What is in Coca-Cola?

A briefing on our ingredients

125 years
About This Guide

For 125 years, the Coca-Cola system has been part of the fabric of our communities. The economic, environmental and social implications of business are more important than ever.

Each time people enjoy one of our products, they invite us into their lives. With that privilege comes the responsibility to make a positive difference. The products, programmes and policies we support help make it easier for people to enjoy refreshing and hydrating beverages and to make informed choices.

About The Coca-Cola Company

Coca-Cola is the most recognised brand name in the world. Through the world’s largest beverage distribution system, consumers in more than 200 countries enjoy the Company’s beverages at a rate of 1.6 billion servings a day.

The Coca-Cola Company, along with more than 300 bottling partners worldwide, provides more than 3,300 beverage products across the 200+ countries in which we operate.

Our product portfolio includes sparkling beverages such as Coca-Cola®, Coke Zero™, Diet Coke®, Sprite® and Fanta®, and still beverages, such as juice and juice drinks, waters, enhanced water, sports and energy drinks, teas, coffees, dairy and soy-based drinks, and beverages with added nutritional benefits.

This global system includes approximately 700,000 associates and is headquartered in Atlanta, Georgia.

Coca-Cola, the Origins...

The year was 1886. The place, Atlanta Georgia. A pharmacist named John Pemberton set out to create a drink that was both refreshing and uplifting. He searched the ports of Georgia for the perfect mix of fresh ingredients from around the world. Until he got it just right. The drink was called Coca-Cola.

Some say even his own children didn’t know the exact ingredients in the recipe. Others say he would order large quantities of unused ingredients just to confuse his competitors. What we do know is that one day, in a three legged brass kettle, John Pemberton finally created the perfect recipe.

Of course, its ingredients can be found on the side of any bottle of Coca-Cola. But what you won’t find is the secret recipe. The exact mix of ingredients and vegetable extracts from around the world that to this day, remains the world’s most famous secret formula.

But one thing we can tell you:

Coca-Cola.
Natural Flavours.
No added preservatives.
Since 1886
So what is in Coca-Cola?

5 Water for refreshing hydration
6 Sugar for sweetness
7 Low and No-calorie sweeteners
10 Caramel for colour
11 Natural flavourings
11 Caffeine for taste
12 Phosphoric acid for taste
13 Carbon dioxide

WATER

Water has been ranked by experts as second only to oxygen as essential for life, yet it is the one nutrient most often overlooked. Hydration is vital for good health and well-being and moderate dehydration can reduce physical performance, cognition and alertness.

The European Food Safety Authority (EFSA) recommends a total water intake of 2.0 L per day for adult females and 2.5 L for adult males. Total water intake according to EFSA includes water from drinking water, beverages as well as moisture from food.

All beverages hydrate, including those that contain caffeine. Sparkling beverages, both regular and low-calorie, contain between 85% and 99% water, making them appropriate choices to meet your hydration needs. Some studies have shown that consuming a variety of beverages can help people achieve adequate fluid intake and therefore promotes proper hydration. We offer beverages with and without calories to help meet hydration needs. When consuming beverages with calories, it is important to remember that all calories count, no matter what food or beverage they come from.

Coca-Cola bottling plants across the world follow stringent production and quality assurance guidelines and we always start with high quality base water to ensure a great taste for Coca-Cola.
SUGAR

Sugar provides the sweetness of Coca-Cola and is important for its delicious taste. The majority of the sugar we use in Europe is beet sugar and some cane sugar which are also known as sucrose or table sugar.

Sucrose exists in many fruits and vegetables like carrots and bananas. This is the same type of sugar that is used in tea or coffee. Sucrose is formed when fructose and glucose combine. Fructose and glucose are carbohydrates and are the two most important simple sugars (or monosaccharides) for human consumption.

How much sugar is in Coca-Cola?

A 250ml serving of Coca-Cola contains no more calories and sugars than the same amount of orange juice and less sugars than the same amount of apple juice. A 250ml serving contains approximately 27g of sugar, which is equivalent to four to five teaspoons of sugar.

At Coca-Cola we help people make informed choices about what’s right for them. For example, the Guideline Daily Amounts (GDA) labeling system gives people very clear and easy to understand information about the percentage of energy and sugars in Coca-Cola. A 250ml serving contains approximately 29% of an adult’s guideline daily amount of 90g of sugars.

