

# Health and Nutrition Policy



Sustainability  
at Lidl



Lidl IE & NI · 04 February 2019

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## Contents

|  |           |
|--|-----------|
| <b>1. Foreword .....</b>   | <b>4</b>  |
| <b>2. Food safety is our top priority .....</b>  | <b>5</b>  |
| 2.1 Acrylamide .....   | 6         |
| 2.2 3-Monochloropropane,-1,2-diol (3-MCPD) .....   | 8         |
| 2.3 MOSH/MOAH – migrations of mineral oil hydrocarbons to<br>foodstuffs .....              | 10        |
| 2.4 Pyrrolizidine alkaloids (PAs) and tropane alkaloids (TAs).....                         | 11        |
| 2.5 Plant protection products.....   | 13        |
| <b>3. Foods for a healthier diet .....</b>   | <b>15</b> |
| 3.1 In focus: Malnutrition and obesity .....   | 15        |
| 3.2 Under scrutiny: the fat, sugar and salt content of<br>our private label products ..... | 16        |
| 3.3 Our target: UK FSA 2017 Salt Targets and 20% less sugar by<br>2020 .....               | 17        |
| 3.4 Examples from our product line .....   | 18        |
| 3.5 Legal restrictions on changing food ingredients .....                                  | 19        |
| <b>4. Choosing food ingredients with care .....</b>  | <b>20</b> |
| 4.1 Food colours.....  | 20        |
| 4.2 Preservatives.....   | 22        |
| 4.3 Flavours .....   | 24        |
| 4.4 Fats (hydrogenated fats, trans-fats, saturated and<br>unsaturated fats) .....          | 25        |
| 4.5 Palm oil.....  | 27        |
| 4.6 Vitamin and mineral fortification .....  | 28        |
| 4.7 Sweeteners.....  | 29        |

|           |   |           |
|-----------|---|-----------|
| 4.8       | Isoglucose (glucose-fructose syrup) .....       | 30        |
| <b>5.</b> | <b>Quality foods for every diet.....</b>        | <b>33</b> |
| 5.1       | Lactose and gluten-free .....                   | 33        |
| 5.2       | Vegetarian and vegan alternatives .....         | 33        |
| 5.3       | Organic foods .....                             | 33        |
| 5.4       | Genetically modified foods.....                 | 34        |
| <b>6.</b> | <b>At a glance: our product labelling .....</b> | <b>35</b> |
| <b>7.</b> | <b>Summary and outlook.....</b>                 | <b>37</b> |
| <b>8.</b> | <b>Overview of targets.....</b>                 | <b>38</b> |

## 1. Foreword

As a leading food retailer, we are acutely aware of the responsibility that comes with our scale and footprint in the communities in which we operate across Ireland and Northern Ireland. In this paper, we outline our approach to ensuring the high quality and safety of our products in the manufacturing process, the formulation of products and the selection of food additives used. We present our company targets for quality and safety criteria that extend far beyond legislative requirements, in order to provide our customers with healthier products and assurance of superior quality and safety.

Our strategy for reducing the sugar, salt and fat content in food is a response to the Irish Government-led initiative, Healthy Ireland, in particular the Obesity Action Plan and as a direct response to the our customer's desires for healthier food choices.

### **Dynamic principles**

This "Health and Nutrition Policy" Paper sets out the criteria, specifications and targets for Lidl's own brand products at this present time. These targets will be refined and updated to reflect the latest scientific findings and social trends and communicated to our customers and other relevant stakeholders in a transparent manner.

### **Product formulation and sensory analysis - the customer decides**

In defining our quality criteria, Lidl follows the latest scientific research in health, science and technology and current social trends. We welcome ongoing customer feedback in relation to the quality of our products, which drives our product development process with suppliers. This product development process enables us to constantly optimise product ingredients to meet customer needs.

### **Consumer taste testing at Lidl**

We conduct extensive consumer "sensory analysis" testing to evaluate the sensory properties of our products; for example, whether a product tastes good, if its appearance is acceptable, whether it has a pleasant aroma, and what consistency it should be. We conduct independent comparative testing where consumers are asked to evaluate similar products from multiple manufacturers in a blind taste test. These findings are vital for us to be able to continually enhance our own branded products.

## 2. Food safety is the top priority

We make it possible for our customers to eat healthy, secure in the knowledge that the quality and safety of our products is maintained.

### **Safe from the start – Lidl's quality assurance starts with the supplier**

We are particularly careful about selecting our own brand suppliers, all of whom are certified according to the following globally recognised independent food safety standards: International Featured Standard (IFS), British Retail Consortium (BRC) or Food Safety System Certification (FSSC). All of our supplier audits are unannounced and are conducted by independent accredited auditors on a regular basis.

### **Certified quality – Lidl own brand products undergo extensive testing**

Our own brand products undergo extensive quality testing by our quality assurance department. In addition to this internal quality control, we also utilise the services of experts from independent, fully accredited testing laboratories. These laboratories take samples of our products and test extensively for quality and safety criteria. Our approach is that the more sensitive a given food product is, the more extensively we test it.

### **Limits for Lidl own branded products – often stricter than the law requires**

The European Union (EU) has established statutory limits for many undesirable substances. These limits are set based on a number of factors, including the effect on humans and the frequency of consumption. A further safety margin is then factored in so that consumers will not be exposed to any health risk if the limits are complied with.

Our aim is to comply with even stricter requirements than the law. One example of this is Lidl's policy concerning plant protection product residues (also known as pesticides), which indicates that our fruit and vegetables may contain no more than one third of the maximum level permitted by law. Our suppliers must meet this requirement and we are diligent in ensuring their compliance.

### **Safety in manufacturing – Avoiding undesirable substances**

When it comes to food safety, undesirable substances are a subject of focus. In many cases, these contaminants are not regulated in the EU as of yet due to a lack of research. Typical examples of undesirable substances are acrylamide, 3-monochloropropanediol (3-MCPD) fatty acid esters, pyrrolizidine alkaloids (PAs) and mineral oil residues (MOSH/MOAH). Together with our suppliers, we have developed internal requirements and procedures to reduce undesirable substances, which we implement jointly.

**Background:**

Foodstuffs are exposed to a wide variety of factors during the manufacturing process. Unwanted residues and contaminants can find their way into products during cultivation, manufacturing, storage and transport.

Residues are substances that are used for a variety of reasons in the manufacturing process, from the field to the finished product, and may be contained in foodstuffs as a result. The best known example of this is the use of plant protection products i.e. pesticides.

Contaminants are substances which are introduced inadvertently during manufacturing or due to environmental conditions. They include, for example, mycotoxins or heavy metals which may be introduced externally.

## 2.1. Acrylamide

The presence of acrylamide in food was first reported in 2002. Swedish scientists had first detected the substance in crispbreads and potato chips.

### How does acrylamide get into foods?

The formation of acrylamide in foods is largely linked to the Maillard or "browning" reaction, which primarily occurs during baking, roasting, searing and frying. A chemical reaction occurs between certain sugars and protein compounds in the presence of heat that results in the browning of food and is responsible for the characteristic flavours and aromas. Acrylamide can be generated as a by-product of the Maillard reaction above temperatures of 120°C. Potato products such as crisps and French fries as well as grain products and coffee contain the highest levels of acrylamide.

### Why reduce acrylamide?

Although it has been extensively investigated since 2002 what health effects the consumption of food with high acrylamide levels can have in humans, there is still no conclusive answer to this question. However, experimental studies in animals have shown that acrylamide can have mutagenic and carcinogenic effects. In a scientific opinion published in 2015, the European Food Safety Authority (EFSA) concluded that a link between acrylamide intake and risk of cancer in humans could neither be confirmed nor ruled out<sup>1</sup>.

<sup>1</sup> [http://www.efsa.europa.eu/sites/default/files/corporate\\_publications/files/acrylamide150604.pdf](http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/acrylamide150604.pdf) (4 February 2019)

## What is the legal situation?

To date there is no legislation stipulating binding limits for acrylamide. The organisation, FoodDrinkEurope, which represents the European food and drink industry, developed a "toolbox" containing tools that can be used by food producers in line with their particular needs to lower acrylamide levels in their products at various stages of the production process. For example, in addition to frying temperatures, the choice of potato cultivar and even the temperature at which potato tubers are stored prior to processing can minimise the formation of acrylamide in potato chips. Even soil quality can affect acrylamide levels. Processing wheat, barley and oats results in higher formation of acrylamide compared to maize or rice. Increased whole grain components on the other hand can result in higher acrylamide levels in breakfast cereals.

