

SPECIAL Additives in Food



## **Imprint**

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## Foreword

Dear Readers,

Food additives are common ingredients in sweets, beverages, ready meals and many other processed foods. They are added to food in order to generate certain properties or achieve specific effects. For example, dyes affect the appearance, preservatives the shelf life, emulsifiers the texture and sweeteners the flavour of food.


In the European Union, food additives must first be approved before they can be used. The prerequisite for this is that they are harmless to health. BfR scientists also contribute to the health assessment of such substances. If a food additive is evaluated and deemed safe, it receives an E number. Additives used in food must be included on the list of ingredients with their names or E numbers.

The BfR commissioned a nationwide survey to find out how familiar the population is with the subject of food additives, how important their functions are to them when choosing foods and how they rate potential benefits and health risks. The results of the survey can be found in this special issue of the BfR Consumer Monitor.



Professor Dr. Dr. Andreas Hensel

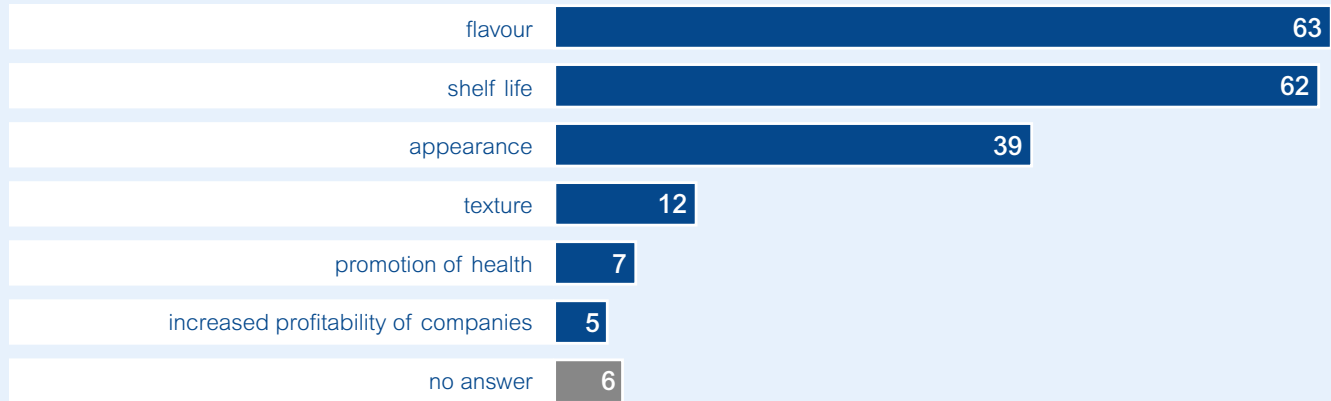
President German Federal Institute for Risk Assessment (BfR)



## What do you think: What functions do food additives serve?

You can name up to three functions.


## Assumed functions of additives



Mentions without predefined response options

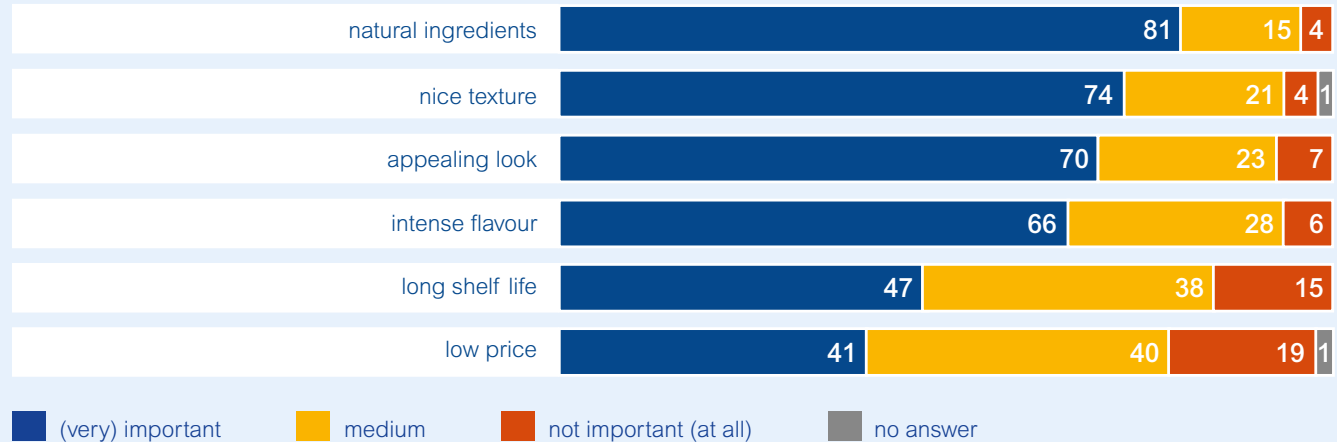
Shown: functions that were spontaneously mentioned by at least 5 percent of respondents

*Basis: 1,015 respondents; Figures given in percentages*




How important is each of the following aspects to you when buying food?

## Aspects when buying food



Response scale from 1 "not important at all" to 5 "very important"

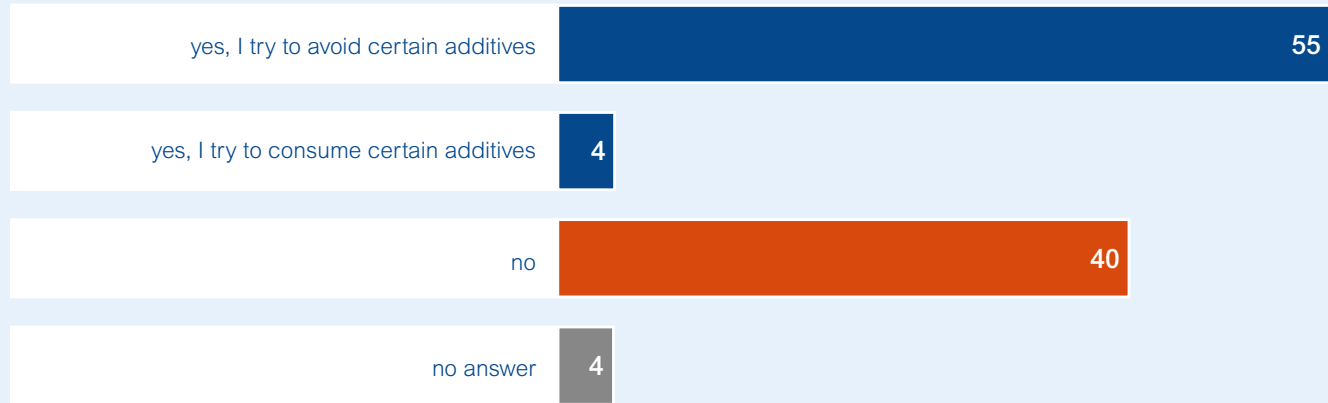
Basis: 1,015 respondents; Figures given in percentages



Do additives affect your decisions when buying food?



