

# Salt Content in Pulse-based Snacks



## A Technical Report

March 2021



**Action on Salt**

## About Us

Action on Salt is a group concerned with salt and its effects on health, supported by 22 expert scientific members. Action on Salt is successfully working to reach a consensus with the food industry and Government over the harmful effects of a high salt diet and bring about a reduction in the amount of salt in processed foods as well as salt added to cooking, and at the table.

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## Acknowledgements

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# Background

An excess of salt in the diet is widely known for its connection with high blood pressure, which can increase the risk of strokes and heart disease. These illnesses are two of the biggest causes of death and ill health in the UK and worldwide<sup>1</sup>, and so the need for reducing salt intake is all the more pressing. High blood pressure is the third largest risk factor for premature death and disability in the UK<sup>2</sup>, with an estimated 2.5 million deaths thought to be preventable each year if global salt consumption was reduced to the recommended level<sup>3</sup>.

The recommended salt intake in the UK is no more than 6g a day for an adult<sup>4</sup>, however, according to the most recent National Diet and Nutrition Survey<sup>5</sup>, adults are consuming a daily average of 8.4g. The UK was one of the first countries to develop a salt reduction policy which is recognised as the most cost-effective method of reducing population salt intakes and improving public health<sup>6</sup>. The UK strategy pays greater focus on industry efforts to slowly and unobtrusively reduce the salt content of foods people buy, allowing taste preferences adjust and minimising impact on sales. Voluntary salt reduction targets have been put in place since 2006, with various amendments since, for retailers, manufacturers, and the eating out of home sector to work towards - covering around 80 categories of foods.

The recent COVID-19 pandemic in the UK has seen subsequent changes in peoples eating behaviours, for various reasons. It has left the population unable to eat out, and so there has been an increase in both home cooking and takeaways<sup>7</sup>. There has also been a rise in snacking<sup>8</sup> and weight gain, with the COVID Symptom Study App suggesting a self-reported average weight gain of 3kg in those who described increased snacking during lockdown<sup>9</sup>. A recent survey by Public Health England (PHE) found over a third of people (35%) reported snacking on unhealthy food and drinks at least once a day - up by 9% since this time last year<sup>10</sup>, and volume sales in savoury carbohydrates and snacks rose by 18.8% since the announcement of lockdown in March 2020<sup>11</sup>.

The total value of the UK savoury snack industry was estimated to be around £3.2 billion in 2019; crisps and potato snacks contributing the most with a combined worth of £2,581 million<sup>12</sup>. According to latest figures from the National Diet & Nutrition Survey<sup>13</sup>, around 2.4% of an adult's average dietary salt intake is derived from crisps and savoury snacks, putting them in the top 10 contributors of salt to the UK diet. It is likely that some people consume much more than this as under-reporting is not taken into account.

Several reports are indicating an increase in consumer demand for healthier snacking, as there are growing concerns surrounding diet and health<sup>14,15</sup>. Whilst snacking can be a very nutritious contribution to the diet, there are many snack products high in salt and calories.

# Aim

The purpose of this current report is to investigate the salt content of pre-packaged savoury pulse-based snacks which are often perceived as being healthier alternatives to usual snacking options. This report will also assess manufacturer and retailer progress towards meeting the 2024 salt reduction targets.

This report aims to highlight successful case studies of where salt content has been reduced successfully, and to provide technical solutions for reducing salt further.

Action on Salt surveyed pre-packaged savoury snacks which are often perceived as healthier alternatives to usual snacking options (i.e. crisps and flavoured nuts), available from major retailers; Aldi, Asda, Co-op, Iceland, Lidl, Marks & Spencer, Morrisons, Ocado, Sainsbury's, Tesco and Waitrose.

Nutrition information (salt, sugar, fat and saturated fat content per 100g and per portion) was collected in the week commencing 9<sup>th</sup> November 2020 online from foodDB<sup>16</sup> at the University of Oxford and verified online via retailers' websites. Additional data was obtained from product packaging bought instore using the FoodSwitch Data Collector app on 12<sup>th</sup> February 2021, and all data was shared with manufacturers and retailers for verification. Duplicates of the same product with different sized packaging were removed.

