

always
inspiring more ...

symrise 



Culinary

Composer for natural x flavorings

Sourcing, refining and creating signature taste solutions

White Paper 2021



delivering the authentic
taste of nature

code of nature

Nature surrounds us. It delights us, feeds us and inspires us with its wealth of taste and boundless creativity. Consumers love the taste of nature – with an equally diverse and precise understanding of what nature means to them. With code of nature, customers and consumers receive the real tastes of nature that go into individual products, which entail and combine all facets of naturalness transparently.

Consumers are going all natural



We have entered a new era of naturalness. It is evolving fast and picking up speed every day. Consumers dive deeper into their understanding of food and naturalness with every purchase they make. When choosing and buying their food and beverages they therefore demand nature as pure and rich as possible. Consumers want to know exactly what ingredients go into their food and where they come from. They want products from farmers that care about sustainable

cultivation on healthy soil. Protecting animals also plays a decisive role for many of them. Equally, they want their foods and beverages to be gently prepared and stored so that they keep their original taste and nutritional value. If consumers can actually see that something is made with honesty and integrity then it truly lives up to their expectations and perceptions. Naturalness in these many individual facets is sprouting in San Francisco, Shanghai, Berlin and Seoul – a true global phenomenon.

Consumers want the ultimate taste experience. And they want this experience to come from real food, made only with pure natural ingredients.

This puts the consumer into a great **dilemma**. Because nature means variety. It is evolving, subtle, ever changing, hard to predict, with crops and harvest depending on the weather, soil, and so much more. At the same time, consumers expect a very specific taste with high impact.

The industry is turning towards naturalness

These rapid changes within the world of naturalness and the consumer dilemma pose both huge challenges and opportunities on the food and beverage industry. Companies want to offer consumers products that they recognize and accept as truly natural and they have to adapt very quickly. The reason: Local innovators are

pioneering in many areas here and are growing fast. Very often, they are leading the way for international players. Having very much originated in the US, this trend has now spread and is expanding globally. **For international players, staying on top will require swiftly changing the game and shifting toward consumers' preference for "real" food.**

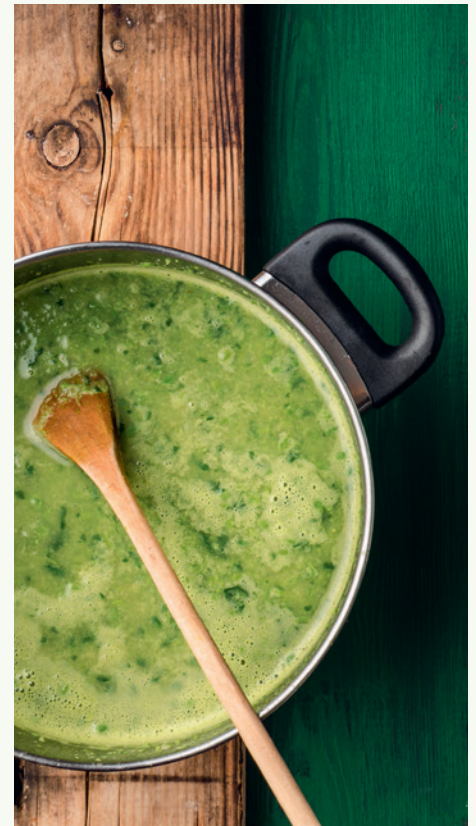
Seize your opportunity for naturalness with natural X flavorings

Symrise consumer studies also confirm the importance of naturalness. When consumers see the term “natural x flavoring” on the label, they perceive this as particularly natural and often prefer this over “natural flavoring”. For example: a “natural peach flavoring” or “natural onion flavoring” sounds more appealing than a more generic “natural flavoring” – alone.

A natural product becomes particularly attractive when it tastes authentic and offers an enjoyable experience. In this environment, when combined with the expertise and product portfolio of Symrise, regulations such as the new EU Organic Regulation open up a wealth of great tasting opportunities for superior product experiences and natural labelling.

This becomes increasingly important in the growing demand for organic products in Europe. Last year, sales of organic food and beverages recorded high growth across almost all categories.

Where is this trend coming from? Many consumers perceive organic as the most natural option. At the same time, they consider organic products to be healthier and more sustainable. As a result, organic is now considered to be the most important “product promise” on food packaging. (Mintel, 2019)



Appeal to consumers' tastes preferences with organic compliant solutions from Symrise!



Naturalness and organic are increasingly important preference drivers in key markets in Europe.



Consumers in Europe often prefer “natural x flavoring” over “natural flavoring”.