## Influence of additives on purchase decisions



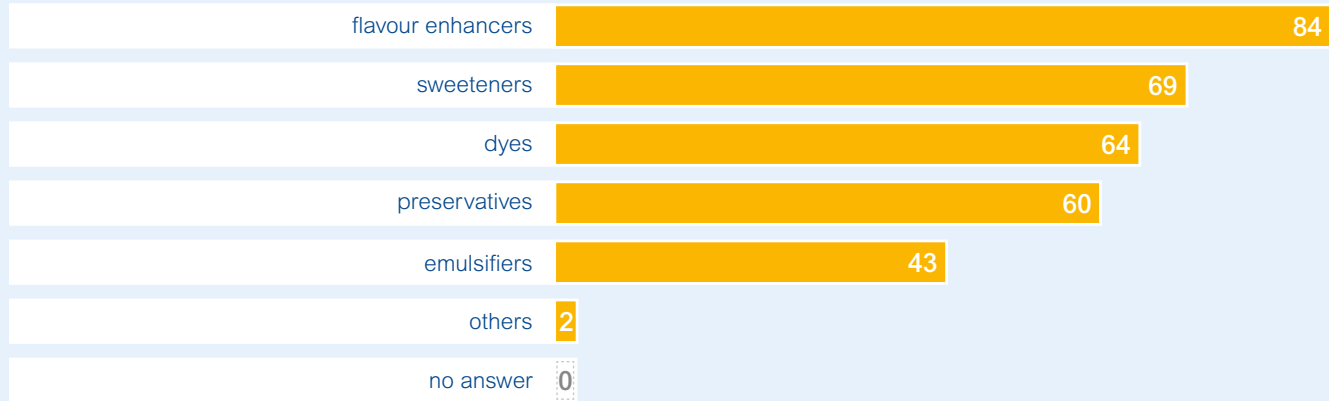
Multiple choice

Basis: 1,015 respondents; Figures given in percentages



Which of the following food additives do you try to avoid?

## Avoided additives



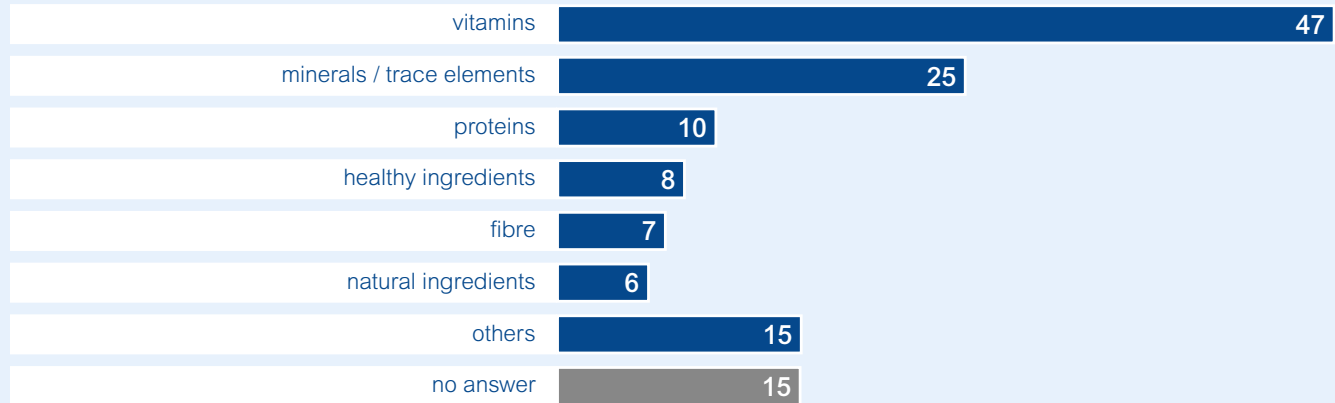
Multiple choice

*Basis: 555 respondents who avoid certain additives; Figures given in percentages*



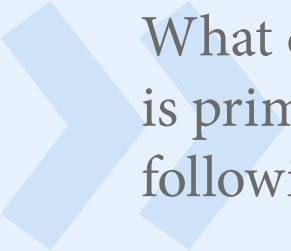
Which food additives do you try to consume?

## Desired additives



Mentions without predefined response options

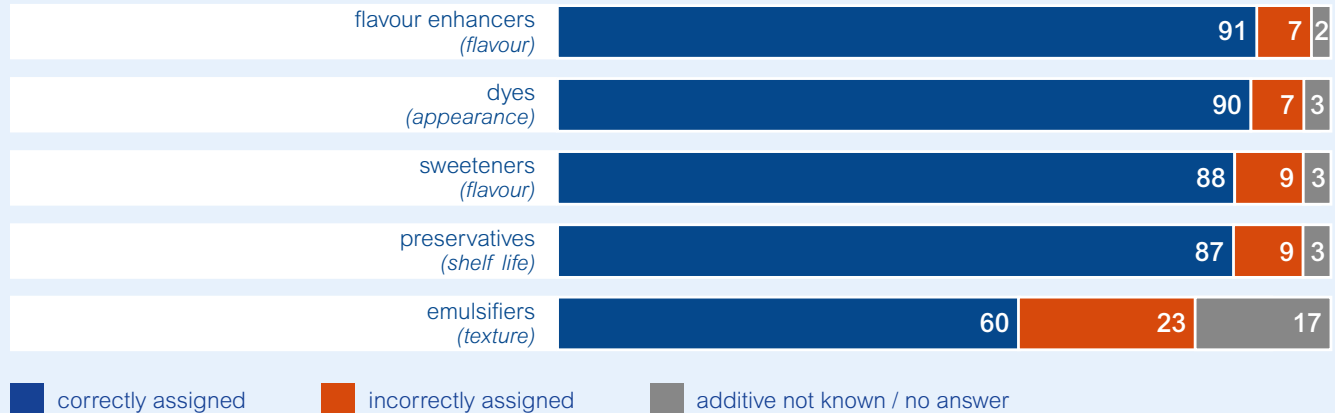
Basis: 42 respondents who consume certain additives; Figures given in percentages



What do you think: Which food property is primarily affected by each of the following additives?


If you are unsure, please indicate what you would guess.

## Connection of additives with their functions



Response options: "appearance", "shelf life", "texture", "flavour", "I do not know this additive"  
(correctly assigned function in parentheses)

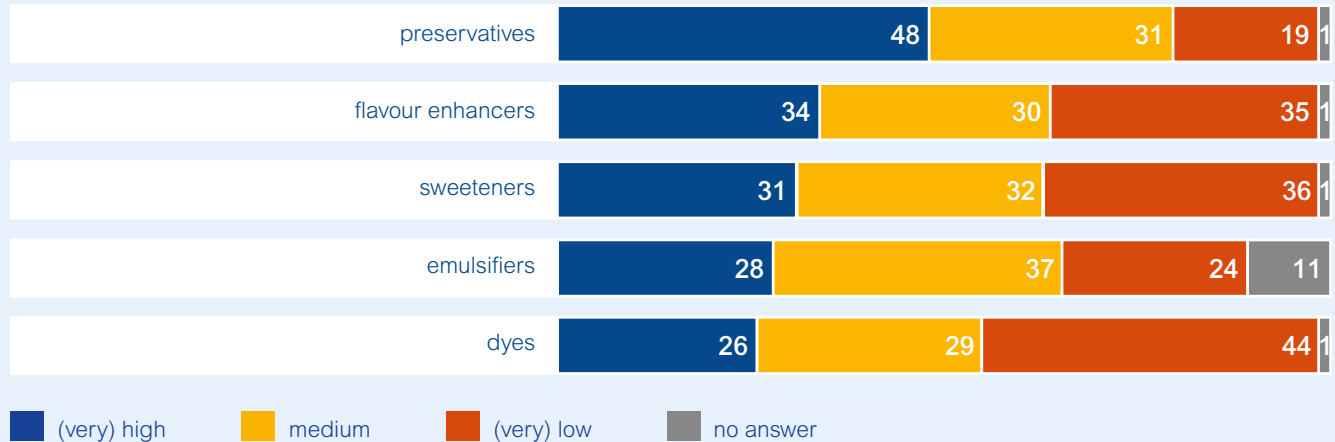
Basis: 1,015 respondents; Figures given in percentages



How do you rate the benefits of the following food additives?

