

PRODUCT SPECIFICATION

DATE OF ISSUE
25-11-2025

AMMONIUM BICARBONATE (E503)






PRODUCT
CODE: 07

NATUURLIJK
NATUURLIJK
special food ingredients

T251125M240423A020123

1. PRODUCT IDENTIFICATION

1.1 Supplier product information

| | | | |
|-----------------------|----------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | Ammonium bicarbonate | | |
| Product code | 07 | | |
| Product number | Content | EAN | Packaging |
| 1512 | 80g | 8718309830137 | Plastic jar and screw lock cap with warranty seal.  Jar =  Cap = |
| 1506 | 200g | 8718309830144 | |
| 1511 | 900g | 8718309830151 | |
| 1715 | 5,5kg | 8718309832322 | Plastic bucket with warranty closure. Bucket =  Lid =  |
| 1534 | 12,5kg | 8718309830823 | Blue bag =  in box with warranty seal |

1.2 Scientific product information

Combined ingredient

| | | |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main use | Raising agent | |
| Composition | In descending order of weight; Ammonium bicarbonate (99,5%), magnesium carbonate | |
| Ingredients | Ammonium bicarbonate (99,5%) | Magnesium carbonate (0,5%) |
| Chemical name | Ammonium bicarbonate, Ammonium hydrogen carbonate | Magnesium carbonate |
| Chemical formula | NH ₄ HCO ₃ | MgCO ₃ |
| | | Magnesium carbonate is a technical additive (Anti-caking agent) and has no technical or functional effect in the finished product after processing. And will be present in insignificant levels in the finished product. Therefore it does not have to be declared in the ingredient list. |
| Production method | Ammonium bicarbonate is prepared by passing carbon dioxide into an ammonium solution. The bicarbonate precipitates and is washed and dried. | |
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| | | |

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1.3 Legislative product information

| | | | |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|
| CAS number | 1066-33-7 | HS code (customs) | 2836 99 |
| EU food additive | E503ii | | |
| Country of Origin | Germany | | |
| Organic products | For the purposes of Article 24(2)(a) of Regulation (EU) 2018/848, this product (as listed in Annex IV, Part A of Regulation (EC) No 2025-973), may be used as a food additive or processing aid in the production of processed organic food. | | |

2. PRODUCT INFORMATION

2.1 Physical and Chemical properties

| | Unit | Specification | Method |
|---------------------------------------|-------------------|--------------------------|------------------|
| Appearance | | Fine crystalline powder | |
| Colour | | White | |
| Odour/taste | | Slight smell of ammonium | |
| Purity | % | min. 99,3 | FCC (calculated) |
| Anticaking Agent (MgCO ₃) | mg/kg | max. 5500 | added |
| Bulk density | kg/m ³ | ≈ 850 | (20°C) |
| Molecular weight | | 79,0553 | |
| Solubility | g/l (20°C) | 220 | In water |
| pH | | 7,7 | 10% (m), 20°C |
| Thermal decomposition | | > 30°C | |
| Particle Size (>0,5mm) | g/100g | max. 1 | sieve analyses |

2.2 Microbiological data

| | | |
|-------------------|-------|----------------------------------------------------------------------------------------------------------------------------|
| Total plate count | Cfu/g | No microbiological data has been analyzed. Due to its composition, this product is microbiologically stable (dry product). |
| Moulds | Cfu/g | |
| Yeasts | Cfu/g | |
| E Coli | Cfu/g | |
| Salmonella | Cfu/g | |

2.3 Chemical analyses

| | | | |
|--------------|-------|--------|---------|
| Iron (Fe) | mg/kg | max. 3 | ICP-OES |
| Arsenic (As) | mg/kg | max. 1 | ICP-OES |

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|-------------------------------------------|-------|----------|---------|
| Lead (Pb) | mg/kg | max. 1 | ICP-OES |
| Cadmium (Cd) | mg/kg | max. 1 | ICP-OES |
| Mercury (Hg) | mg/kg | max. 0,1 | ICP-OES |
| Chloride (Cl) | mg/kg | max. 30 | FCC |
| Heavy metals | mg/kg | max. 3 | FCC |
| Sulphate (SO ₄ ²⁻) | mg/kg | max. 30 | FCC |

2.4 Nutritional Information

2.4.1 Nutritional Values

| | | |
|--------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Energy | kJ/100g | The nutritional contribution of food additives is considered negligible due to their very low dosage percentages in final products. Reason why we do not provide nutritional values. Furthermore, these products are exempted from the requirement of mandatory nutritional declaration by EC Regulation No. 1169/2011 - Annex V. |
| Energy | kcal/100g | |
| Protein | g/100g | |
| Carbohydrate: | g/100g | |
| Of which Sugars | g/100g | |
| Fat: | g/100g | |
| Of which Saturated | g/100g | |
| Dietary fiber | g/100g | |

3. FOOD INTOLERANCE

3.1 Allergens

| Yes = ✓ / No = ✗ | Contains |
|-----------------------------------------------------------------------------------------------------------------------|----------|
| Eggs and products thereof | ✗ |
| Cereals containing gluten and products thereof | ✗ |
| Lupin and products thereof | ✗ |
| Milk and products thereof (including Lactose) | ✗ |
| Sesame seeds and products thereof | ✗ |
| Nuts and products thereof (almonds, hazelnuts, walnuts, cashews, pecan nuts, Brazil nuts, pistachios, macadamia nuts) | ✗ |
| Sulphur dioxide and sulphites (>10mg/kg or >10mg/l) | ