## Copilot

Sure, here are the attributes of baking soda and baking powder:

**Baking Soda (Sodium Bicarbonate)** [1] [2]:

* **Molecular Composition**: Sodium bicarbonate is a mixture of carbon, sodium, hydrogen, and oxygen. Its molecular formula is NaHCO3 or CHNaO3 [1].
* **Physical Properties**: It is a white, crystalline powder that sometimes forms lumps. It is odorless and has a bitter, salty taste. At room temperature, it is a solid [1].
* **Solubility**: Sodium bicarbonate is soluble in water and can be separated from water through evaporation [1].
* **Chemical Properties**: When heated to a temperature greater than 50 degrees C (122 degrees F), sodium bicarbonate decomposes to form mostly carbon dioxide (CO2) and water (H2O) with trace amounts of sodium carbonate (NaCO3) [1].
* **pH**: A 1 percent molar solution of baking soda in water at room temperature has a pH of 8.3, indicating that baking soda is alkaline [1].
* **Uses**: Baking soda’s alkalinity causes it to react with acids, making it useful for baking, cleaning, and deodorizing [1].

**Baking Powder** [5] [6]:

* **Composition**: Baking powder is a mixture of sodium bicarbonate (baking soda), acid, and sometimes cornstarch [5].
* **Functionality**: When mixed with a liquid, the acid reacts with the sodium bicarbonate to create carbon dioxide gas. This gas is then trapped within the batter or dough of the baked good, causing it to rise and become light and fluffy [5].
* **Types**: There are two types of baking powder: single-acting and double-acting. Single-acting baking powder reacts upon hydration at room temperature, while double-acting baking powder releases a second burst of gas upon exposure to heat [6].
* **Uses**: Baking powder is used to increase the volume and lighten the texture of baked goods [8].

Please note that while both baking soda and baking powder are used as leavening agents, they are used in different types of recipes and have different chemical reactions [6].

Source: Conversation with Bing, 5/13/2024

1. [Physical & Chemical Properties of Sodium Bicarbonate](https://sciencing.com/physical-chemical-properties-sodium-bicarbonate-6571412.html)
2. [Baking Soda - Chemical Formula, Chemical Name, Properties & Uses - BYJU'S](https://byjus.com/chemistry/preparation-properties-and-uses-baking-soda/)
3. [What Is Baking Powder Used For In Cooking? - The Cooking Facts](https://thecookingfacts.com/what-is-baking-powder-used-for-in-cooking/)
4. [What Is Baking Powder? - The Spruce Eats](https://www.thespruceeats.com/what-is-baking-powder-1328636)
5. [Baking powder - Wikipedia](https://en.wikipedia.org/wiki/Baking_powder)
6. [Baking Soda: 12 Benefits, Properties, Dosage And Side Effects](https://www.wellness.guide/baking-soda-benefits/)
7. [Baking Soda | Sodium Bicarbonate | Baking Ingredient | BAKERpedia](https://bakerpedia.com/ingredients/baking-soda/)
8. [What Is Baking Powder? - The Spruce Eats](https://bing.com/search?q=attributes+of+baking+powder)
9. [Baking Powder: Important Facts, Health Benefits, and Recipes](https://www.relish.com/food-wiki/153776/baking-powder-important-facts-health-benefits-and-recipes)
10. [Baking Powder | Encyclopedia.com](https://www.encyclopedia.com/sports-and-everyday-life/food-and-drink/food-and-cooking/baking-powder)
11. [Getty Images](https://www.gettyimages.com/detail/photo/baking-soda-royalty-free-image/589107442)