In November 2017, the European Commission enacted Regulation (EU) No. 2017/2158 "establishing mitigation measures and benchmark levels for the reduction of the presence of acrylamide in food" which for the first time established benchmark levels relating to acrylamide.

## Lidl's approach to acrylamide

Lidl began targeted efforts to reduce acrylamide levels in its own branded products even before any legislative requirements had been put in place. We intend to maintain levels below the EU benchmark levels for acrylamide across our product range. We will focus, particularly on the product groups most affected by acrylamide and set even more stringent target levels.

Table 1 Acrylamide levels

| Product group   | EU indicative value [ $\mu\text{g}/\text{kg}$ ] | EU benchmark level [ $\mu\text{g}/\text{kg}$ ] | Lidl Internal Target [ $\mu\text{g}/\text{kg}$ ] |
|---|---|--|--|
| Crispbread  | 450   | 350  | 200  |
| Breakfast cereals from bran, whole grain cereals and gun puffed grain | 400   | 300  | 200<br>gun puffed grain: 300                     |
| Wheat and rye based breakfast cereals                                 | 300   | 300  | 100  |
| Maize, oat, spelt, barley and rice based breakfast cereals            | 200   | 150  | 100  |
| Potato crisps   | 1,000   | 750  | 263  |
| French fries (ready-to-eat)   | 600   | 500  | 71   |

Our suppliers employ a variety of measures to reduce acrylamide levels in our own brand products. For example, with our frozen potato products we are careful to select the right potato cultivars and ensure they are stored under optimal conditions prior to processing. In the case of our potato crisps, we are continually optimising the production process, frying time, frying temperature and removing any potato slices that fry too dark, all contribute to reducing acrylamide levels.

|  |  |                            |
|--|--|----------------------------|
| <p>Target</p>   | <p>Step 1: meet Lidl target levels for all product groups.<br/>Step 2: set and meet stricter target levels.</p>  | <p>As soon as possible</p> |
| <p>Start</p>    | <p>First efforts to reduce acrylamide levels.</p>  | <p>2002</p>                |
| <p>Present</p>  | <p>The majority of our products contain levels significantly lower than the EU benchmark levels. In many product groups, we already meet more stringent targets.</p> | <p>February 2019</p>       |

Figure 2.1-2 Acrylamide

## 2.2. 3-monochloropropane-1,2-diol (3-MCPD)

### What is 3-MCPD and where is it found?

Based on current knowledge, so-called fatty acid esters of 3-MCPD are formed during the refining of oils, i.e., during heat treatment for the purpose of purification and processing of oils. These compounds can also be formed when foods that contain both fat and salt are exposed to high temperatures during production, such as in the production of soy sauce. Palm oil, as a refined edible oil, poses a greater risk of contamination, while rapeseed and sunflower oils contain fewer contaminants due to the characteristics of the production process. 3-MCPD is suspected of causing changes in kidney tissue and benign tumours. Therefore, dietary intake should be kept to a minimum.

### What is the legal situation?

The primary sources of dietary intake of 3-MCPD have been identified as soy sauce and soy sauce based products. Based on this, the European Commission has established a statutory limit for 3-MPCD levels in, and among other things, soy sauce. However, no statutory limits have thus far been established for fats and oils. At the present time, it may only be assessed based on the TDI (tolerable daily intake).

In March 2016, EFSA published an updated assessment of the risks for human health related to the presence of 3-MCPD and its fatty acid esters in food. Following an update in January 2018, the TDI was set at 2.0µg/kg body weight based on a body weight of 60kg for an average adult. Based on this, a tolerable daily intake would be 120.0µg of 3-MCPD.

**Background:**

The TDI refers to the amount of a substance that can be taken in daily over a lifetime without appreciable health risk.

**Lidl's approach to 3-MCPD**

Lidl bases its evaluation on the TDI. The 3-MPCD content of per serving may not exceed 50% of the TDI. This ensures that consumers do not reach their tolerable daily intake based on one food product alone. To reduce the risk of 3-MCPD intake, we now use sunflower oil instead of palm oil in the preparation of Lidl's entire "Harvest Basket" frozen potato product line as well as our potato crisps.

We have replaced most of the palm oil with rapeseed and sunflower oil in our "Choco Nussa" chocolate hazelnut spread. This allows us to meet our own target for 3-MCPD content in a single serving. However, simply replacing palm oil with other vegetable oils is not enough to minimise the 3-MCPD levels in our products. We also use specially processed palm oil that itself contains lower concentrations of 3-MCPD as it is possible to modify the palm oil refining process to significantly reduce 3-MCPD levels.

|  |  |                                   |
|--|--|-----------------------------------|
| <p>Target</p>   | <p>The 3-MCPD content of our products may not exceed 50% of the TDI per serving.</p> <p>Replace palm oil with other fats/oils, provided this does not adversely affect the product's sensory properties.</p> | <p><b>As soon as possible</b></p> |
| <p>Start</p>    | <p>Palm oil has already been replaced with sunflower oil in our Harvest Basket frozen potato product line as well as our potato crisps.</p>  | <p><b>2009</b></p>                |
| <p>Present</p>  | <p>We have replaced most of the palm oil with rapeseed and sunflower oil in our Choco Nussa chocolate hazelnut spread.</p>   | <p><b>February 2019</b></p>       |

Figure 2.2-1 3-MCPD

## 23. MOSH/MOAH – Migrations of mineral oil hydrocarbons to food

### **What are migrations of mineral oil hydrocarbons to food?**

Food packaging can contain a certain percentage of recycled materials. The mineral oil components from that recycled material can transfer or "migrate" to food. This happens, for example when cardboard is produced using recycled board and paper including printed newspaper. Most commonly used printing inks contain mineral oils. These cannot be removed sufficiently during the recycling process and are thus able to infiltrate food packaging. Mineral oil hydrocarbons (MOH) as they are called consist of two primary fractions, mineral oil saturated hydrocarbons (MOSH) and mineral oil aromatic hydrocarbons (MOAH), each having different properties.

### **Why is the migration of mineral oil hydrocarbons to food undesirable?**

To date, no conclusive scientific assessment of the toxicity of mineral oil hydrocarbons has been conducted due to the complexity of the issue. What is known, is that MOSH can be absorbed by the body. Experimental studies in animals have found that this can lead to accumulations and organ damage. The possible existence of carcinogenic substances in the MOAH fraction is also under discussion.

### **What is the legal situation?**

Due to a lack of data, it is not possible to make any health-based assessment of the potentially carcinogenic MOAH fraction. However, EFSA considers dietary exposure to MOAH to be generally undesirable. Because of the complexity of the issues involved, no legislation or statutory limits for mineral oil residues in foods exist to date.

### **Lidl's approach to MOSH/MOAH**

Even though there are no statutory requirements, we have for years worked diligently to avoid migration of MOSH/MOAH to our food products in an effort to protect our customers from potential long-term effects of such contamination. Several approaches to solving this issue have been in place for some time now. Our optimisation process consists of two steps:

- In cooperation with our suppliers, we conduct extensive research into the potential causes of contamination, since contaminants can be introduced during the production process, via the raw material itself or via the packaging. For example, we are working to identify potential sources/routes of entry in order to permanently avoid food products being contaminated with these substances. Together with our strategic suppliers, we pursue projects to select raw materials more specifically and avoid the introduction of contaminants during transport, storage and the production process.

- For some time now, we and our suppliers have been employing packaging solutions involving, e.g., functional barriers for products such as tea and cereals.

We have also defined limits that the MOSH content of Lidl own branded products may not exceed 2mg/kg and their MOAH content must be below the limit of determination. We realise that the defined limits cannot be implemented immediately for every product group, but we intend to keep pursuing these steps with the aim of achieving our target as soon as possible. Achieving these objectives is a continuous process that we began years ago.

|   |   |                            |
|---|---|----------------------------|
| <b>Target</b><br>  | Minimise mineral oil residues in all food products:<br>MOSH content of maximum 2 mg/kg<br>MOAH content < limit of detection | <b>As soon as possible</b> |
| <b>Start</b><br>   | The topic of mineral oil residues in food was first addressed after we became aware of the problem.                         | <b>2009</b>                |
| <b>Present</b><br> | Numerous mitigation measures have already been implemented, particularly in packaging.                                      | <b>February 2019</b>       |

Figure 2.3-1 MOSG/MOAH

## 2.4. Pyrrolizidine alkaloids (PAs) and tropane alkaloids (TAs)

Pyrrolizidine alkaloids (PAs) and tropane alkaloids (TAs) are plant metabolites that occur frequently in nature. Plants produce these substances in order to defend themselves against damage by herbivores.