A 250ml serving of Coca-Cola contains:

- Calories: 105 (5%*)
- Sugars: 27g (29%*)
- Fat: 0g (0%*)
- Saturates: 0g (0%*)
- Sodium: 0g (0%*)

* % of an adult’s guideline daily amount (GDA) based on a 2000 kcal diet

LOW AND NO-CALORIE SWEETENERS

Low and no-calorie sweeteners, such as acesulfame potassium (Ace-K), aspartame, saccharin, cyclamate and sucralose, provide a sweet taste with few or no calories.

Most low and no-calorie sweeteners are several hundred times sweeter than caloric sweeteners, which means only a very small amount is needed to replace a larger amount of sucrose.

- Low and no-calorie sweeteners have been used by hundreds of millions of consumers around the world. They provide sweetness, while adding few or no calories to foods and beverages.
- When used consistently to help control calorie intake, as part of an overall sensible, balanced diet, combined with regular physical activity, low and no-calorie sweeteners can be beneficial in helping with weight management.

- Acesulfame potassium (Ace-K or acesulfame K) is a no-calorie sweetener that is approximately 200 times sweeter than sugar. Thousands of food and beverage products sweetened with acesulfame K can be found in approximately
90 countries, including Australia, Canada, most of Europe, Japan and the United States.

- **Aspartame** is one of the most thoroughly researched food ingredients in use today. It is 180 to 200 times sweeter than sugar and used in more than 6,000 products around the world. Aspartame has been approved by authorities including the European Commission and the U.S. Food and Drug Administration (FDA) and is permitted for use in foods and beverages in more than 100 countries. EFSA, the European Food Safety Authority has restated the safety of aspartame as a result of regular reviews of this sweetener in 2006, 2009, 2010 and in 2011 and did not find any new evidence to question the safety of this ingredient.

People with a rare genetic condition, phenylketonuria (PKU) should not consume aspartame because it contains the amino acid phenylalanine. Products that contain aspartame provide an advisory statement about the presence of phenylalanine in Europe, the U.S. and most countries.

- **Cyclamate** is a low-calorie sweetener approximately 30 times sweeter than sugar. Independent scientists of the UN Food and Agriculture Organisation (FAO) and the World Health Organisation’s (WHO) Joint Expert Committee on Food Additives (JECFA) have consistently affirmed the safety of cyclamate for use as a sweetener in foods and beverages, as have regulatory agencies in Australia, Europe and many other countries. As a result, cyclamate is now permitted for use in more than 50 countries around the world.

- **Saccharin** is a no-calorie sweetener approximately 300 times as sweet as sugar. It has been used in foods and beverages for more than 125 years. Saccharin is permitted for use in foods and beverages in more than 100 countries around the world.

- **Stevia Extract (steviol glycosides)** – is made from the best-tasting part of the leaf of the stevia plant – and is 200 times sweeter than sugar. Stevia extract’s safety has been established through more than 25 years of scientific research. Stevia extract achieved Generally Recognised As Safe status in the United States in December 2008 and has been recognised as safe by the FAO-WHO JECFA. Stevia extract is permitted for use in foods and beverages in 31 countries. The approval for use in Europe is in process.

- **Sucralose is derived from sugar** but is 600 times sweeter. It does not contribute calories to the diet. It is permitted for use in foods and beverages in more than 40 countries, including Australia, Canada, Mexico and the United States. Numerous studies have shown that sucralose can be safely consumed by people with diabetes.

A 250ml serving of Coca-Cola Light/Diet contains:

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<thead>
<tr>
<th></th>
<th>Calories</th>
<th>Sugars</th>
<th>Fat</th>
<th>Saturates</th>
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<td></td>
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<td>0g</td>
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* % of an adult’s guideline daily amount (GDA) based on a 2000 kcal diet
A 250ml serving of Coca-Cola Zero contains:

<table>
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<th></th>
<th>Calories</th>
<th>Sugars</th>
<th>Fat</th>
<th>Saturates</th>
<th>Sodium</th>
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</thead>
<tbody>
<tr>
<td>Values</td>
<td>1</td>
<td>0g</td>
<td>0g</td>
<td>0g</td>
<td>0.02g</td>
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0%* 0%* 0%* <1%*  

* % of an adult’s guideline daily amount (GDA) based on a 2000 kcal diet

COLOUR (CARAMEL E 150D)

Caramel is one of the oldest colours used in food and drinks in the world and it’s been used as the colour in Coke since 1886!