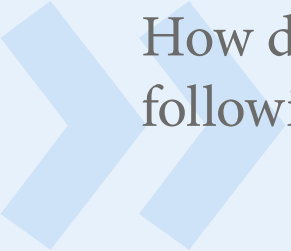


## Rating of the benefits of additives



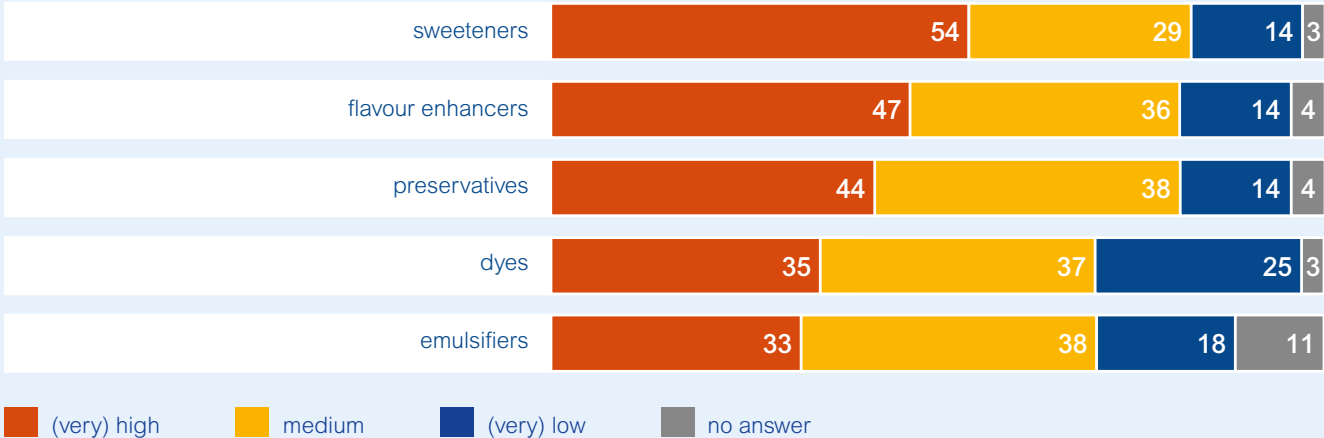
Response scale from 1 "very low" to 5 "very high"

Basis: 1,015 respondents; Figures given in percentages




How do you rate the health risks of the following food additives?

### Rating of the health risks of additives



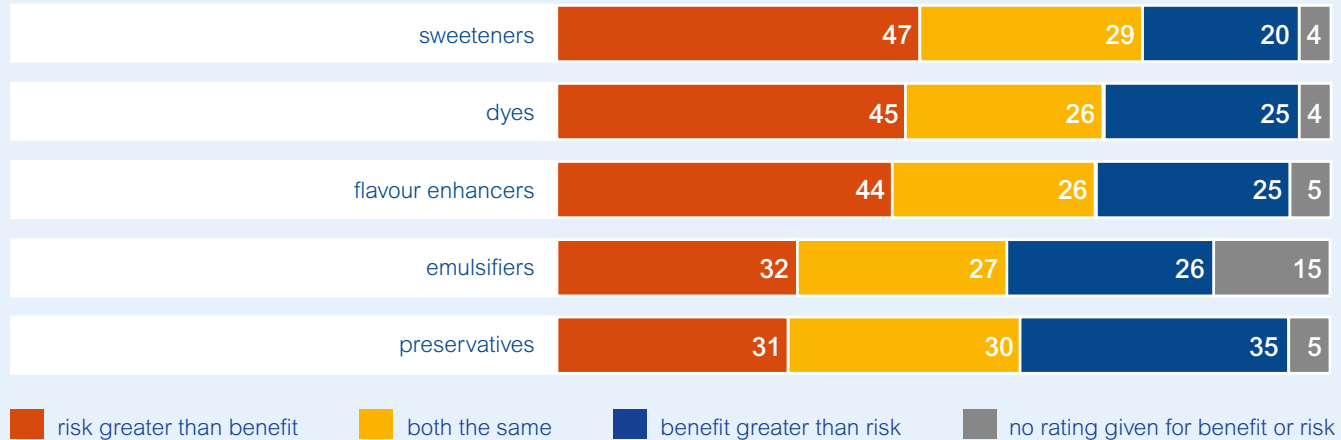
Response scale from 1 "very low" to 5 "very high"

Basis: 1,015 respondents; Figures given in percentages




How do you rate the benefits / health risks  
of the following food additives?

### Ratio of risk and benefit rating



Response scale from 1 "very low" to 5 "very high"