In addition to nutrition information, the use and type of nutrition claims, as well as the full ingredients list, was recorded.

INCLUSION	EXCLUSION
Savoury processed snacks, where the dominant ingredient is either a pulse (bean, pea, lentil etc), dried intact corn or the pulse/corn is mentioned in the product name	Standard potato-based crisps and snacks (including vegetable crisps)
A savoury processed snack in this scenario is defined as a product that is either dried, or formed into puffs, curls, chips, sticks, tortilla chips or popped snacks, commonly found in the snacking aisles in supermarkets	Snacks that are cereal based, e.g. wheat, maize, rice, quinoa etc
Product must be available for purchase at the time of collection	Nuts and seeds (except those mixed in with dried pulses/corn)
	Popcorn
	Milled or processed maize

Fat, saturated fat, sugars and salt content were compared to the UK front of pack colour-coded labelling criteria<sup>17</sup> (Table 1).

**Table 1. Colour coding criteria for 100g of food**

Text	Low	Medium	High
Colour Code	Green	Amber	Red
<b>Fat</b>	≤ 3.0g/100g	> 3.0g to ≤ 17.5g/100g	> 17.5g/100g
<b>Saturates</b>	≤ 1.5g/100g	> 1.5g to ≤ 5.0g/100g	> 5.0g/100g
<b>(Total) Sugars</b>	≤ 5.0g/100g	> 5.0g to ≤ 22.5g/100g	> 22.5g/100g
<b>Salt</b>	≤ 0.3g/100g	> 0.3g to ≤ 1.5g/100g	> 1.5g/100g

Products were classified as high in fat, salt and/or sugar (HFSS) using the Department of Health & Social Care’s Nutrient Profiling Model (NPM)<sup>18</sup>; energy, saturated fat, sugars and sodium (i.e. salt) are taken into account, as well as fruit/vegetable content, fibre and protein, to establish an overall nutritional score. If foods scored 4 or more points, they are deemed HFSS.

# Results

## Key Findings

- 43% of all snacks surveyed are high (i.e.  $>1.5\text{g}/100\text{g}$ ) in salt
- More than half (55%) are deemed high in fat, sugar and salt (HFSS)
- Almost all (95%) use nutrition claims on packaging, regardless of nutritional profile
- 64% meet their respective 2024 maximum salt reduction targets

A total of 119 products were included in this survey, from 36 companies (9 supermarket, 27 manufacturer), the vast majority of which (71%) were produced by branded companies (84/119). Over 1 in 3 (43%) would be considered high in salt ( $>1.5\text{g}/100\text{g}$ ), with no products surveyed being low in salt ( $\leq 0.3\text{g}/100\text{g}$ ).

The data was split into 2 categories: dried/roasted pulses (such as dried corn, roasted chickpeas and dried edamame beans) and processed pulse-based snacks (such as lentil or chickpea chips, curls puffs and sticks) (Table 2).

The majority of the snacks surveyed were dried pulses (62/119), with an average salt content of  $1.28\text{g}/100\text{g}$ . Within this category, dried corn-based snacks had the highest average salt content, of  $1.85\text{g}$  salt per  $100\text{g}$ .

Processed pulse-based snacks accounted for a total of 56 products, with an average salt content of  $2.0\text{g}/100\text{g}$ . The product with the highest salt content of all products surveyed was within this category, containing  $3.6\text{g}/100\text{g}$ .