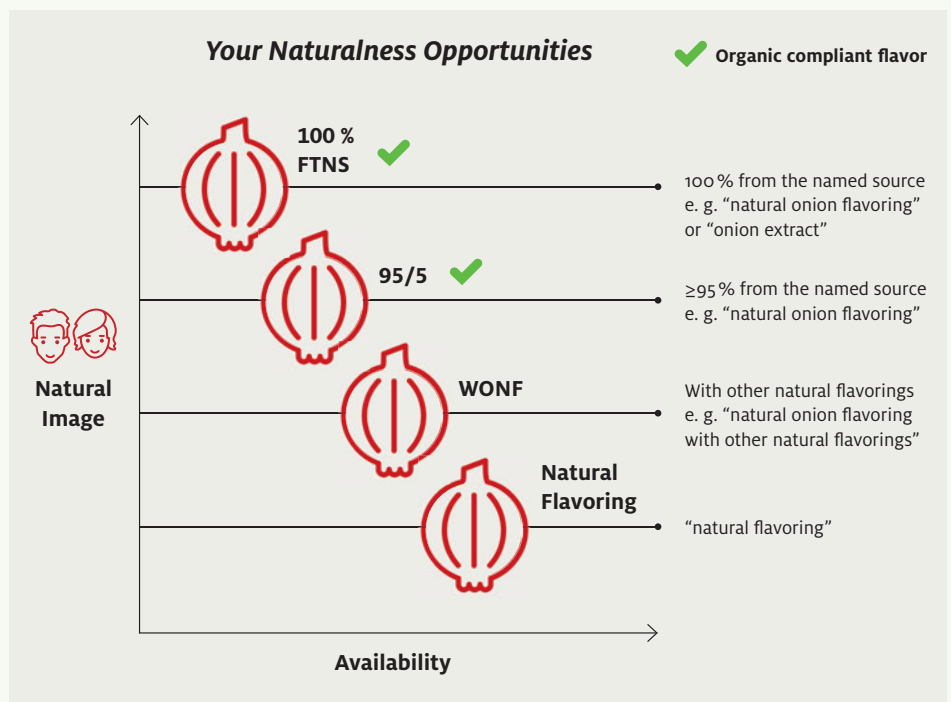
What will change due to the new EU Organic Regulation?

The new EU Organic Regulation¹ goes into effect on January 1st 2022, and defines very precisely the use of natural flavorings in organic products. The relevant definitions are laid down in the EU Flavor Regulation².

After January 2022, only certain natural flavorings will be allowed in organic products (see graphic). At least 95 % of a natural flavor must always originate from the named source.

That means for example that at least 95 % of tomato flavoring must come from tomato. Up to 5 % from other natural sources but only to round off the rich taste or assure a consistent and specific note.

Manufacturers must therefore reformulate their organic products if they use flavors other than natural x-flavorings to meet the new EU requirements. Symrise taste and regulatory experts will guide them through all naturalness opportunities.



¹ EU Organic Regulation (EU) No 2018/848

² EU Flavor Regulation (EU) No 1334/2008

Two flavoring scenarios suitable to do declare natural x flavorings

← Naturalness – Labelling scenarios →

100% FTNS

Natural Flavoring Substances

95/5

WONF

Natural Flavoring

| | 0 | 1 | 2 | 3 | 4 |
|--------------|--|---|--|--|---|
| Ingre-dients | 100% Flavoring Preparation from the named source | 100% Natural Flavoring Substances | > 95% from the named source, easily recognizable | < 95% from the named source, easily recognizable | 100% from different source materials. <i>Reference to source materials does not reflect the taste.</i> |
| EU labelling | <ul style="list-style-type: none"> Natural X Flavoring Specific name | <ul style="list-style-type: none"> Natural Flavoring Substances | <ul style="list-style-type: none"> Natural X Flavoring | <ul style="list-style-type: none"> Natural X Flavoring with other natural Flavorings (= WONF) | <ul style="list-style-type: none"> Natural Flavoring |
| Examples | <ul style="list-style-type: none"> Natural Strawberry Flavoring | <ul style="list-style-type: none"> Natural Flavoring Substances Vanillin | <ul style="list-style-type: none"> Natural Strawberry Flavoring | <ul style="list-style-type: none"> Natural Spice Flavoring WONF (= WONF) | <ul style="list-style-type: none"> Natural Flavoring (Gingerbread taste) |

● Natural X Flavorings (organic suitable)



Your benefits

code of nature® forms a framework that pulls together the versatile natural expertise of Symrise. It goes beyond a mere portfolio of natural products. It enables a unique code of nature for each and every individual customer and solution.