### Where do PAs and TAs occur and how do they find their way into foods?

The primary route of entry of PAs and TAs into the food supply chain is when these common wild-growing weeds are harvested together with crops. Plants containing TAs grow in grain fields and can enter the grain products. PAs can also be found in herbs, spices, lettuce and tea.

### Why are PAs and TAs in food undesirable?

The consumption of high doses of PAs may be hepatotoxic, that is, damaging to the liver and carcinogenic. TAs may adversely affect the central nervous system and heart.

### **What is the legal situation?**

To date there are no statutory limits for PA levels in food. Due to the genotoxic and carcinogenic effects shown in animal experiments and thus potential adverse health effects on humans, EFSA has established a reference dose for a tolerable daily intake with regard to a potential cancer risk. An acute reference dose is defined as the amount of a substance that can be ingested over a short period of time without appreciable health risk<sup>2</sup>. In 2013, EFSA established a group acute reference dose (ARfD) of 0.016µg/kg body weight for TAs.

However, studies showed that the dietary exposure of toddlers with low body weight had significantly exceeded the group ARfD. This prompted the EU Commission to respond by establishing maximum levels for the two most important tropane alkaloids (atropine and scopolamine) in certain cereal-based foods. The maximum level for each of these is 1.0µg/kg of processed cereal-based foods.

### **Lidl's approach to Pyrrolizidine alkaloids (PAs) and tropane alkaloids (TAs)**

We work with our suppliers to minimise the introduction of PAs and TAs when weeds and seeds are inadvertently harvested along with crops. Minimising the occurrence of PAs long term can be achieved in cultivation and harvesting. Therefore, since 2011 we have been working with our suppliers on continually minimising contamination by the implementation of the following measures:

- granular monitoring of raw materials for PAs and TAs;
- training on the occurrence, detection and elimination of PA and TA-containing plants in raw materials in order to exclude these in the cultivation and harvesting phase;
- defining the requirement for suppliers that a daily serving may not exceed 50% of the established reference dose for PAs;
- defining the requirement for suppliers that foods may not contain any TA contamination.

<sup>2</sup> [https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides\\_ppp\\_app-proc\\_guide\\_tox\\_acute-ref-dose.pdf](https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides_ppp_app-proc_guide_tox_acute-ref-dose.pdf) (4 February 2019)

|  |   |                            |
|--|---|----------------------------|
| <p>Target</p>   | <p>Minimise pyrrolizidine alkaloids (PAs) and tropane alkaloids (TAs).</p> <p>PAs: may not exceed the reference dose by more than 50%</p> <p>TAs: no TA contamination</p> | <p>As soon as possible</p> |
| <p>Start</p>    | <p>Potential minimisation principles developed with suppliers.</p>  | <p>2016</p>                |
| <p>Present</p>  | <p>Implementation of the minimisation principles developed.</p>   | <p>February 2019</p>       |

Figure 2.4-1 PAs and TAs

## 2.5. Plant protection products

### What are plant protection products and what are they used for?

Plant protection products are chemical or biological products that are used to protect plants against pests, diseases and undesirable weeds. They are commonly known as pesticides and play a major role in crop protection.

### What is the legal situation concerning plant protection products and potential residues in foods?

Plant protection products may only be used in the EU if they have first undergone a strict testing and authorisation process. Products are tested for efficacy, safety for humans and animals as well as their environmental acceptability. Residues of plant protection products may occur even when used correctly. Therefore, maximum residue levels for food have been set. These indicate the maximum allowable residue levels without an expected impact on health. As a rule, these levels are set well below the levels at which there could be a potential adverse effect on health. The maximum residue levels for active substances have been established EU-wide in regulation<sup>3</sup> and are thus directly binding in every EU Member State.

<sup>3</sup> Regulation (EC) No 396/2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC

**Background:**

Maximum residue levels are governed by the so-called ALARA principle (As Low As Reasonably Achievable), meaning that maximum residue levels for the given fruit or vegetable product are only permitted to the extent that they are indispensable according to the requirements of good agricultural practice, but may never be higher than that which would be acceptable for customer health and the environment.

If products contain residues of several different active substances, there may be undesirable interactions or cumulative effects as well as an increased risk for consumers. Models for the health-based assessment of multiple residues are currently being developed. Therefore no statutory requirements exist at the moment as to the number of active substances residues permitted in a food product.

**Lidl's approach to plant protection products**

Our aim is to provide food products, i.e., fresh fruit and vegetables as well as processed foods, residue-free as far as this is possible. To achieve this aim, we observe strict standards that far exceed the legislative requirements at European level:

- Lidl only permits residue levels of active substances that are one third of the statutory maximum levels.
- Residue levels of all active substances may not in total exceed 80% of the statutory maximum level.
- Residues of no more than five identifiable active substances are permitted.

|   |   |                                   |
|---|---|-----------------------------------|
| <p><b>Target</b></p>   | <p>Our aim is to provide foods free of residue as far as possible.</p>  | <p><b>As soon as possible</b></p> |
| <p><b>Start</b></p>    | <p>First efforts to reduce the occurrence of plant production product residues in our foods.</p>  | <p><b>2006</b></p>                |
| <p><b>Present</b></p>  | <p>Residue levels of active substances may not exceed one third (1/3) of the statutory maximum level.</p> <p>Residue levels of all active substances may not exceed 80% of the statutory maximum level in total.</p> <p>Residues of no more than five identifiable active substances are permitted.</p> | <p><b>February 2019</b></p>       |

Figure 2.5-1 Plant protection products

### 3. Foods for a healthier diet

#### 3.1. In focus: malnutrition and obesity

We carry nearly 3,500 individual products, including fresh fruits and vegetables, offering customers a wide range of healthy alternatives to choose from. We are also pursuing a policy to reduce the salt, sugar and saturated fat content of our own brand products. In addition, we are committed to supporting sports and promoting the link between exercise, nutrition and quality of life. Ours is therefore a holistic approach to good nutrition and exercise.

#### **Background:**

The "Roadmap for Action on Food Product Improvement"<sup>4</sup>, which was drafted during the Dutch Presidency of the European Union in 2016, calls for an EU-wide strategy and common policy for food product improvement.

The governments of European countries are developing action plans to promote healthier diets. The United Kingdom and the Netherlands are pioneers in this regard and Lidl has therefore chosen to follow their lead in developing its own targets.

For example, the United Kingdom has been working on reducing the salt content in food since 2003. The "salt targets" are targets for reducing the salt content in certain foods published by the UK Food Standards Agency (FSA)<sup>5</sup>.

In August 2016, the British government published a plan for action aimed at reducing England's rate of childhood obesity within the next ten years by, among other things, encouraging food producers to reduce the amount of sugar in their products<sup>6</sup>.

In the Netherlands, the government is working together with trade and industry on a "National Agreement to Improve Product Composition"<sup>7</sup> in which criteria on the amount of salt, saturated fat and sugar in products are defined. The objective is to provide a healthier range of products.

<sup>4</sup> <https://www.rijksoverheid.nl/documenten/formulieren/2016/02/22/roadmap-for-action-on-food-product-improvement> (4 February 2019)

<sup>5</sup> <https://www.food.gov.uk/business-guidance/salt> (4 February 2019)

<sup>6</sup> <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action> (4 February 2019)

<sup>7</sup> <https://www.akkoordverbeteringproductsamenstelling.nl/en> (4 February 2019)

### 3.2. Under scrutiny: the fat, sugar and salt content of our own brand products

Sugar, salt and fats are flavour carriers and are also essential components of the human diet and metabolism. However, they must always be used responsibly and prudently.

**Saturated fats:** A diet high in saturated fatty acids has been linked to cardiovascular disease. The World Health Organization (WHO)<sup>8</sup> recommends that less than 10% of total energy intake should come from saturated fat. Based on the recommended daily caloric intake for adults of 2,000 calories, this would be 20.0g of saturated fats.

**Sugar:** The WHO guideline recommends that people should limit their daily intake of free sugars to less than 10% of their total energy intake. For a 2,000-calorie diet, that would be 50g of sugar<sup>8</sup>.

#### **Background:**

"Free sugars" are defined as all monosaccharides (such as glucose and fructose) and disaccharides (such as Sucrose or common table sugar) added to foods during cooking/production, plus sugars naturally present in honey, syrups, and fruit juices.