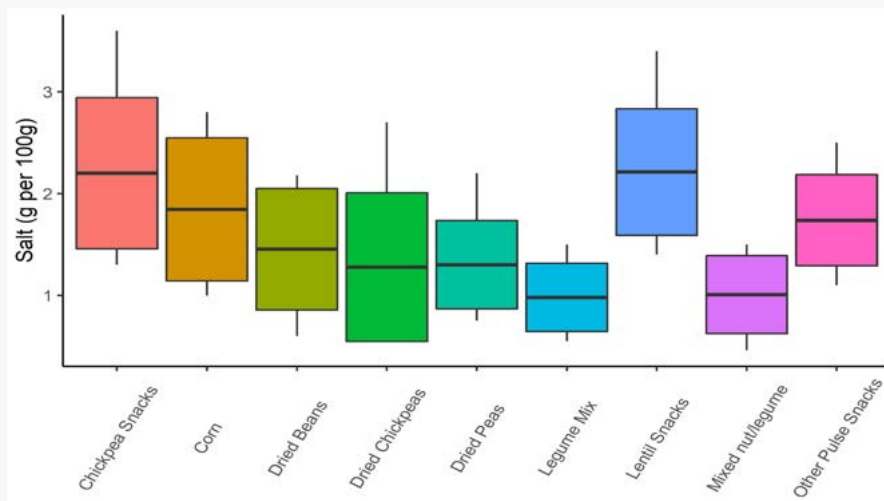
**Table 2. Average nutritional information for the different snack categories surveyed.**

Category	Sub-Category	No. Products	kcal /100g (mean±SD)	Salt /100g (mean±SD)	Fat /100g (mean±SD)	Saturates /100g (mean±SD)	Sugars /100g (mean±SD)	Fibre /100g (mean ± SD)
Dried pulse snacks	Corn	8	440(14.7)	1.85 (0.6)	14.0 (1.4)	1.9 (1.6)	0.8 (0.8)	6.4 (0.8)
	Beans	6	435 (40.9)	1.45 (0.6)	19.2 (6.4)	2.2 (1.0)	3.1 (2.0)	14.2 (3.2)
	Peas	17	397 (29.4)	1.30 (0.4)	10.8 (2.4)	3.4 (2.0)	7.9 (4.9)	13.6 (7.8)
	Chickpeas	11	431 (37.9)	1.28 (0.7)	15.6 (7.1)	2.2 (1.4)	4.9 (2.8)	13.3 (5.0)
	Legume Mix	10	446 (46.4)	0.98 (0.8)	16.9 (7.0)	1.8 (2.1)	5.4 (8.5)	10.1 (5.8)
	Mixed Nut/Legume	10	506 (46.4)	1.00 (0.8)	30.1 (7.0)	5.4 (2.1)	5.4 (8.6)	12.3 (5.8)
Processed pulse-based snacks	Lentil Snacks	22	457 (24.7)	2.21 (0.6)	17.5 (4.1)	1.9 (0.7)	2.5 (1.5)	3.1 (1.3)
	Chickpea Snacks	13	441 (31.9)	2.20 (0.7)	18.6 (4.1)	1.6 (0.2)	3.6 (1.9)	5.9 (0.6)
	Other Pulse Snacks	21	417 (16.8)	1.74 (0.5)	14.3 (2.3)	1.4 (0.4)	3.8 (2.0)	9.5 (2.8)

Abbreviation: SD, standard deviation.

## Variation

The salt content varied from 0.46 – 3.6g/100g salt across all products in this survey, an 8-fold difference. But there was also a clear variation between each sub-category as shown in Figure 1 and Table 3, the largest of which being found in processed chickpea-based snacks, with a difference of 2.3g salt between the least salty (1.3g/100g) and the saltiest (3.6g/100g) product.