It connects the dots of the long scientific heritage at Symrise with deep consumer understanding, sustainable backward integration, regulatory consultancy capability. This dedicated approach combines the work of Symrise experts with longstanding certified

partners, respecting nature, and using gentle technology and processes to amplify nature.

| | | | |
|---|---|--|---|
|  <p>Your BENEFITS</p> | <p>Depictability & Claimability <i>of ingredients on front label</i></p> | <p><i>Healthy product positioning</i></p> | <p>Storytelling <i>on labels & communication</i></p> |
| <p><i>Superior, authentic sensory experience</i></p> | <p>Organic suitable</p> | <p><i>In-depth understanding of the regulatory framework as well NGO constraints</i></p> | |

Taking all this together, code of nature® goes beyond grey system theory.

An every day practice

Because Symrise is combining its wide expertise for each and every customer wish, each time it is creating unique and individual, truly and purely natural solutions – a unique code.

Symrise crafts inspiring solutions for its customers and consumers.

Our Key Tonalities

Make consumers to enjoy the authentic taste of your products. Symrise supplies you with the best from the named sources – including 95 % to 100 % natural ingredients.

Discover our key tonalities for natural x flavorings for your savory products.

| | | |
|--|--------------------------------|---|
|  | <p>Dairy Savory</p> | <p><i>Cheese, Cream</i></p> |
|  | <p>Herbs and Spices</p> | <p><i>Nutmeg, Paprika, Turmeric, Basil, Pepper, Dill, Chili</i></p> |
|  | <p>Onion</p> | <p><i>Onion</i></p> |
|  | <p>Savory</p> | <p><i>Soy Sauce</i></p> |
|  | <p>Vegetable</p> | <p><i>Tomato, Garlic, Cucumber, Celery, Carrot, Vegetable</i></p> |

Portfolio Compilation

| Product Code | Product Name | Cluster | Legal Name | 95/5 or 100% FTNS | Dosage (%) | RTD/ RTE |
|---------------------|---------------------|------------------|---------------------------------------|--------------------------|-------------------|-----------------|
| 282235 | Beef | Beef | Chicken Beef Flavoring | 95/5 | 0,30% | Boullion |
| 282239 | Beef | Beef | Chicken Beef Flavoring | 95/5 | 0,30% | Boullion |
| 282240 | Beef | Beef | Chicken Beef Flavoring | 95/5 | 0,30% | Boullion |
| 294255 | Chicken | Chicken | Chicken Chicken Flavoring | 95/5 | 0,30% | Boullion |
| 294290 | Chicken | Chicken | Chicken Chicken Flavoring | 95/5 | 0,30% | Boullion |
| 294293 | Chicken | Chicken | Chicken Chicken Flavoring | 95/5 | 0,30% | Boullion |
| 994742 | Cream | Dairy Savory | Chicken Dairy Flavoring | FTNS | 0,50% | Sauce |
| 191806 | Butter | Dairy Savory | Chicken Butter Flavoring | 95/5 | 0,08% | Margarine |
| 199468 | Cheese | Dairy Savory | Chicken Cheese Flavoring | FTNS | 0,30% | Sauce |
| 435553 | Cheese | Dairy Savory | Chicken Cheese Flavoring | 95/5 | 0,20% | Sauce |
| 994618 | Cheese | Dairy Savory | Chicken Cheese Flavoring | 95/5 | 0,50% | Sauce |
| 654227 | Pepper | Herbs and Spices | Chicken Pepper Flavoring | FTNS | 0,10% | Meat |
| 816434 | Paprika | Herbs and Spices | Chicken Paprika (Red Spice) Flavoring | FTNS | 0,10% | Ketchup |
| 855108 | Dill | Herbs and Spices | Chicken Dill Flavoring | FTNS | 0,10% | Dressing |
| 973482 | Chili | Herbs and Spices | Chicken Chili Flavoring | FTNS | 0,10% | Dressing |
| 651131 | Turmeric | Herbs and Spices | Chicken Turmeric Flavoring | FTNS | 0,12% | Mayonaise |
| 652995 | Basil | Herbs and Spices | Chicken Basil Flavoring | FTNS | 0,10% | Dressing |
| 610690 | Paprika | Herbs and Spices | Chicken Paprika (Red Spice) Flavoring | FTNS | 0,10% | Ready Meal |
| 268472 | Nutmeg | Herbs and Spices | Chicken Nutmeg Flavoring | FTNS | 0,20% | Sauce |
| 805708 | Pepper | Herbs and Spices | Chicken Pepper Flavoring | 95/5 | 0,10% | Ketchup |
| 973004 | Chili | Herbs and Spices | Chicken Chili Flavoring | 95/5 | 0,02% | Sauce |
| 300509 | Mustard | Herbs and Spices | Chicken Mustard Flavoring | 95/5 | 0,01% | Mayonaise |
| 108430 | Pepper | Herbs and Spices | Chicken Pepper Flavoring | 95/5 | 0,05% | Soup |
| 118485 | Onion | Onion | Chicken Onion Flavoring | 95/5 | 0,20% | Ready Meal |
| 289901 | Onion | Onion | Chicken Onion Flavoring | FTNS | 0,35% | Mayonaise |