**Salt:** The WHO recommends that adults consume less than 5g of salt per day and even less for children<sup>9</sup>.

#### **Targets for Lidl own brand products**

Based on the above-described scientific findings, we have set ourselves the goal of reducing the salt and sugar content as well the levels of saturated fats in our own brand products.

#### **We review our own brand product range in detail**

This way we can work together with our suppliers to optimise products in line with our targets. Here, we focus on the energy density of a given food which prevents, for example, a situation where the sugar content is being reduced while at the same time increasing the fat content and consequently the product ends up containing the same or even more calories than before. When recipes are developed for new products, our targets are taken into consideration right from the beginning.

<sup>8</sup> <http://www.who.int/en/news-room/fact-sheets/detail/healthy-diet> (4 February 2019)

<sup>9</sup> <https://www.who.int/news-room/fact-sheets/detail/salt-reduction> (4 February 2019)

### 3.3. Our target: UK FSA 2017 Salt Targets and 20% less sugar and by 2020

We are committed to actively promoting good nutrition. That is why we are taking a critical look at our own brand products to see how they stand up to the latest scientific findings.

|  |  |                                 |
|--|--|---------------------------------|
| <p>Target</p>     | <p>Our target is to reduce the sales-weighted average content of added sugar by 20% across our own brand product range and to reduce the salt content of our products in line with the UK's Food Standards Agency (FSA) 2017 salt targets.</p> <p>The reduction of sugar focuses primarily on foods that are popular with and consumed by children.</p> <p>The reduction of salt focuses on food categories that are consumed on a regular basis and generally make up a large share of the daily salt intake.</p> | <p>December 2020</p>            |
| <p>Start</p>      | <p>Reduction of sugar content in breakfast cereals since 2008.</p> <p>Reduction strategy introduced in combination with a targeted cooperation with health and sports associations.</p>  | <p>2008</p> <p>January 2017</p> |
| <p>Present</p>  | <p>Implementation of the action plan as part of our reduction strategy and showcase success stories at regular intervals in our website.</p>   | <p>February 2019</p>            |

Figure 3.3-1 Reduction strategy for Lidl private label products

#### How do we plan to implement our strategy?

We have defined a variety of measures to achieve our target:

- **Reduction of added sugar and salt:** for example, we have reduced the amount of added sugar in many of our fruit yogurts while keeping the fruit content the same. Our aim is to have our customers become accustomed to the less sweet taste of our own brand products. We do not replace sugar with artificial sweeteners or sugar substitutes. We also want to offer our customers reduced-sugar and sugar-free alternatives for those who wish to eat a less energy-dense, yet still sweet, product.
- **Reduction of package/serving size:** we have reduced the package size of high energy density foods, which automatically lowers the amount of sugar or salt ingested. This is done by directly adjusting the serving size. For example, in the case of chocolate bars we have made the size of a bar smaller. The smaller the serving, the less sugar is ingested.
- **Product range in our stores:** we offer our customers a larger selection of alternative products containing less sugar or salt.

### **How do we measure our progress?**

We measure our progress based on the reduction of the average sugar or salt content per 100g of food or 100ml of beverage, weighted by units sold per year in Ireland and Northern Ireland. This means that within a given food category, the total amount of added sugar and salt will be determined for all products sold within a given year at Lidl in Ireland and Northern Ireland and divided by the total number of products sold. The aim is to improve this ratio each year. Comparing the current ratio against that of the previous year shows us how much progress we have made.

### **What food categories are being focused on?**

The reduction of sugar focuses primarily on foods that are popular with children. Therefore, our primary focus is on the following food categories:

- Breakfast cereals
- Biscuits
- Morning goods
- Ice cream
- Sweet confectionery
- Juice
- Yogurt and fromage frais
- Cakes
- Desserts
- Chocolate confectionery
- Sweet spreads and sauces
- Milk based drinks

The reduction of salt focuses primarily on foods that are regularly consumed and make up a large share of the daily intake of salt. These categories are set out in the UK FSA salt targets<sup>5</sup>.

### **3.4. Example from our product range**

The manufacturing processes, ingredient combinations and nutritional content are as varied as our products themselves. That is why each individual food has to be analysed differently in order to tweak the nutritional formulation in a way that will make it as healthy as possible without sacrificing taste. Below is an example that illustrates a quantifiable success story and the specific targets we have set for ourselves going forward.

#### **Breakfast cereals**

Breakfast cereals are generally accepted as a healthy breakfast option to start the day off right. And yet, many breakfast cereals contain too much sugar and from a nutritional point of view are more equivalent to eating candy than a balanced breakfast. In 2009, the EU Commission submitted a draft proposal for nutrient profiles for use in claims made under the Health Claims Regulation. The criterion established for the sugar content of breakfast cereals is 25.0g/100g. Currently 80% of our breakfast cereals already meet this criterion.

<sup>5</sup> <https://www.food.gov.uk/business-guidance/salt> (4 February 2019)

### **Lidl's approach to sugar in breakfast cereals**

Since 2008, we have gradually reduced the total sugar content of our breakfast cereals. Today, the average sugar content across all our own brand listed breakfast cereals is 16.8g/100g. Individual examples of large reductions are:

- Crownfield Cornflakes: the sugar content was reduced by 85% from 8.5g/100g in 2008 to 1.3g/100g in 2017.
- Crownfield Bran Flakes: sugar content was reduced by 40% from 22g/100g in 2008 to 13.2g/100g in 2017.

### **3.5. Legal restrictions on changing food ingredients**

The options for optimising our products vary depending on the type of product, ingredients and processing methods and our targets are therefore tailored to each individual product accordingly. We want to be certain that the targets we set for ourselves are achievable. Sometimes our options are limited as a given product may be regulated by law e.g. fruit jams, which are required by law to have a minimum total sugar content of 55g. Therefore, if we were to lower the sugar content below this limit and increase the fruit content, the product could no longer be sold as a "fruit jam".

## 4. Choosing food ingredients with care

Product quality begins with the selection of ingredients. We have high standards in this regard, the products we offer our customers must have the highest quality and taste. That is why we have defined specific criteria for the selection of ingredients. The following points are of particular importance to us.

### 4.1. Food colours

#### **What are food colours and why are they used in food?**

In food products, colour is a primary indicator of perceived quality. Food colours are added in order to meet the consumer's expectations of the optical appearance of their food. Food colours are also used in foods that are actually colourless, such as confectionery, to serve as a flavour indicator.

#### **Why are some food colours controversial?**

According to a study published by the University of Southampton in 2007, certain azo food dyes and quinoline yellow are suspected of causing hyperactivity and attention disorders in children. These food colours are listed in the EU Regulation on food additives, and any food and drink containing these must carry a warning on the packaging with the wording "May have an adverse effect on activity and attention in children".

#### **What is the legal situation?**

In the European Union, food colours are governed by EU Regulation 1333/2008 on food additives. Only colours whose safety has first been assessed by EFSA can be authorised for use. Foods containing any of these colours must be labelled with the additional information "food colour", followed the name or E number of the colour. To be as transparent as possible, Lidl's own brand product labels always contain the specific name(s) of all additives.

#### **Background:**

Approved food colours may be classified as natural or artificial, although no legal definition exists for this. Natural food colours may also be produced synthetically, with their chemical structure corresponding to that found in nature. By contrast, artificial colours have a chemical structure not found in nature. In this respect we follow the classification of the Hamburg Consumer Centre<sup>10</sup>. Not to be confused with food colours, "colouring foods" are natural foods with colouring properties (pigments), such as beet juice. These appear in the list of ingredients with the additional information "colouring": if beet juice is used primarily for colouring purposes, it will be listed as "colouring - beet juice".

<sup>10</sup> What are E-numbers? Food additives list, Verbraucherzentrale Hamburg e. V. 67. Edition: January 2015

## Lidl's approach to food colours

For many years now, our aim has been to avoid using azo dyes in food, with the exception of alcoholic beverages. Going forward, we also intend to move away from using the food colours: quinoline yellow; carmine; erythrosine and green S because there is evidence that these may be harmful for children.