**Figure 1. Mean, mean± standard deviation, maximum and minimum of salt content per 100g in each sub category**



**Table 3. Examples of category specific comparisons with the largest variation in salt content**

Category	Sub-category	HIGH		LOW		Difference
		Product Name	Salt g/100g	Product Name	Salt g/100g	
Dried pulse snacks	Corn	Love Corn Sea Salt Crunchy Corn	1.5	Inka Snacks Roasted Giant Corn	1.0	1.5 times more salt
	Dried Beans	Waitrose Crunchy & Savoury Roasted & Salted Habas Fritas	2.18	Hodmedods Roasted Fave Beans Sea Salted	1.0	2.2 times more salt
	Dried Chickpeas	BRAVE Roasted Chickpeas Sea Salt	1.5	The Happy Snack Co Roasted Chickpeas Lightly Salted	0.6	2.5 times more salt
	Dried Peas	Harvey Nichols Wasabi Peas	1.9	Hapi Wasabi Flavor Peas	0.75	2.5 times more salt
	Legume Mix	Graze Lightly Sea Salted Crunch	1.4	Good4U Veggie Protein Salt n' Pepper Seed Mix	0.89	1.6 times more salt
	Mixed Nut/Legume	Off the Eaten Path Lightly Salted Fava Nut Mix	1.4	Ding Dong Mixed Nuts	0.5	2.8 times more salt
Processed pulse snacks	Lentil Snacks	Simply 7 Lentil Crisps Jalapeno	3.4	Burts Lentil Waves Thai Sweet Chill	1.4	2.4 times more salt
	Chickpea Snacks	Eat Real Hummus Chilli & Lemon Flavoured Chips	3.6	Morrisons Sweet Chilli Chickpea, Purple Sweet Potato & Green Pea	1.35	2.7 times more salt
	Other Pulse Snacks	Corners - Pop Veggie Crisps, Peas, Beets and Chickpeas Sea Salt	2.5	Off the Eaten Path Salted Popped Rice & Pea Chips	1.1	2.3 times salt

*Dr Emma Williams, Partner & Nutrition Manager, Waitrose :*

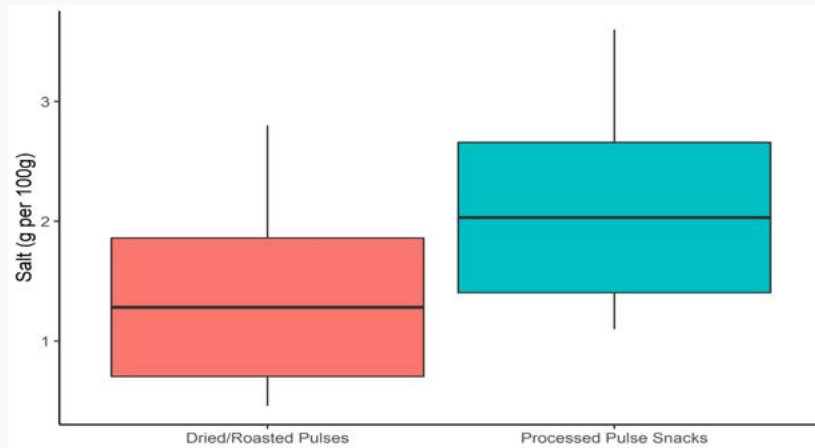
*"We clearly label all our products and give our customers a wide choice of foods. This particular product clearly states on the front of the pack that they are 'Roasted & Salted Habas Fritas'. As always, we work closely with our suppliers on continuous nutritional improvements to our products, making sure any changes do not compromise on taste or quality."*

## Serving Sizes

The majority (82%) of products surveyed provided information on suggested serving sizes, with the most common size being 25g - 30g for dried pulses and 20g for processed pulse-based snacks.

Suggested serving sizes varied in size and in salt content (Figure 2); on average, the salt content in a suggested serving of dried pulses was 0.45g, and 0.48g in processed pulse snacks. In comparison, the average salt content of a portion of standard potato crisps was 0.35g<sup>19</sup> and salted peanuts was 0.39g<sup>20</sup>.

Of the products that come in a larger packet size than their suggested portion size, it is difficult to ascertain how realistically these portion sizes are adhered too, therefore they are likely contributing more salt to an individual's diet than implied. In addition to this, a small minority provided unrealistic portion sizes in relation to their package size, for example, 7.5 or 6.75 servings per packet.



**Figure 2. Mean, mean± standard deviation, maximum and minimum of salt content (g) of different pulse-based snack categories per suggested serving**

## Salt Targets

Salt targets have been set for various categories of food for the food industry to work towards. The latest set were published in 2020<sup>21</sup>, and include new categories, such as savoury nuts. The products included in this survey would fall under a number of different targets – dried legumes would fall under ‘11.7 Flavoured nuts’, whilst the processed pulse-based snacks would likely fall under one of the crisps and snacks subcategories, depending on their method of processing. See Appendix I for details on the current landscape of products achieving the maximum salt targets for their respective food category.