Portfolio Compilation

| <i>Product Code</i> | <i>Product Name</i> | <i>Cluster</i> | <i>Legal Name</i> | <i>95/5 or 100% FTNS</i> | <i>Dosage (%)</i> | <i>RTD/ RTE</i> |
|---------------------|---------------------|----------------|-------------------------------------|--------------------------|-------------------|-----------------|
| 613908 | Onion | Onion | Chicken Onion Flavoring | 95/5 | 0,10% | Sauce |
| 619984 | Onion | Onion | Chicken Onion Flavoring | FTNS | 0,10% | Soup |
| 647759 | Onion | Onion | Chicken Onion Flavoring | FTNS | 0,04% | Ketchup |
| 648859 | Onion | Onion | Chicken Onion Flavoring | FTNS | 0,10% | Sauce |
| 650470 | Onion | Onion | Chicken Onion Flavoring | FTNS | 0,05% | Cream Cheese |
| 655162 | Onion | Onion | Chicken Onion Flavoring | FTNS | 0,08% | Ketchup |
| 653099 | Soy Sauce | Savory | Chicken Soy Sauce Flavoring | FTNS | 0,50% | Sauce |
| 407303 | Tomato | Vegetable | Chicken Tomato Flavoring | 95/5 | 0,10% | Soup |
| 459612 | Mushroom | Vegetable | Chicken Mushroom (Button) Flavoring | 95/5 | 0,10% | Boullion |
| 616483 | Carrot | Vegetable | Chicken Carrot Flavoring | 95/5 | 0,40% | Soup |
| 619397 | Mushroom | Vegetable | Chicken Mushroom (Button) Flavoring | 95/5 | 0,10% | Soup |
| 654186 | Vegetable | Vegetable | Chicken Vegetable Flavoring | 95/5 | 0,06% | Ready Meal |
| 655116 | Vegetable | Vegetable | Chicken Vegetable Flavoring | 95/5 | 0,02% | Soup |
| 800190 | Vegetable | Vegetable | Chicken Vegetable Flavoring | 95/5 | 0,30% | Soup |
| 138295 | Tomato | Vegetable | Tomato Extract | FTNS | 0,50% | Spread |
| 647459 | Garlic | Vegetable | Chicken Garlic Flavoring | FTNS | 0,03% | Ketchup |
| 653643 | Cucumber | Vegetable | Chicken Cucumber Flavoring | FTNS | 0,20% | Dip |
| 653713 | Celery | Vegetable | Chicken Celery Flavoring | FTNS | 0,25% | Sauce |
| 654986 | Carrot | Vegetable | Chicken Carrot Flavoring | FTNS | 0,20% | Sauce |
| 655227 | Vegetable | Vegetable | Chicken Vegetable Flavoring | FTNS | 0,20% | Ready Meal |
| 792956 | Garlic | Vegetable | Chicken Garlic Flavoring | FTNS | 0,15% | Dressing |
| 850100 | Garlic | Vegetable | Chicken Garlic Flavoring | FTNS | 0,10% | Ready Meal |
| 311502 | Wine | Wine | Chicken Wine Flavoring | 95/5 | 1,00% | Sauce |
| 311503 | Wine | Wine | Chicken Wine Flavoring | 95/5 | 1,00% | Sauce |

Why Symrise:

- ✓ **Technology**
Sourcing of the best nature has to offer
- ✓ **Design**
Sensory based taste modelling on a molecular level
- ✓ **Refinement**
Gentle processing of natures' varieties



Got a taste for
natural X flavorings?
Talk to us.

info@symrise.com

—
Symrise AG
Mühlenfeldstraße 1 · 37603 Holzminden · GERMANY

—
twitter.com/symriseag · youtube.com/agsymrise
linkedin.com/company/symrise
xing.com/companies/symrise