Our target is to avoid using artificial colours as much as possible. We are reviewing all own brand products to determine whether the use of food colours is necessary. Where they cannot be dispensed with, we prefer to use colouring foods rather than food colours.

|   |   |                             |
|---|---|-----------------------------|
| <p><b>Target</b></p>     | <p>Our target is to continue reviewing all products containing food colours to determine whether the use of food colours is necessary. If colouring is necessary, colouring foods will be preferred over natural food colours. Where possible, we intend to avoid artificial food colours. We will avoid carmine and erythrosine completely.</p>  | <p><b>December 2020</b></p> |
| <p><b>Start</b></p>     | <p>First step is to replace azo food dyes with natural food colours.</p>  | <p><b>2009</b></p>          |
| <p><b>Present</b></p>  | <p>Currently our permanent product range includes significantly more products with colouring foods and natural food colours than artificial colours.</p> <p>The target of completely eliminating quinoline yellow and green S by December 2017 was achieved.</p> <ul style="list-style-type: none"> <li>- Erythrosine is now used only in the cocktail cherries contained in our fruit cocktail.</li> <li>- Carmine is still contained in a few products which are currently being transitioned.</li> </ul> | <p><b>February 2019</b></p> |

Figure 4.1-1 Food colours

## 4.2. Preservatives

### What are preservatives and what are they used for?

Preservatives are food additives designed to limit the growth of microbes in food to keep it fresh for longer.

#### **Background:**

Humans have been preserving food for centuries. Food was preserved by drying, salting/curing, smoking or by adding sugar or vinegar and then could be stored for longer. With the progress of food processing and the ever-growing demands placed by consumers on consistent quality and availability, manufacturers began using other types of preservatives. These new preservatives make it possible to extend the shelf life of foods that cannot be preserved using traditional methods. As a result, a wide range of food is available today regardless of the season and the origin.

### Why are some preservatives controversial?

The effect of certain preservatives is controversial, because, among other things, sulphites (used e.g., in wine and dried fruits) or benzoic acid derivatives (used e.g., in pickled vegetables or fish products) have been associated with allergic reactions in hypersensitive individuals.

The use of nitrites in meat products is also controversial. Nitrite has been linked to the formation of a group of compounds known as nitrosamines, which are known carcinogens. On the other hand, however, nitrite reliably inhibits the growth of pathogenic bacteria and as such is the safest and most effective method for preserving meat products.

#### **Background:**

Pathogenic bacteria are microbes that can cause infectious diseases in humans. These bacteria can find their way into food through environmental contamination, poor hygiene and microorganisms in agriculture. Foodborne pathogens are transmitted to humans when contaminated food is eaten. Salmonella is a well-known example of this. The infection can cause serious gastrointestinal problems and even life-threatening symptoms particularly in children, pregnant women, older adults and persons with a weakened immune system<sup>11</sup>.

<sup>11</sup> <http://www.fsai.ie/salmonellaspecies.html> (4 February 2019)

### What is the legal situation?

As with all food additives, EFSA is also responsible for assessing the safety of all preservatives. A food additive can only be authorised if it does not, on the basis of the available scientific evidence, pose risks to the health of the consumer at the proposed level of use (in this case as a preservative); there must also be a "technological need" for the additive. Foods containing preservatives must be labelled with the additional information "preservative", followed by the name or E number of the preservative. Our own brand product labels always contain the specific name(s) of all additives.

### Lidl's approach to preservatives

Our target is to reduce the use of preservatives as far as possible or eliminate them completely, provided this does not compromise food safety. For certain products, such as sausages and cold cooked meats, the use of preservatives cannot always be completely avoided due to safety reasons as eliminating them would result in the growth of pathogenic bacteria. We work with our suppliers to ensure that foods should be made safe and long-lasting as far as possible without preservatives using suitable technologies in the production process. As a result, we have already been able to completely eliminate preservatives in some of our beverages by using a process known as "cold-aseptic filling" (bottling under clean room conditions).

|   |   |                             |
|---|---|-----------------------------|
| <p><b>Target</b></p>   | <p>Our target is to reduce the use of preservatives as far as possible or eliminate them completely, provided this does not compromise food safety.</p> <p>Therefore, we are reviewing all products containing preservatives to determine whether the use of preservatives is necessary. The search continues for suitable technologies to make products long-lasting and safe even without the use of preservatives.</p> | <p><b>December 2020</b></p> |
| <p><b>Start</b></p>    | <p>EFSA's Scientific Panel on Food Additives and Nutrient Sources added to Food (ANS) has been in existence since 2008.</p>   | <p><b>2008</b></p>          |
| <p><b>Present</b></p>  | <p>Most of the products containing preservatives are those where nitrite curing salt is used to extend the shelf life and ensure the safety of the product.</p>   | <p><b>February 2019</b></p> |

Figure 4.2-1 Preservatives

### 4.3. Flavours

#### What are flavours and why are they used in food?

It is important to use flavours in moderation because foods can be easily over-flavoured. In Lidl, we want to use flavours only where they are needed. Optimising our recipes is always subject to the requirement that taste is not compromised in the process. When we add flavours to our products, then this should only be in the form of extracts or natural flavours derived from the eponymous foods. For example, in the case of cherry extract, 100% of the added flavour comes from cherries, in the case of natural cherry flavour, 95% of the added flavour comes from cherries.

We optimise our recipes without sacrificing on taste. If the desired taste profile cannot be achieved without flavours or extracts or natural food flavours, we also use artificial flavours.

|  |  |                             |
|--|--|-----------------------------|
| <p>Target</p>     | <p>Our target is to review all products containing flavours to determine whether the use of flavours is necessary. We will avoid the use of artificial flavours as far as possible.</p>  | <p><b>December 2020</b></p> |
| <p>Start</p>    | <p>First steps are to replace artificial flavours with natural flavours.</p>   | <p><b>2009</b></p>          |
| <p>Present</p>  | <p>The following applies today with respect to our permanent product range:</p> <p>More than 50% of the products in which flavours are used contain exclusively natural food flavours or extracts.</p> <p>Less than 10% of the products contain artificial flavours.</p> | <p><b>February 2019</b></p> |

Figure 4.3-1 Flavours

#### 4.4. Fats (hydrogenated fats, trans-fats, saturated and unsaturated fats)

##### What are saturated and unsaturated fats and what is their function?

Fats and oils contain saturated and unsaturated fatty acids, which differ in their nutritional properties. An excessive intake of dietary saturated fat increases the risk of cardiovascular disease. For this reason, a healthy diet should contain a high percentage of unsaturated fats. An important subgroup of unsaturated fatty acids are the omega-3 and omega 6 fatty acids. These fulfil important functions in the body, they have an anti-inflammatory effect and are reputed to prevent coronary heart disease, which is caused when the blood flow to the heart muscle is slowed down or blocked.

##### **Background:**

Saturated fatty acids are derived primarily from animal fats but are also found in coconut oil, palm seed oil, palm oil and in hydrogenated vegetable fats. Unsaturated fatty acids are found in vegetable oils such as rapeseed oil and sunflower oil, as well as in oily fish and nuts.

##### Lidl's approach to saturated and unsaturated fats

Our target is to have the highest possible percentage of unsaturated fats in our products. For example, in our “Choco Nussa” chocolate hazelnut spread, we have replaced a portion of the palm oil with rapeseed oil and sunflower oil, both of which are high in unsaturated fat. We also plan to use a mix of sunflower oil and rapeseed oil, which is also comparatively high in omega-3 fatty acids, for our potato crisps in future.

##### How are trans-fatty acids formed and what effects do they have?

Unsaturated fatty acids also contain a subclass of undesirable substances, known as trans-fatty acids.

##### **Background:**

Trans-fatty acids can also be formed naturally by microbial biohydrogenation in ruminants. Trans-fatty acids are thus found naturally in meat and dairy products. Trans fatty acids can also be formed when fats and oils are processed, in which case they are known as artificial trans-fatty acids.

Most trans-fatty acids are formed when liquid vegetable oils are partially hydrogenated to form a semi-solid or solid fat (hydrogenated fat). Partially hydrogenated fats are used in food manufacturing because of their favourable technological properties (smooth texture, higher plasticity). Trans-fatty acids have adverse effects on health and are therefore considered an undesired nutritional component. Trans-fats raise (bad) LDL cholesterol level in the blood and

lower the (good) HDL cholesterol. This increases the risk for coronary heart disease.

### What foods are trans-fatty acids found in?

Trans-fatty acids are found primarily in fast foods, snack foods, biscuits, waffles and fried foods. Fried foods only contain elevated levels of trans-fatty acids if they have been cooked in partially hydrogenated fats or oils.

### What is the legal situation?

In Ireland and Northern Ireland the general content of artificial trans-fatty acids in food is not regulated by law. Statutory limits have already been established in other countries such as Denmark, Austria, Hungary, Iceland, Norway, Latvia, Lithuania, Slovenia and Switzerland. In Denmark, for example, food may not contain more than 2.0g of trans fat per 100g of fat or oil.

