium chloride is also known as one of the most common salt replacers. Salt replacers are excluded from the scope of Regulation (EC) No 1333/2008 based on recital 5:

*“[...] substances should not be considered as food additives when they are used for the purpose of imparting flavour and/or taste or for nutritional purposes, such as salt replacers, [...]”.*

Furthermore, according to Regulation (EC) No 1925/2006 on the addition of vitamins and minerals and of certain other substances to foods, potassium chloride may be added to food as a mineral source of potassium.

In an Opinion of the European Food Safety Authority (EFSA) on a Request from the Commission Related to the Tolerable Upper Intake Level of Potassium (adopted on 22 February 2005), it was acknowledged that “Long-term intakes of about 3 g potassium per day as potassium chloride supplements, in addition to intake from foods, have been shown not to cause adverse effects (elevated plasma potassium or gastrointestinal symptoms) in healthy adults”<sup>7</sup>. However, it has to be noted that patients with renal dysfunction have to monitor their potassium intake. These patients will be enabled to make informed choices by appropriate labelling of potassium chloride.

### **Positioning statement**

The above-mentioned stakeholders are committed to support the efforts to raise consumer awareness, education and reduction of daily salt intake, and we do support the WHO objective of 5g/day salt intake. Potassium chloride can help achieving this target, while at the same time increasing the potassium level in foods.

Replacing part of the salt by potassium chloride will help to maintain preferable taste profiles of foods, and thus prevent consumers from adding salt back at the table. The overall taste of food can generally be considered as the main consumers’ preference driver. For some foods, salt plays a major role in the overall taste profile, which is why salt (sodium) reduction must be conducted very carefully in order to maintain consumer acceptance after reformulation, and to avoid discretionary addition of salt at the table. Although human preference can adapt to less salty taste over time, salt replacers are needed to achieve salt reduction targets within an acceptable timeframe. This becomes even more important, when reducing the sodium levels further to meet the WHO recommendations for sodium intake.

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<sup>6</sup> WHO. Guideline: Potassium intake for adults and children. Geneva, World Health Organization (WHO), 2012 ([http://apps.who.int/iris/bitstream/10665/77986/1/9789241504829\\_eng.pdf?ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/77986/1/9789241504829_eng.pdf?ua=1&ua=1))

<sup>7</sup> EFSA. *Opinion of the Scientific Panel on Dietetic products, nutrition and allergies [NDA] on a request from the Commission related to the Tolerable Upper Intake Level of Potassium* (adopted on 22 February 2005) <http://www.efsa.europa.eu/en/efsajournal/pub/193.htm>

## Consumer Insights

Recent surveys indicate that consumers in Europe are more and more concerned about the ingredients used in food and about what is written on the labels. Very often, certain ingredients – although generally considered as both safe and beneficial for human consumption – are not accepted by consumers based on flawed perceptions. This is mainly driven by trust in ingredients they know or are familiar with, and mistrust or even fear of the unknown. This nowadays leads to a general rejection of additives (“E-numbers”), as well as any ingredient having a “chemical” name.

In a study conducted in five EU Member States and involving an average of 2420 consumers per market, several potential descriptive names for potassium chloride have been tested, all of which were shown to be less acceptable than “normal” salt.

|                                    | European Average Acceptance [%]<br>(countries involved: Germany, France, Italy, Belgium, Spain) |                   |
|------------------------------------|---|-------------------|
| Ingredients                        | TOTAL<br>n= 12.100  |                   |
| Possible designation               | General Acceptance  | General Rejection |
| Salt                               | 53  | 4                 |
| mineral salt                       | 33  | 2                 |
| potassium chloride                 | 9   | 9                 |
| salt substitute potassium chloride | 3   | 35                |
| mineral salt (potassium chloride)  | 12  | 7                 |

Online consumer study. A list of ingredients was shown to respondents with the question: Please choose from the ingredients below which of the following ingredients do you accept and which you reject. Source: Nestlé

Results of more studies on consumer acceptance of labelling terms for potassium chloride are given below.

|   | UK (n=300) | Ger (n=454) | Pot (n=300) | Fra (n=450) | Nld (Bel, n=450) | Esp (Ita, Prt, n=300) | Swe (n=300) | Scale                   |
|---|------------|-------------|-------------|-------------|------------------|-----------------------|-------------|-------------------------|
| Sea salt  | 5.5        |             | 5.5         | 5.6         | 5.1              | 5.6                   | 5.9         | Acceptance score: 1-7   |
| Salt  | 4.7        | 5.4         | 4.9         | 5.1         | 4.4              | 5.3                   | 5.5         | 1-3 highly unacceptable |
| Salt replacer: potassium chloride                         | 3.5        |             | 3.9         | 3.4         | 4                | 3.3                   | 3           | 3-4 unacceptable        |
| Potassium chloride (natural mineral salt)                 | 4.7        |             | 3.7         | 4.8         | 4.3              | 4.9                   | 4.9         | 4-5 acceptable          |
| Salt substitute* obtained from natural potassium minerals |            | 3.6         |             |             |                  |                       |             | 5-7 very acceptable     |
| Salt substitute (potassium chloride)                      |            | 3.5         |             |             |                  |                       |             |                         |