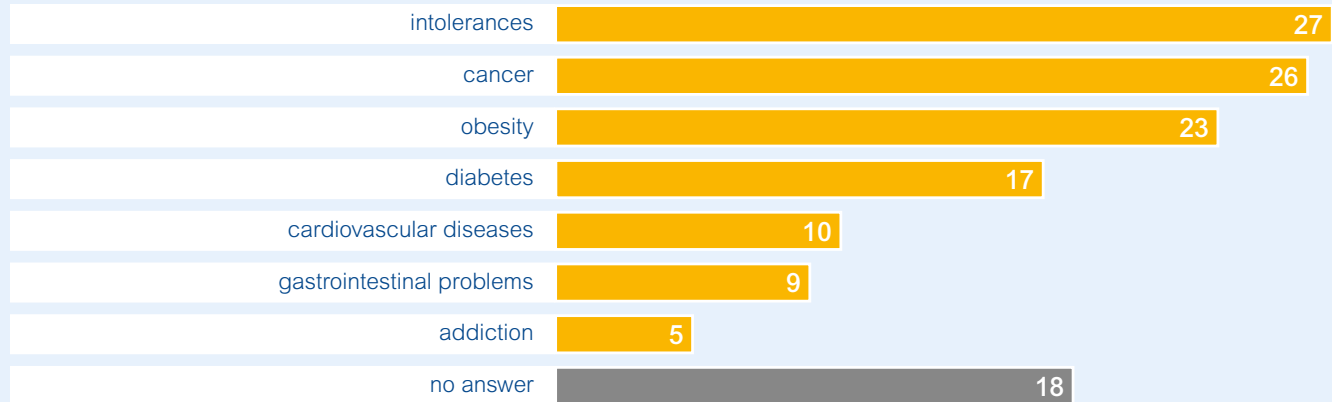
Basis: 1,015 respondents; Figures given in percentages



## Which health risks do you think food additives pose?


You can name up to three risks.

## Supposed health risks



Mentions without predefined response options  
Shown: risks spontaneously mentioned by at least 5 percent of respondents

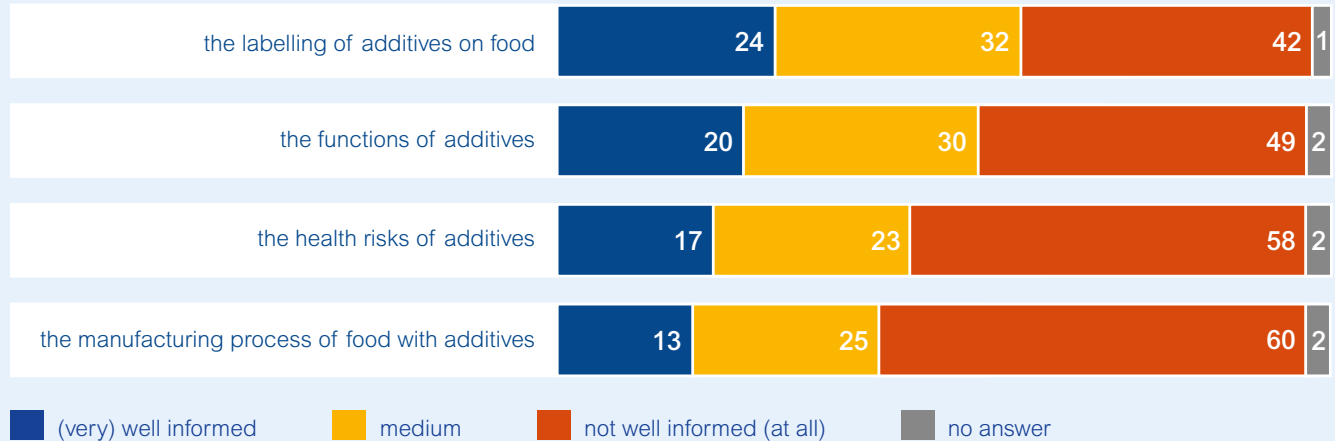
*Basis: 939 respondents who stated a medium to very high risk for at least one additive; Figures given in percentages*



How well informed do you feel about  
the following aspects of food additives?