### Lidl's approach to trans fats

Our target is to limit the content of trans fat in our products to a maximum of 2.0g/100g fat. This corresponds to the limit in most countries that have set legal limits. In an effort to minimise the risk for trans-fatty acids in our products, we avoid using hydrogenated fats whenever possible. In some cases, for example, in the production of margarine made with sunflower oil, there is no alternative because sunflower oil must be hydrogenated to be solid.

|  |   |                                   |
|--|---|-----------------------------------|
| <p>Target</p>   | <p>Meet the Danish limit for trans-fatty acids of 2.0g/100 g fat. Improve fatty acid composition by using rapeseed oil, for example.</p>                                      | <p><b>As soon as possible</b></p> |
| <p>Start</p>    | <p>Switched from palm oil/fat to sunflower oil, e.g., with potato crisps.</p>   | <p><b>2009</b></p>                |
| <p>Present</p>  | <p>No hydrogenated fats used whenever technologically possible.<br/>Choco Nussa Chocolate Hazelnut Spread now contains a mix of rapeseed oil, palm oil and sunflower oil.</p> | <p><b>January 2019</b></p>        |

Figure 4.4-1 Fats

## 4.5. Palm oil

### Where does palm oil come from and what are the benefits of using it?

Palm oil is derived from the fruit of the tropical oil palm tree and is the most commonly used vegetable oil worldwide. Since the oil palm is perennial and bears fruit throughout the year, it is particularly high-yielding compared to other oil crops. Because of its physical properties, palm oil is particularly versatile. Unlike other vegetable oils that are naturally softer and more fluid, palm oil is semi-solid at ambient temperature and therefore does not have to be hydrogenated first for many applications. As described in the section above, Lidl tries to avoid the use of trans-fatty acids.

#### **Background:**

Because it is economical and versatile, palm oil production worldwide has more than doubled in the period from 2002 to 2016. Because land is needed for its cultivation, vast areas of valuable land have been subject to deforestation in order to make more room for palm oil plantations. This has also endangered the habitats of countless animal species and increased greenhouse gas emissions. In an effort to counter this development, the World Wide Fund For Nature (WWF) established the Roundtable on Sustainable Palm Oil (RSPO). The members of the RSPO have committed to define criteria for the more sustainable production of palm oil. For example, no new primary forest or other high conservation value areas may be sacrificed for palm oil plantations.

### What effects does it have on health?

Palm oil is high in saturated fats. An excess dietary intake of saturated fats can raise triglyceride (blood fat) levels. The processing of palm oil at high temperatures also increases the risk of the formation of certain fatty acid esters (3-MCPD) which are considered carcinogenic. For more information on 3-MCPD, see section 2.2.

### Lidl's approach to palm oil

Our target is to reduce the palm oil content in food to an absolute minimum or to replace it completely. Where palm oil cannot be replaced, we support using more sustainably produced palm oils. For further information on Lidl's approach to palm oil, see the "Position Paper on the Sustainable Sourcing of Palm Oil"<sup>12</sup>.

<sup>12</sup> [www.abettertomorrow-lidl.ie/wp-content/uploads/2017/05/Position-Paper-on-the-Sustainable-Sourcing-of-Palm-Oil.pdf](http://www.abettertomorrow-lidl.ie/wp-content/uploads/2017/05/Position-Paper-on-the-Sustainable-Sourcing-of-Palm-Oil.pdf) (4 February 2018)

Figure 4.5-1 Palm oil

|   |   |                     |
|---|---|---------------------|
|  | At a minimum reduce and where possible replace palm oil.  | As soon as possible |
|  | Palm oil was replaced with sunflower oil in our Harvest Basket frozen potato product line.  | 2009                |
|  | Continual review of our permanent product range to determine which products the palm oil content can be reduced or replaced completely. | February 2019       |

## 4.6. Vitamin and mineral fortification

### What function do vitamins have for humans?

Vitamins are organic compounds that the human body needs to function properly. Vitamins are primarily contained in fruits, vegetables and grains. They find their way into animal organisms through the feed and are therefore also contained in meat, fish, eggs, milk and products made from these. Vitamins have a variety of functions for the human organism: vitamin C, for example, plays a role in the functioning of our immune system and Vitamin A is essential for good vision.

### What function do minerals have for humans?

Minerals are inorganic nutrients found in plant-based and animal-based foods. They serve a variety of functions for all metabolic and growth processes in the body. Calcium, for example, is essential for building teeth and bones and iron is essential for the formation of red blood cells and hemoglobin which facilitates the transport of oxygen in the body.

### What are the effects of food fortification with vitamins and minerals?

Foods are fortified with vitamins and minerals in order to compensate for deficiencies in the nutrient intake. However, excessive intake can in some cases have adverse health effects. With few exceptions, eating a balanced diet provides all the vitamins and minerals needed. As a rule, only certain groups of persons such as pregnant women or smokers, or persons with certain illnesses may require vitamin or mineral supplements.

### **Lidl's approach to vitamins and minerals**

For the most part, we do not fortify our food products with vitamins and minerals. Vitamins and minerals are only added to certain select products, such as multivitamin drinks (vitamins), sports drinks, meat substitute products (vitamin B12), plant-based dairy substitutes (calcium), margarine and iodised table salt. In the case of plant-based dairy alternatives that do not contain calcium naturally, we add as much calcium as would be contained in cow's milk in order to offer a substitute nutritionally equivalent to milk.

## **4.7. Sweeteners**

### **What are sweeteners and what are they used for?**

Sweeteners are synthetically produced (e.g., aspartame) or natural compounds (e.g., stevia) which serve as energy-free sugar substitutes. They are practically calorie-free and are up to 37,000 times sweeter than table sugar and are therefore only used in small quantities. The use of sweeteners in food makes it possible to offer low-calorie or calorie-reduced alternatives without sacrificing the sweet taste.

### **Why are sweeteners controversial?**

Sweeteners have long been a subject of public contention. The question of whether sweeteners help weight loss or increase hunger and lead to weight gain requires further research. Furthermore, there is little reliable evidence to date on the long-term effects of sweeteners, in particular the combination of several sweeteners and the consequences of increased use of sweeteners in food.

The use of sweeteners for children is particularly controversial. When children consume sweeteners, they can become accustomed to the intense sweetness of industrially produced products and lose their perception of what less-sweet natural food tastes like. Because of their lower body weight, the accepted daily intake (ADI) is quickly exceeded.

### **What is the legal situation concerning sweeteners?**

As for all food additives, sweeteners are regulated substances which are subject to safety evaluation prior to market authorisation. In the European Union (EU), there are currently 11 approved sweeteners. An ADI is determined for each individual sweetener in the health assessment.

**Background:**

The labelling of products manufactured with sweeteners is regulated EU-wide. If a product contains sweeteners, the particular "with sweeteners" must be indicated on the labelling of the food containing such ingredients. If a product contains both a sweetener and sugar, the particular "with sugar(s) and sweetener(s)" must be indicated on the labelling.

**Lidl's approach to sweeteners**

As part of our reduction strategy, we want to reduce the sales-weighted content of added sugar by 20% across our own brand product range. Our aim is to have our customers become gradually accustomed to the less sweet taste of our own brand products. The reduction of sugar does not involve replacing sugar with sweeteners. This is because foods sweetened with sweeteners cause people to become accustomed to an artificially intense sweetness.

We still want to offer our customers reduced-sugar and sugar-free alternatives in addition to the sugar-sweetened products. For these products we use sweeteners as a sugar substitute. With the reduced-sugar or sugar-free foods, we want to appeal to those customers who want to consume food with a low energy density but who don't want to sacrifice that familiar sweetness. With our Freeway Cola, for example, we carry both a sugar-sweetened version and a sugar-free version sweetened with sweeteners (Cola Light and Cola 0% sugar). This way, our customers can decide for themselves whether or not to drink the version sweetened with sweeteners.

**4.8. Isoglucose (glucose-fructose syrup)****What is isoglucose and what is it used for?**

Isoglucose, glucose-fructose syrup, fructose-glucose syrup and high fructose corn syrup all have one thing in common - they are all terms for a sugar syrup made up of varying amounts of the simple sugar glucose (grape sugar) and fructose (fruit sugar).

Table 2 Definitions Isoglucose

| Name                     | Fructose content    | Origin               |
|--------------------------|---------------------|----------------------|
| Isoglucose               | 10% or more         | wheat, maize, potato |
| Glucose-fructose syrup   | 5% – 50%            | wheat, maize, potato |
| Fructose-glucose syrup   | > 50%               | wheat, maize, potato |
| High fructose corn syrup | min. 42%, often 55% | maize                |

Whether a food contains glucose-fructose syrup or other sugar syrups is indicated in the list of ingredients. According to the EU Regulation 2001/111 relating to certain sugars intended for human consumption, either the term "glucose-fructose syrup" or the term "fructose-glucose syrup", depending on the fructose content, will be indicated on the packaging, not "isoglucose". The nutritional information is indicated in the category "sugars". This is prescribed by law and implemented by Lidl accordingly.