Food companies have until 2024 to achieve the targets. Looking at progress so far, 56% of branded and 74% of retailer own branded products surveyed have already achieved their respective maximum targets. The sub-categories with the least number of products currently achieving the maximum targets set to be achieved by 2024 are dried corn (25%) and dried beans (33%).

No comments can be made on sales weighted averages due to restrictions in data access.

**Voluntary salt targets  
have been set to be  
achieved by 2024**

**56%**

*of branded companies*

have already achieved their respective maximum salt targets

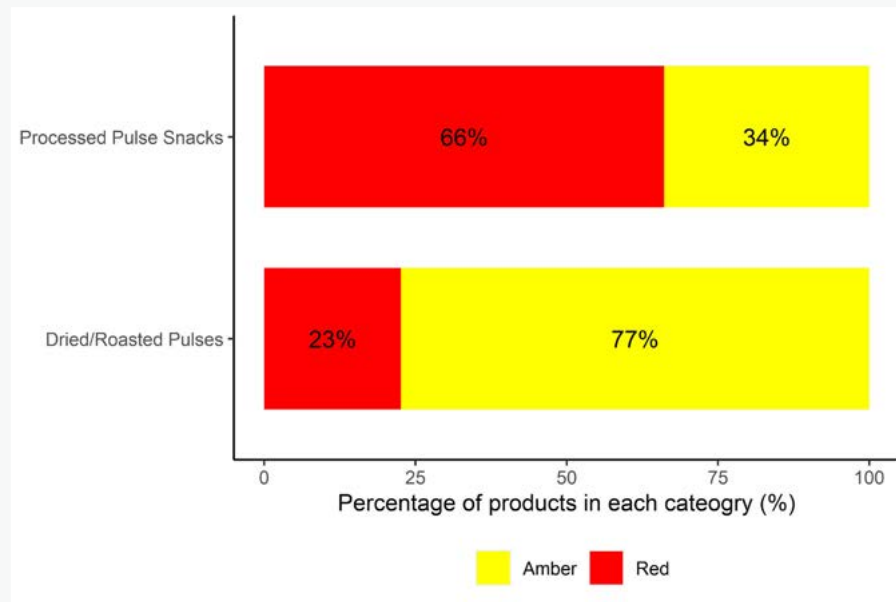
**74%**

*of retailers*

have already achieved their respective maximum salt targets

## Nutritional Profile

71 out of 119 products surveyed (60%) would receive a red colour on front of pack for fat, saturated fat, sugars and/or salt if the Government were to implement mandatory front of pack colour coded labelling as set out by the Department of Health and Social Care, classifying them as being unhealthy. Looking specifically at salt, 43% of all products surveyed would be classified as high in salt (>1.5g salt/100g) and subsequently have a red label. Figure 3 provides a breakdown according to the different categories.



**Figure 3. Breakdown (%) of products with a red (high), amber (medium), or green (low) classification for salt according to the DHSC Front of Pack Colour Coded Nutrition Labelling Guidance**

Only 33% of products included in the survey (39/119) provided front of pack colour coded labelling as recommended by the Department of Health and Social Care, despite there being a strong evidence base that front of pack labels help shoppers make more informed decisions<sup>22</sup>.

Using the NPM model, over half (55%) of all of snacks surveyed (66/119) would be considered a high fat, salt and/or sugar (HFSS) product. Under government guidelines, this means they are not allowed to be advertised to children during children's programming, and from 2022 will not be allowed to be advertised before the 9pm watershed<sup>23</sup>. There has been a further consultation in which a response has yet to be published as to whether this would include all online advertisements as well<sup>24</sup>.

Table 5 provides a category specific breakdown of products considered to be HFSS, with a greater percentage of branded products falling under this classification.

**Table 5 – Breakdown (%) of products considered high in fat, salt and/or sugar (HFSS)**

Category	% products HFSS	% branded products HFSS	% retail own brands HFSS
Dried Pulses	24%	26%	20%
Processed Pulse-based Snacks	91%	98%	71%

Processed pulse-based snacks provide the greatest number of products with HFSS status. Whilst many of these products are lower in energy and saturated fat content, and higher in vegetable, fibre and protein content compared to standard potato crisps, the majority exceed their salt content, which is contributing to a nutrient profile score greater than 4. The processed pulse-based snacks that fulfilled healthier status were within the lower salt thresholds.