## Perceived level of information



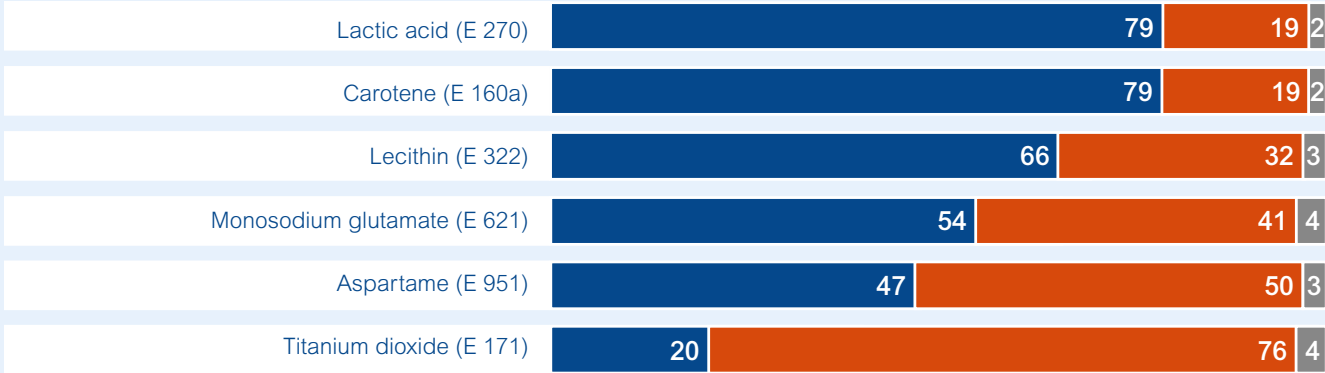
Response scale from 1 "not well informed at all" to 5 "very well informed"

Basis: 1,015 respondents; Figures given in percentages



Have you heard of the following food additives before?

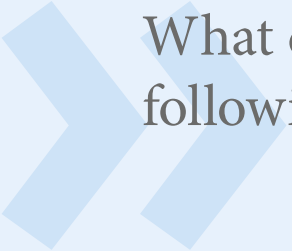
### Familiarity with specific additives



■ heard of it before    
 ■ not heard of it before    
 ■ no answer

Response options: “Yes, I have heard of it before”, “No, I have not heard of it before”

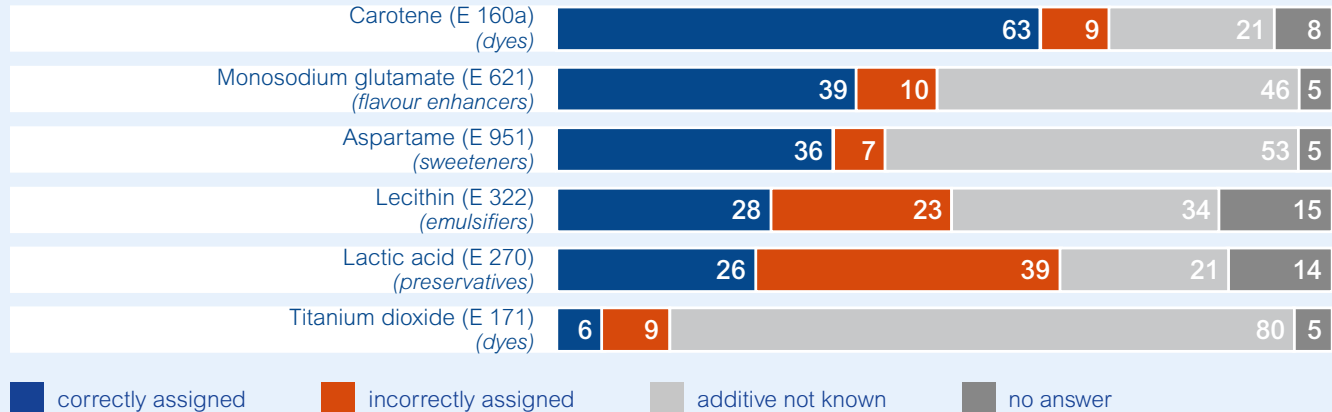
Basis: 1,015 respondents; Figures given in percentages



What do you think: Which group do the following additives primarily belong to?


If you are unsure, please indicate what you would guess.