Online consumer study. A list of ingredients was shown to respondents with the question: Below you see a list of ingredients. To what extent do you think it is acceptable that each of these ingredients is included in the recipe of a product that claims to be natural? Source: Unilever

|  | UK (n=1000) | Ger (n=1000) |   |
|--|-------------|--------------|---|
| Table salt   | 66.5        | 80.9         | % Of respondents which accept this ingredient |
| Sea salt   | 71          | 84.6         |   |
| Lower sodium salt blend  | 41.1        | 54.2         |   |
| Lower sodium mineral salt blend  | 38.2        | 51.2         |   |
| Lower sodium salt blend (salt, potassium chloride)                             | 36.1        | 51.3         |   |
| Lower sodium iodized sea salt (sea salt, potassium chloride, potassium iodate) | 29.3        | 53.7         |   |
| Lower sodium iodized mineral salt blend  | 29.2        | 49.6         |   |

Online consumer study in which consumers have been shown ingredients with the question: Please indicate for this ingredient whether it is acceptable, unacceptable or neutral to you. Source: Unilever

|  | UK (n=792) | Ger (n=794) |  |
|--|------------|-------------|--|
| Salt   | 0          | 0           | % Change in preference in relation to salt |
| Sea salt   | 11         | 7           |  |
| Salt, potassium chloride   | -6         | -4          | Below 0 unacceptable                       |
| Salt, lower sodium mineral salt blend (salt, potassium chloride) | -3         | 4           | 0-10 acceptable                            |
| Iodized salt (salt, potassium iodide)                            | -10        | 4           | Above 10 highly acceptable                 |
| Lower sodium mineral salt blend (salt, potassium chloride)       | -8         | 2           |  |
| Potassium chloride   | -9         | -4          |  |

Online consumer study. Pairs of products with different ingredients were shown to the respondent with the question: which of these products do you prefer? The preference for products with salt as ingredient were set as zero. Source: Unilever

In summary:

- Short, familiar names have highest acceptance; lengthy names and ingredient declarations are rather not accepted by consumers
- The terms »salt replacer« or »salt substitute« seem to lower the acceptability ratings
- Linking potassium chloride with »mineral« and/or »natural« seems to have a positive influence on consumer liking

### **Labelling Recommendations**

Providing compliant and non-misleading information about the ingredients in our products to consumers is of utmost importance for us.

Potassium chloride – if used as salt replacer and thus not falling within the scope of Regulation (EC) No 1333/2008 – shall not be labelled as a food additive. Furthermore, there are examples of common food ingredients with different labelling terms, depending on their purpose for use in foods<sup>8</sup>. Therefore, there is no legal obligation to call potassium chloride – if used as a salt substitute – with its chemical name “potassium chloride”. It may be labelled with a customary or descriptive name.

Based on the above consumer insights and in connection with the need to jointly reduce sodium chloride (salt) and increase potassium intake (according to WHO recommendations) - while maintaining consumer acceptance with regard to the taste and the labelling - we believe that potassium chloride – if used as salt replacer – should be labelled in a way that does not discourage consumers to purchase food products with a more balanced sodium-potassium ratio. At the same time, potassium chloride should always still be distinguishable from sodium chloride (usually labelled as “salt”) on the ingredient list of a food. Additionally, adequate information about the presence of potassium must be given, in order to allow consumers to make informed choices.

“Mineral salt” is - according to the above consumer study – an acceptable term from a consumer perspective. At the same time potassium chloride is listed in Annex II of

<sup>8</sup> Examples: Ascorbic acid used as food additive is labelled as “antioxidant ascorbic acid”; when used as a Vitamin it is labelled as “Vitamin C”. Beta-carotene used as a food additive is labelled “colour beta-carotene”; when used as a vitamin it is labelled as “pro-vitamin A”.

Regulation (EC) No 1925/2006 and can therefore be classified as a mineral. As the term “mineral salt” may have positive connotations with consumers, it shall be included in the list of appropriate descriptive names.

Considering the above discussed need to clearly indicate the presence of potassium, we therefore consider the following labelling terms as appropriate descriptive names for potassium chloride to put on the label of food.

**Potassium Salt**  
**Mineral Salt (Potassium)**  
**Potassium Mineral Salt**

These names, or combinations thereof, will appropriately inform consumers about the higher potassium level compared to a food without added potassium chloride, while not discouraging purchase based on low consumer acceptability of the ingredient. This will enable the continuous sodium reduction efforts of the European food industry, while at the same time supporting WHO recommendations on increasing potassium intake.

Decision on which labelling term is considered most appropriate within the context of country regulations and interpretations is the decision of the food business operator, based on product positioning and the relevant target consumer.



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