## Nutrition Claims & Statements

Despite many of these products being classified as HFSS food, most products surveyed feature some form of nutrition claim or statement on pack. The saltiest snack surveyed, for example, contains 3.6g/100g salt, and yet the front of pack states ‘40% Less fat, Vegan, Gluten free’.

**81%** of snacks surveyed (96/119) include a nutrient based claim on pack, including 'Kcal per serving', 'Less Fat', 'No added sugar', 'Source of/High in Fibre/Protein'

Additionally, almost all (95%) include other claims such as ‘Gluten free’, ‘All natural’, and ‘No artificial preservatives’. Whilst these claims are legal<sup>25</sup>, they have been shown to be misleading to consumers by creating a ‘health halo’ and discouraging shoppers from scrutinising the label more thoroughly<sup>26,27</sup>. 97% of HFSS products included in this survey (64/66) provide some form of nutrition claim on pack.

## Salt Reduction Solutions

In many cases, salt is predominantly used for flavour, as evidenced in the large variation found within each sub-category surveyed. However, salt does have other roles in some snack production, such as the effect on shelf life, texture and product form. Total salt in snacks can be attributed from 2 main sources - salt added during snack formation (i.e. physical production), and seasoning which is applied to the snack after production.

This section will explore the technical uses of salt as well as the barriers and the solutions to salt reduction in the snacks surveyed.

### Snack Production

#### Extruded Snacks

This is a collective term for a wide variety of shaped snack products, produced, in the case of this report, from pulses which are mixed into a dough and shaped via an extrusion process. Extrusion is a thermomechanical process consisting of forcing a mixture, such as a dough, through a small size hole, under pressure and temperature.

Extruded snacks vary greatly in shape – some are compact e.g. tortillas, whilst others are aerated e.g. puffs. The base of the product consists of a flour and salt, which acts as a nucleation point around which moisture gathers; this then turns into steam under high pressure and creates bubbles. Salt is said to be needed in the production process to regulate the shape, but not all types of extruded snacks are reliant upon expansion to the same extent. Some extruded snacks utilise the extrusion gun to mix the dough and shape the snack product without starch modification or protein denaturation.

With that said, extruded snacks do exist with low levels of salt, for example *Organix Melty Veggie Sticks*, which only contain 0.01g salt per 100g<sup>28</sup>.

*Emily Day, Head of Food Development, Organix:*

*“Organix was launched with a clear mission to create tasty and nutritious food using the best organic ingredients. Since then, we’ve passionately led the way in creating delicious baby & toddler foods that little one’s love and parents can rely on and contain nothing unnecessary such as added salt.*

*Organix have a range of savoury puff snacks for little ones, which consist of extruded products. Extrusion is our preferred method, as it allows us to produce puffs with no added salt. Until pellet technology moves on, we will only use extrusion technology which allows us to create delicious puffs for little ones, that have a great texture and the reassurance of our No Junk Promise... no added salt, artificial colours or flavours.”*

## Pelleted Snacks

Pellets are intermediate non-expanded products which are typically dried to allow for storage and are cooked later by either hot air or frying.

The main ingredients needed for pellet production are flour, starch and salt. Salt plays more of a role in pellet formation, namely that salt modifies dough polarity and water binding. Reducing salt *too much* in pellets would affect the appearance (e.g. the bowing of pelleted sticks snacks) and texture (reduced crispiness) of the product.

Reductions in salt content of these pellet-based snacks are predominantly achieved in the flavour coating, to limit reduction in the pellet recipe. With that said, reductions are still possible in pellets, with the option of using lower sodium salt replacers which mimics salt in the production of pellet-based snacks.