But caramel doesn’t exist in nature; and the caramel we use is very similar to what you can make in your kitchen when you heat sugar. In the European Union, the caramel colour is not classified as ‘natural’ because it has to be created from other ingredients. Caramel E150d (sulphite-ammonia caramel, Class IV) is one of four categories of caramel that are approved for use as food colourants in the European Union. Caramel colourants are very commonly used in commercial food products, such as soft drinks, bread, beer, sauces and toppings, confectionery, breakfast cereals and ice-cream.

E numbers are used simply as a classification system for certain ingredients which have been approved by the European Union for use in foods and beverages. Many ingredients with ‘E’ numbers occur naturally and exist in unprocessed foods, including fruits and vegetables. For example an apple contains over 11 components that would be given E classification.

Along with Caramel E150d, the only other additive used in Coca-Cola is Phosphoric Acid (E338).

NATURAL FLAVOURINGS

Coca-Cola has natural flavours. These are natural flavours from a complex mixture of plants that we use as the source of Coca-Cola’s famous flavours. Different countries use either the term plant extracts or vegetable extracts meaning the same thing.

Ask any food technologist, cola flavours have been common and available in recipe books for years. The basic ingredients are well known. What makes Coke special is the unique blend of flavours from natural sources and how they come together to create the one and only Coca-Cola taste.

It’s been a tradition for 125 years to keep Coca-Cola’s unique formula a well-guarded secret and we’re not going to change that now!

NATURAL CAFFEINE

The bitter taste of caffeine in Coca-Cola adds to the taste loved by people all over the world.

Caffeine, consumed for centuries in many cultures, is found naturally in coffee beans, cocoa beans and tea leaves. It can also be synthesised in a laboratory. Caffeine is one of the most thoroughly studied food and beverage ingredients in the world.

Caffeine is safe and has been an ingredient in many of our Coca-Cola products for over a century. Moderate caffeine consumption for adults, considered to be about 300 mg per day
– or about the amount contained in about three cups of coffee – has not been associated with adverse health effects. Pregnant or nursing women, or women trying to become pregnant, should consult a doctor regarding caffeine consumption.

**PHOSPHORIC ACID**

Phosphorus is a mineral found widely in nature and plays an important role in how our bodies get energy. It is a major component of bones and teeth.

Phosphoric acid, which contains phosphorus, is used to add a tangy taste to some colas. You can find phosphorus in milk, cheese, meat, bread, bran, breakfast cereals, eggs, nuts, fish, 100 percent juice, juice drinks, soy-based beverages, soft drinks, low-calorie soft drinks and sports drinks.

The World Health Organisation and the Food and Agriculture Organisation of the United Nations have not established a recommended daily intake amount for phosphorus, but some countries have. For example, the United Kingdom has set their Reference Nutrient Intake for phosphorus at 550 mg/day for adults, and the U.S. Institute of Medicine has set a Recommended Dietary Allowance for phosphorus at 700 mg per day for all adults over age 18, including pregnant and lactating women.

Sparkling beverages add only very small amounts of phosphorus to the diet through phosphoric acid, an ingredient that helps give cola drinks their tangy taste. A glass (250 mL of Coca-Cola provides 43 mg of phosphorus. By comparison, the same amount of milk has about 208 mg of phosphorus, one cup of cooked chicken (140 grams) has about 230 mg of phosphorus, and one cup of cooked white rice (150 grams) has about 90 mg of phosphorus.

**CARBON DIOXIDE**

The distinctive sparkling quality and Coke’s bubbling effect when poured into a glass comes from the carbon dioxide – the natural gas we breathe out and what plants take in – is pushed into the liquid under pressure.

Naturally carbonated waters have been consumed for centuries, but it wasn’t until halfway through the 19th century that the carbonation process became commercialised and sparkling beverages started to appear around the world. Today, The Coca-Cola Company and other beverage makers use equipment to push carbon dioxide into liquid. The sparkling water enhances the appeal of many drinks and adds to the thirst-quenching, pleasant sensation of both soft drinks and mineral waters.

The carbonation that puts the fizz in sparkling beverages does not contain calories, as it is made up of carbon and oxygen only. As such, carbonation does not contribute to weight gain. Further, carbonation does not cause cellulite.
Q. Does the sugar in Coca-Cola cause obesity and diabetes?