## Categorization of specific additives



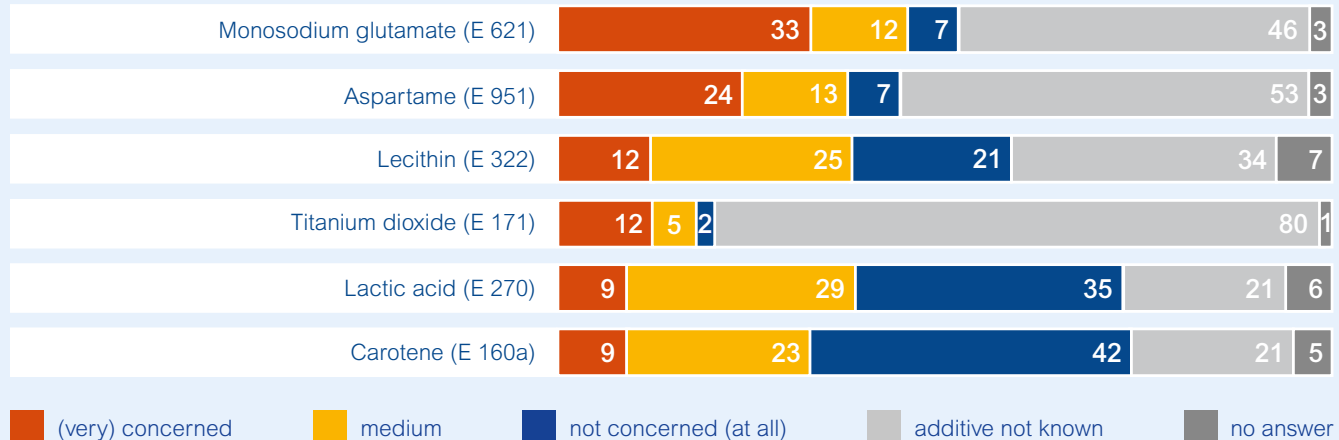
Response options: “dyes”, “preservatives”, “emulsifiers”, “sweeteners”, “flavour enhancers”  
 (correctly assigned food additive group in parentheses)

Basis: 1,015 respondents; Figures given in percentages



How concerned are you personally about the following food additives?

## Concern about specific additives



Response scale from 1 "not concerned at all" to 5 "very concerned"

Basis: 1,015 respondents; Figures given in percentages

## How were the data collected?

<b>Survey period:</b>	19 to 24 May 2021
<b>Number of respondents:</b>	1,015
<b>Sample:</b>	Participants from an online access panel in Germany aged 16 years and over
<b>Representativeness:</b>	Random sample of panel participants with representative quota control according to gender, age, education, and region Additional weighting according to gender, education, age, employment, size of city, German federal state, and household size
<b>Survey method:</b>	Online survey (CAWI)
<b>Presentation of results:</b>	All figures given in percentages; rounding differences possible
<b>Conducted by:</b>	INFO GmbH



## Additives in food

Food additives are legally defined in Article 3 of Regulation (EC) No 1333/2008. The term refers to substances that are not normally used as characteristic ingredients of food, but are added to food for technological purposes during production. Technological purposes include, for example, the appearance, flavour, texture or shelf life of food.

In the European Union, food additives may only be added to foods if they are approved. Approval is only granted if the substance is deemed safe for the intended use, if its use has a technological need, and if it does not mislead consumers. Once a food additive is approved in the EU, it receives an E number. For example, the number “E 322” represents the emulsifier “lecithin”. Lecithin is, among other things, often used in margarine, so that the fat and water components of the product form a permanently homogeneous mass.

When assessing the safety of food additives, an acceptable daily intake (ADI) is usually derived. This is the maximum amount which can be ingested daily over a lifetime at which no negative effect on health is to be expected. For food additives that are generally considered to have no harmful effects on human health, there is no need for an ADI value – as for the food additive E 322 (lecithin), which can be fully digested in the human body.

## About the BfR

Do nanoparticles promote the occurrence of allergies? Does apple juice contain too much aluminium? The German Federal Institute for Risk Assessment, or BfR for short, is responsible for answering questions on all aspects of the health assessment of foods and feeds, consumer products and chemicals. Through its work, it makes a decisive contribution towards ensuring that food, products and the use of chemicals have become safer in Germany. The Institute's main tasks comprise the assessment of existing health risks and identification of new ones, the development of recommendations to limit risks and the transparent communication of this process. This work results in the scientific advice given to political decision makers. To help with the strategic alignment of its risk communication, the BfR conducts its own research in the field of risk perception. The Institute is independent in its scientific assessments, research and communication. The BfR belongs to the portfolio of the Federal Ministry of Food and Agriculture (BMEL).

**i** More information at: [www.bfr.bund.de/en](http://www.bfr.bund.de/en)

*Additives in food:*

**> A-Z Index > F > food additives**

**> Food safety > Substance risks > Food additives**



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