### *Michele Conway, Director of Sales & R&D, Snack Creations:*

*As a world leading snack pellet manufacturer, we work globally with snack brands and private label manufactures and have been providing low sodium pellet solutions for many years and continue to build this portfolio particularly in light of HFSS in the UK.*

*Whilst snack pellets need a level of salt for functionality, for example salt enables moisture migration and thus affects expansion and texture, there are many opportunities for snack manufacturers to improve health credentials of products. We actively work with our snack customers on salt replacers and product design which can assist in sodium reduction, alongside our process which enables the base flavour of the raw material to shine through, this has enabled some of our customers to sell our snack pellets fried or air popped without any seasoning which is game changing for salt reduction.*

## Flavour Coating

Once a physical snack is produced, be it extruded or pellet based, baked or fried, the product then enters a rotating drum, where a seasoning mix is applied to the surface area. It is at this point that salt is also added within the seasoning mixes, and therefore there is opportunity to reduce salt content further.

## Sea Salt

One trap that companies are falling into, is the desire to use 'sea salt' on their packaging, product description and/or ingredients. Sea salt is seen as desirable due to the common misconception by consumers that sea salt is healthier and more natural than table salt or salt replacers<sup>29</sup>. It is often used as a selling point, and whilst not a health claim, creates the same confusing and misleading 'health halo'. One in three snacks (34%) surveyed specified the use of these salts, either within the flavour description ('Sea salt and vinegar') or in the ingredients list.

Sea salt, along with other ‘posh’ and more expensive salts such as Himalayan and rock salts, all contain similar, high levels of sodium chloride to that of table salt. They are often advertised as containing essential minerals good for health; however, these minerals are in such small amounts, therefore, they would have no beneficial effect when consumed from salt<sup>30</sup>.

By using ‘sea salt’ on product descriptions or advertising, it potentially restricts the use of solutions such as the use of potassium chloride, which could be widely used as a salt substitute for flavour, preservative and technological functionality.



### *Salt Replacers*

Whilst there is a structural role for salt in some snack products, there is also an element of added salt in the recipe, and therefore replacing added salt with a lower sodium alternative would be one option to reduce the total salt content of a product. Only 2 companies mention the use of potassium chloride (E508) in addition to salt (sodium chloride) on their ingredients list (Off the Eaten Path & Marks & Spencer).

*Caroline Klinge, Sales & Marketing Manager, LoSalt:*

*When discussing the importance of reducing salt consumption, it is important to highlight that it is the sodium part of salt (sodium chloride) that is the risk factor for hypertension and resultant conditions. Replacing sodium salt (NaCl) with a potassium-based salt is a simple way to reduce the salt content of foods, but for a long time there has been a stigma surrounding this workable solution (probably originating from PHE’s blue-sky thinking of wanting to change the nation’s palate).*

*With SACN’s 2017 report positively advocating the use of potassium-based salt replacers as a way to achieve the goal of reducing the nation’s sodium intake, surely there should be no barrier for reformulation by manufacturers.*

*We would agree that the only real barrier for sodium reduction is the manufacturer’s misplaced desire to include a “sea-salt” descriptor on pack as a consumer preference device.*

## Case study

DR HELEN MITCHELL, DIRECTOR OF SCIENCE, SMART SALT OY :

Consumer research has been conducted using Smart salt® as a salt replacer in many industrial applications, including surface flavouring for snacks. A relevant case study includes a project undertaken at the national food laboratories, USA, where the consumer acceptance of smart salt® at two levels of salt reduction was measured in salted potato crisps against a regularly salted product (control). 200 respondents aged 25-65 years were invited to taste samples of potato crisps and rate them according to overall liking, liking of flavour, liking of salt flavour and salt intensity. The results are given in table 1 below.

Table 1. mean values of rating scores from 200 respondents aged 25-65 years. smart salt® is a flexible sodium reduction technology from finland based on magnesium and potassium chloride.