A. The cornerstone of good nutrition and dietary habits is balance, variety and moderation. That is why we subscribe to the nutrition principle that all foods and beverages can have a place in a sensible, balanced diet when combined with regular physical activity.

There is widespread consensus that weight gain is primarily the result of an imbalance of energy – specifically too many calories consumed versus expended. People consume many different foods and beverages, so no one single food or beverage alone is responsible for people being overweight or obese. But all calories count, whatever food or beverage they come from, including those from our caloric beverages.

Once consumed, sugar is broken down into glucose and fructose molecules before being absorbed into the bloodstream. After being absorbed, the body has no way of knowing whether a molecule of fructose and glucose came from sucrose, honey or fruit. Therefore it is the amount of sugar consumed in any single food or beverage that contributes to a person’s total energy intake.
Q. What is a calorie or a kilojoule?
A. A calorie is a commonly used term for the scientific term kilocalorie, also called a kilojoule in some countries. Calories, kilocalories and kilojoules are measurements of the energy provided by a food or beverage and the energy used by the body.

Q. Can drinking Diet Coke/Light Coke/Zero make me gain weight?
A. No. Drinking beverages sweetened with low and no-calorie sweeteners will not stimulate your appetite or make you gain weight. Research has shown that foods and beverages containing low and no-calorie sweeteners can help you manage your calorie intake and, if used consistently to reduce calories, can help you manage your weight.

Q. What is energy balance, and how does this relate to weight?
A. When it comes to managing weight, it’s important to balance the calories you take in with the calories you burn by consuming a sensible, balanced diet combined with regular physical activity. This concept of balancing calories in and out is what the experts refer to as “energy balance.” There is widespread consensus that weight gain is primarily the result of an imbalance of energy – specifically too many calories consumed and not enough calories expended. People consume many different foods and beverages so no one single food or beverage alone is responsible for people being overweight or obese. But all calories count, whatever food or beverage they come from, including those from our caloric beverages.

Q. Can sparkling beverages be part of a balanced, sensible diet?
A. Yes. The cornerstone of good nutrition and dietary habits is balance, variety and moderation. That is why we subscribe to the nutrition principle that all foods and beverages can have a place in a sensible, balanced diet when combined with regular physical activity. People who want to reduce the calories they consume from beverages can choose from our low and no-calorie beverages, which make up nearly 40 percent of our beverage portfolio in Europe, as well as our regular beverages in smaller portion sizes.

But it is important to remember that all calories count in maintaining a healthy weight, including those from our sparkling caloric beverages.

DIABETES

Q. Can sugars used in caloric sparkling beverages cause diabetes?
A. Diabetes occurs when the body can no longer produce or make enough insulin, or properly use the insulin it produces. Insulin is a hormone produced by the pancreas. When the body cannot produce or make enough insulin, it is called Type 1 diabetes and is usually diagnosed during childhood.
It is believed to be an autoimmune disease and is not preventable.

Type 2 diabetes is a complex disease with a number of risk factors. According to the International Diabetes Federation (IDF), the known risk factors for diabetes are overweight/obesity, aging, ethnicity, family history of diabetes, previous gestational diabetes and a sedentary lifestyle. But it is important to remember that consuming too many calories from any combination of foods and beverages in the diet, in the absence of expending enough calories to maintain energy balance, can lead to overweight and obesity. All calories count, whatever food or beverage they come from, including calories from our beverages.

**BONE HEALTH**

Q. Do sparkling beverages weaken bones?

A. No, drinking sparkling beverages does not weaken bones or cause osteoporosis. Good nutrition, adequate calcium, vitamin D and vitamin K, as well as physical activity that includes regular weight-bearing exercise, play key roles in determining bone health. For more than 15 years, scientific and patient-advocacy organisations have carried out investigations to determine whether phosphorus or caffeine in sparkling beverages has any impact on bone health. Each concluded that there is no evidence of any negative effect in healthy individuals, as long as their calcium intake is sufficient.

**DENTAL HEALTH**

Q. Are sparkling beverages bad for my teeth?

A. Any food or beverage that contains fermentable carbohydrates (sugars and some starches), including caloric sparkling beverages, can play a role in the development of tooth decay if proper dental hygiene is not practiced. Likewise, any food or beverage that is acidic, including sparkling beverages and many fruit juices, has the potential to play a role in the erosion of tooth enamel. However, other factors are also associated with these conditions. To maintain good dental health, you should visit your dentist regularly and follow his or her recommendations for daily oral hygiene, including the use of fluoride. Good dental hygiene practices can help reduce the risk of tooth decay and enamel erosion.