Glucose-fructose syrup is produced from starchy plants such as maize or wheat by breaking down the starch into its individual components, the sugars. Fructose alone is sweeter than glucose and sweeter than table sugar (sucrose). The more fructose a sugar syrup contains, the sweeter it is. By increasing the amount of fructose in the sugar syrup, a higher sweetening power can be achieved than with common table sugar. In addition to the higher sweetening power, glucose-fructose syrup is used in food mainly for its technological benefits, such as better solubility or to improve texture. The use of glucose-fructose syrup can also improve the mouth feel in some foods.

**Background:**

Glucose-fructose syrups contain between 5% and 50% fructose. By contrast, fructose-glucose syrups contain more than 50% fructose.

**Why is glucose-fructose syrup controversial?**

The EU sugar regime had imposed a cap on the quota of glucose-fructose syrup on the sugar market. This restriction was lifted as of October 1, 2017. The EU Commission thus expects the production of glucose-fructose syrup to increase significantly by 2026<sup>13</sup>.

Adding isoglucose mixtures containing a high percentage of fructose to processed foods can lead to an increased consumption of fructose, which can have adverse effects on the metabolism. According to various studies, an excessive intake of fructose can lead to an increased risk of severe overweight (obesity), diabetes, metabolic disorders and cardiovascular disease<sup>14</sup>. Unlike glucose, fructose is metabolised in the liver. Excessive fructose intake can cause what is known as a "non-alcoholic fatty liver". This is comparable to a fatty liver caused by excessive alcohol consumption. It is estimated that up to 30% of the population in Europe today suffers from non-alcoholic fatty liver disease. The resulting effects on health may be diabetes and hypertension<sup>15</sup>.

<sup>13</sup> [https://ec.europa.eu/agriculture/sites/agriculture/files/markets-and-prices/medium-term-outlook/2016/2016-fullrep\\_en.pdf](https://ec.europa.eu/agriculture/sites/agriculture/files/markets-and-prices/medium-term-outlook/2016/2016-fullrep_en.pdf) (4 February 2019)

<sup>14</sup> Bray, George A. et al. (2004) Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity. The American Journal of Clinical Nutrition, Volume 79(4):537-543

<sup>15</sup> Weiss J, Rau M, Geier A (2014) Non-alcoholic fatty liver disease: epidemiology, clinical course, investigation, and treatment. Deutsches Ärzteblatt Int 111: 447–452

Fructose consumed in the form of fruit as part of a balanced diet is generally unproblematic. By eating whole fruit, such as apples, pears, etc., it is generally impossible to consume enough fructose to cause harm. For example, it is difficult to imagine eating 13 oranges, but one can easily imagine drinking a litre of orange juice made from 13 oranges.

### Lidl's approach to glucose-fructose syrup

We avoid genetically modified foods. Although the quotas under the EU sugar regime have expired, Lidl still does not use glucose-fructose syrup in its products any more than it did before. The first steps to eliminate the use of fructose-glucose syrup altogether were taken in early 2017.

Our long-term goal is to use glucose-fructose syrup only where technologically necessary, however not for sweetening purposes any more.

If a product contains glucose-fructose syrup, the fructose content will be less than 42%. This way we ensure that no high fructose corn syrup is used.

|  |   |                             |
|--|---|-----------------------------|
| <p>Target</p>   | <p>Our target is to use glucose-fructose syrup only where technologically necessary, however not for sweetening purposes any more.</p> <p>If a product contains glucose-fructose syrup, the fructose content will be less than 42%.</p> | <p><b>January 2025</b></p>  |
| <p>Start</p>    | <p>First steps: reviewed all products for the use of sugar syrups containing fructose.</p> <p>Eliminated fructose-glucose syrup in our products.</p>  | <p><b>March 2017</b></p>    |
| <p>Present</p>  | <p>Continual review of our products to determine if glucose-fructose syrup is necessary.</p>  | <p><b>February 2019</b></p> |

Figure 4.8-1 Glucose-fructose syrup

## 5. Quality foods for every diet

Healthy eating is vital to our quality of life and is essential for our well-being and performance. Today, many of our customers are very conscious about their diet. Both personal preferences as well as increased health concerns such as food intolerances and allergies play a role in this respect. We want to be sure that we carry the right products for every customer. That is why we are continuously enhancing our product range and adapting it to reflect social trends and developments.

We carry a wide range of products to meet all requirements and preferences, from lactose-free or gluten-free foods to organic products.

### 5.1. Lactose-free and gluten-free



Milk as a food offers many benefits, it contains nutrients such as protein, calcium and vitamins, which are essential components of a balanced diet. But not everyone tolerates it. More and more people suffer from lactose intolerance. When they consume dairy products, they experience stomach pain and other symptoms. Yet people who are lactose intolerant need not necessarily refrain from enjoying dairy. We offer our customers a selection of lactose-free own brand products such as lactose-free milk or lactose-free yogurt that they can enjoy without any concern.

Gluten is another natural component in food that many people cannot tolerate. They suffer from gluten intolerance or coeliac disease. Gluten is a protein contained in grains (wheat, spelt, rye, oats, barley). Those who suffer from coeliac disease cannot eat these types of grains or any food containing even traces of them. But in order to be able to offer those affected as wide a range of food as possible, we specifically label gluten-free products as such under our own brands.



### 5.2. Vegetarian and vegan alternatives



In Lidl's own brand product range, we also carry vegetarian and vegan foods with these symbols indicating suitability. Under our brand, "My best Veggie", our customers will find numerous products for a vegetarian diet, such as meat-free frozen pasta dishes, ready-meals or sausage substitutes.

### 5.3. Organic foods



We have been offering organic foods for many years now, all of which bear the official EU organic logo. To be eligible to carry the EU organic logo, a product must meet the strict criteria of the EU Regulation 834/2007 on organic production and labelling of organic products. Therefore, food products bearing the organic logo meet the highest food law standards. In order to ensure that these standards are maintained, we are audited annually and we regularly audit our suppliers. Our long-term objective is to continually expand our organic product offering based on demand. This way we hope to meet our customers' requirements for better nutrition and a healthy diet for sustainable living.

### 5.4. Genetically modified foods

#### **What are genetically modified foods according to the law?**

According to EU legislation, these are foods containing genetically modified organisms (GMOs) or foods made with GMOs or containing ingredients made using GMOs. Genetically modified foods must be declared on the product label. Lidl does not use genetically modified foods in any of its products.

#### **What steps does Lidl take with its suppliers?**

In order to exclude any GMOs, we expect our suppliers to provide a documented risk assessment. We believe it is important to take steps even in the early stages of the supply chain to exclude or avoid GMO contamination during cultivation, transport and processing.

## 6. At a glance: our product labelling

Our own brand product packaging is designed to give our customers a quick and clear overview of all important information about the food and its ingredients. What the packaging promises on the outside, is what the product should deliver on the inside.

### Uniform EU-wide labelling

The EU Regulation 1169/2011 on the provision of food information to consumers defines uniform and clear food packaging labelling and information requirements, which are applicable throughout the EU. These include:

- the name of the food;
- the list of ingredients and specifically highlighting ingredients that may cause allergies or intolerances (Lidl highlights the allergens in bold font);
- the date of minimum durability or the "use by" date;
- the net quantity of the food;
- the name or business name and address of the food business operator;
- the nutrition labelling

### Above and beyond the requirements

Lidl goes a step further in its efforts to be transparent in the labelling of its products, and in addition to the legislative requirements also provides the following particulars:

| <b>Nutrition Information</b> |              |             |      |
|------------------------------|--------------|-------------|------|
| Typical values per 100g      |              | per 21g     | %RI* |
| Energy                       | 384kJ/91kcal | 81kJ/19kcal | 1%   |
| Fat                          | 1.9g         | 0.4g        | 1%   |
| of which saturates           | 0.7g         | 0.1g        | 1%   |
| Carbohydrate                 | 0.1g         | <0.1g       | <1%  |
| of which sugars              | 0.1g         | <0.1g       | <1%  |
| Fibre                        | <0.5g        | <0.1g       | <1%  |
| Protein                      | 18.1g        | 3.8g        | 8%   |
| Salt                         | 1.87g        | 0.40g       | 7%   |

\*Reference intake of an average adult (8400kJ/2000kcal)

Nutritional Information: This table shows the nutritional information of a product per 100g as legally required. To provide our customers with more useful information, if a serving size is indicated, the nutritional information per serving is declared as well as the percentage of the reference intake calculated based on the recommended daily requirement of an adult.