Sample	Control (regular salt) Mean Value	Smart Salt 40(40% sodium reduction) Mean Value	Smart Salt 30 (30% sodium reduction) Mean Value
Overall liking	6.9	6.55	6.55
Liking of flavour	6.72	6.45	6.36
Liking of salt flavour	6.84	6.55	6.47
Salt Intensity – “just about right”	59% of respondents	55% of respondents	53% of respondents

Rating Scale: 1-dislike extremely, 2-dislike very much, 3-dislike moderately, 4-dislike slightly, 5-neither like or dislike, 6-like slightly, 7-like moderately, 8-like very much, 9 – like extremely

The results indicate that there were no significant differences at the 95% confidence level between the mean values for the control product or the 40% or 30% sodium reduced products for overall liking, liking of flavour or liking of salt flavour. Over half the respondents considered that the salt intensity was "just about right" for all samples. Therefore, a simple substitution with a mineral salt replacer on a weight for weight basis can reduce the sodium by up to 40% in the flavour coating without any differences in consumer acceptance.



# Recommendations

Below are recommendations for the government, food industry and consumers to help reduce population salt intake and reduce salt content in snacks.

## *Government*

1. **Regular monitoring and review of the Government's salt reduction strategy is essential to ensure continued progress in salt reduction**
2. **Salt reduction targets must be mandated by Government in order to ensure that all manufacturers and retailers meet the current and future targets. In the case where manufacturers and retailers fail to meet them, penalties must be issued**
3. **Consumer awareness campaigns need to be put in place to inform the public of the salt content within everyday food**
4. **Nutrition claims on products that are considered HFSS should be restricted so that the public are not misled into thinking a product is a healthy choice**

## *Food Industry*

1. **Reductions in added salt are possible, as evidenced in this report. Gradual, unobtrusive reductions in salt across the whole range of food available to the public has the added benefit of not affecting sales or consumer acceptability, while still benefiting public health.**
2. **Explore the use of reduced sodium salts, as supported by Public Health England**
3. **Meet and go beyond the 2024 maximum salt reduction targets for snacks**
4. **Use evidence-based front of pack colour coded nutrition labelling to help consumers make more informed choices**



# Appendix I

Percentage of products meeting salt reduction targets

	Sub-Category	Salt reduction target category and maximum target	% of products meeting salt reduction targets	% of branded products meeting salt reduction targets	% of retail own brand products meeting salt reduction targets
<b>Dried pulse snacks</b>	Corn	11.7 Flavoured nuts 1.2g/100g maximum With one product being 11.4 Salt & Vinegar 2.25g/100g maximum	25%	17% (of 6)	50% (of 2)
	Beans	11.7 Flavoured Nuts 1.2g/100g maximum	33%	67% (of 3)	0% (of 3)
	Peas	11.7 Flavoured Nuts 1.2g/100g maximum With one product being 11.4 Salt & Vinegar 2.25g/100g maximum 5 products do not have a salt target	67%	57% (of 7)	80% (of 5)
	Chickpeas	11.7 Flavoured nuts 1.2g/100g maximum With two products being 11.4 Salt & Vinegar 2.25g/100g maximum	64%	86% (of 7)	25% (of 4)
	Legume Mix	11.7 Flavoured nuts 1.2g/100g maximum With one product being 11.4 Salt & Vinegar 2.25g/100g maximum	89%	88% (of 8)	100% (of 1)
	Mixed Nut/ Legume	11.7 Flavoured nuts 1.2g/100g maximum	64%	50% (of 6)	80% (of 5)
<b>Processed pulse snacks</b>	Lentil Snacks	4 products 11.2 Extruded snacks 1.9g/100g maximum 15 products 11.3 Pelleted snacks 2.73g/100g maximum 3 products 11.4 Salt and Vinegar 2.25g/100g maximum	64%	47% (of 15)	100% (of 7)
	Chickpea Snacks	5 products 11.2 Extruded snacks 1.9g/100g maximum 7 products 11.3 Pelleted snacks 2.73g/100g maximum 1 product 11.4 Salt and Vinegar 2.25g/100g maximum	69%	60% (of 10)	100% (of 3)
	Other Pulse Snacks	14 products 11.2 Extruded snacks 1.9g/100g maximum 3 products 11.3 Pelleted snacks 2.73g/100g maximum 4 products 11.4 Salt and Vinegar 2.25g/100g maximum	71%	65% (of 17)	100% (of 4)

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