**KIDNEY DISEASE/STONES**

Q. Can sparkling beverages cause kidney disease or kidney stones?

A. Sparkling beverages do not cause kidney disease or kidney stones. It is not known what causes a kidney stone to form or why some people develop them and others do not. Drinking plenty of water and other fluids is recommended as a simple and most important way to help prevent the formation of kidney stones. For certain types of kidney stones and for specific stages of chronic kidney disease, some health authorities may recommend that people with these conditions avoid cola-type sparkling beverages or “dark
colas.” However, the data and scientific evidence to date do not confirm that in general, cola-type sparkling beverages cause or make kidney stones or kidney disease worse. As with all health conditions, people with kidney disease or the tendency to develop kidney stones should always consult their healthcare provider to determine which foods and beverages are appropriate to meet individual needs.

NUTRITION LABELING

Q. What is Coca-Cola’s policy on nutrition labeling?
A. The Coca-Cola Company is committed to providing factual, meaningful and understandable nutrition information about all our products. We believe in the importance and power of informed choice and continue to support fact-based nutrition labeling, education and initiatives that encourage people to live active, healthy lifestyles. As a result of industry self-regulation announced in 2007, our products in Europe now carry Guideline Daily Amounts helping consumers understand the exact contribution of a specific drink to their daily intake of energy (calories) and sugars. In 2009, we became the first company in the beverage industry to make front-of-package energy labeling (as calories, kilocalories or kilojoules) a global commitment for nearly all of our products by the end of 2011.
How can people be sure our products and ingredients are safe?

To ensure that we live up to our reputation, we have a large staff of scientists and nutritionists working to make sure our products consistently demonstrate the newest standards of safety and emerging science. Our diligence in this area allows us to be sure that people’s confidence in our products will remain strong.

GOVERNMENT REGULATIONS

Our drinks must comply with the health and safety regulations of each country or region where they are sold. In the European Union (EU), for example, The European Food Safety Authority (EFSA) is the keystone of risk assessment regarding food safety. In close collaboration with national authorities and in open consultation with its stakeholders, EFSA provides independent scientific advice and clear communication on existing and emerging risks. Many other countries throughout the world have similar regulatory agencies and frameworks for ensuring food and drinks and their ingredients are safe, such as the Food Standards Agency (FSA) in the UK. Because such extensive regulatory systems govern the use of substances in food and beverages, many government agencies and the great majority of scientists consider food additives to be one of the safest parts of the food supply.

Working with others

In addition to making sure that our products comply with government regulations, our scientists and nutritionists work with independent experts, advisory groups and other industry scientists to monitor ingredient safety issues. New findings must always be judged by how well the study was conducted and if it considered other factors, which may have influenced the results, and how this new knowledge compares to what we already know.

These rigorous approaches to scientific research and interpretation of the data on food ingredients by government regulators, industry scientists and independent experts help assure the safety of our ingredients so that people can confidently enjoy soft drinks.

When it comes to the ingredients used in Coca-Cola, you can always be sure of their safety. People who enjoy our products may take our safety efforts for granted; after all, Coca-Cola has been around for 125 years and is sold in more than 200 countries.

Our scientists and nutritionists work with independent experts, advisory groups and other industry scientists to monitor ingredient safety issues.
Additional Resources

The Coca-Cola Company Beverage Institute for Health and Wellness
www.thebeverageinstitute.com

European Food Information Council
www.eufic.org

International Food Information Council
www.ific.org

Calorie Control Council for low-calorie sweetener information
www.caloriecontrol.org

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For more information


3) ILSI North America Conference on Hydration and Health Promotion. Journal American College of Nutrition, October 2007 Volume 26 Supplement


9) www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm

10) www.who.int/mediacentre/factsheets/fs312/en/index.html


13) www.nutritiondata.com

14) Tolerable upper intake levels for vitamins and minerals. February 2006. EFSA Scientific Committee on Food. Scientific Panel on Dietetic Products, Nutrition and Allergies

15) Opinion of the Scientific Committee on Food on the revision of reference values for nutrition labeling (expressed on 5 March 2003)


18) www.surgeongeneral.gov/library/bonehealth/content.html


23) Opinion of the Scientific Committee on Food on Additional information on “energy” drinks. 5 March 2003