Alcohol content: If a product contains alcohol and is intended for direct consumption without preheating, this is indicated in addition to the information declared in the list of ingredients in a clearly visible yellow text field.

**Contains alcohol**

Fish Origin: Information on fish origin is highlighted in a yellow text field on back of pack. We also do this in the case of processed foods containing a large percentage of fish.

Skipjack tuna (*Katsuwonus pelamis*) caught in the Atlantic, Southeast (FAO no. 47), the Pacific, Western Central (FAO no. 71), the Pacific, Eastern Central (FAO no. 77), the Pacific, Southeast (FAO no. 87), the Atlantic, Eastern Central (FAO no. 34) or the Atlantic, Southwest (FAO no. 41) using surrounding nets and lift nets (purse seines). For more detailed information on the fishing area, see bottom.

### **Making sustainable food production visible**

We take pride in providing our customers with products produced responsibly. That is why we work closely with external organisations and certification bodies. Many of our food products carry quality marks, which provide additional information on the environmental and ethical credentials of our products. Product labels such as below; Fairtrade, Rainforest Alliance, UTZ, Marine Stewardship Council (MSC), Aqua Stewardship Council (ASC), stand as symbols for responsible production (sustainability), decent working conditions for the producers and traceability.



Under the "Fairglobe" brand we offer products that are Fairtrade certified. We are continually expanding our cooperation with Fairtrade and have expanded our range of Fairtrade certified products. Lidl was one of the first partners in the Fairtrade cocoa program when it joined in 2014. For further information on products produced responsibly, visit the "Sourcing" section on our website at: <http://www.abettertomorrow-lidl.ie/>.

## 7. Summary and outlook

### "Good foods for a healthy diet"

We are committed to actively promoting nutritional awareness and a healthy diet.

### Our targets and measures

We are taking a critical look at our own brand products with the intention of continually improving them. We have taken on challenges, defined targets and set standards even where there are no regulations or specifications by the national legislator or the EU. One of the ground breaking aspects of this policy is the optimisation of our own brand products with respect to the sugar, fat and salt content. In an effort to actively promote healthier nutrition, Lidl has set itself the target of reducing the added sugar and added salt content of its own branded products through a variety of measures. As described in section 3.4, we have already made significant progress in this respect. As far as fats are concerned, our target is to have the highest possible percentage of unsaturated fats in our Lidl own brand products.

To honour our commitment to actively promote good nutrition, our policy prioritises providing our customers with the fundamentals of a healthy diet by offering them a wide range of high quality foods that satisfies different requirements, including lactose-free and gluten-free foods, vegetarian and vegan alternatives as well as organic certified products.

### Dynamic principles

This "Health and Nutrition Policy" Paper sets out the criteria, specifications and targets for Lidl's own brand products at the present time. They are continually compared and contrasted against defined targets and results and then refined and updated to reflect the latest scientific findings and social trends and made transparent to the public.

## 8. Overview of Targets

|             |  | Target              |   | Present  |
|-------------|--|---------------------|---|--|
| Food safety | Acrylamide   | As soon as possible | <ul style="list-style-type: none"> <li>Step 1: meet Lidl target levels for all product groups.</li> <li>Step 2: set and meet stricter target levels.</li> </ul>   | The majority of our products contain levels significantly lower than the EU benchmark levels. In many product groups, we already meet more stringent targets.  |
|             | 3-monochloropropane-1,2-dio (3-MCPD)                   | As soon as possible | <ul style="list-style-type: none"> <li>The 3-MCPD content of our products may not exceed 50% of the TDI per serving.</li> <li>Replace palm oil with other fats/oils, provided this does not adversely affect the product's sensory properties.</li> </ul> | We have replaced most of the palm oil with rapeseed and sunflower oil in our "Choco Nussa" chocolate hazelnut spread.  |
|             | MOSH / MOAH  | As soon as possible | Minimise mineral oil residues in all food products: <ul style="list-style-type: none"> <li>MOSH content of max. 2mg/kg</li> <li>MOAH content &lt; limit of detection.</li> </ul>  | Numerous mitigation measures have already been implemented, particularly in packaging.   |
|             | Pyrrolizidine alkaloids (PAs)/ tropane alkaloids (TAs) | As soon as possible | Minimise pyrrolizidine alkaloids (PAs) and tropane alkaloids (TAs): <ul style="list-style-type: none"> <li>PAs: may not exceed the reference dose by more than 50%.</li> <li>TAs: no TA contamination.</li> </ul>   | Implementation of the minimisation principles developed.   |
|             | Plant protection products                              | As soon as possible | Our aim is to provide foods free of residue as far as feasible.   | <ul style="list-style-type: none"> <li>Residue levels of active substances may not exceed one third of the statutory maximum level.</li> <li>Residue levels of active substances may not exceed 80% of the statutory maximum level in total.</li> <li>Residues of no more than five identifiable active substances are permitted.</li> </ul> |

|                            |       | Target        |   | Present  |
|----------------------------|-------|---------------|---|--|
| Foods for a healthier diet | Sugar | December 2020 | Our target is to reduce the sales-weighted average content of added sugar by 20% in foods popular with and consumed by children.  | Implementation of the action plan as part of our reduction strategy. |
|                            | Salt  | December 2020 | Our target is to reduce the salt content line with the UK FSA 2017 Salt targets in products that are consumed on a regular basis and generally make up a large share of the daily intake of salt. | Implementation of the action plan as part of our reduction strategy. |

|                                     |                        | Target              | Present  |   |
|-------------------------------------|------------------------|---------------------|--|---|
| Choosing food ingredients with care | Food Colours           | December 2020       | <ul style="list-style-type: none"> <li>• Our target is to continue reviewing all products to determine whether the use of food colours is necessary.</li> <li>• If colouring is necessary, colouring foods will be preferred over natural food colours.</li> <li>• Where possible, we intend to avoid artificial food colours.</li> <li>• Avoid carmine and erythrosine completely.</li> </ul>   | Currently our permanent product range includes significantly more products with colouring foods and natural food colours than artificial colours.   |
|                                     | Preservatives          | December 2020       | <ul style="list-style-type: none"> <li>• Our target is to reduce the use of preservatives as far as possible or eliminate them completely, provided this does not compromise food safety.</li> <li>• We are reviewing all products containing preservatives to determine whether the use of preservatives is necessary.</li> <li>• The search continues for suitable technologies to make products long-lasting and safe even without the use of preservatives.</li> </ul> | Most of the products containing preservatives are those where nitrite curing salt is used to extend the shelf life and ensure the safety of the product.  |
|                                     | Flavours               | December 2020       | <ul style="list-style-type: none"> <li>• Our target is to review all products containing flavours to determine whether the use of flavours is necessary.</li> <li>• Our target is to avoid using artificial flavours as far as possible.</li> </ul>  | <p>The following applies today with respect to our permanent product range:</p> <ul style="list-style-type: none"> <li>• More than 50% of the products in which flavours are used contain exclusively natural food flavours or extracts.</li> <li>• Less than 10% of the products contain artificial flavours.</li> </ul> |
|                                     | Hydrogenated fats      | As soon as possible | <ul style="list-style-type: none"> <li>• Meet the Danish limit for trans-fatty acids of 2.0g/100 fat.</li> <li>• Improve fatty acid composition by using rapeseed oil, for example.</li> </ul>   | <ul style="list-style-type: none"> <li>• No hydrogenated fats used whenever technologically possible.</li> <li>• “Choco Nussa” chocolate hazelnut spread now contains a mix of rapeseed oil, palm oil and sunflower oil.</li> </ul>   |
|                                     | Palm Oil               | As soon as possible | At a minimum reduce and where possible replace palm oil.   | Continual review of our permanent product range to determine whether and in which products the palm oil content can be reduced or replaced completely.  |
|                                     | Glucose-fructose syrup | January 2025        | <ul style="list-style-type: none"> <li>• Our target is to use glucose-fructose syrup only where technologically necessary, however not for sweetening purposes.</li> <li>• If a product contains glucose-fructose syrup, the fructose content will be less than 42%. This way we ensure that we do</li> </ul>  | Continual review of our products to determine if glucose-fructose syrup is necessary.   |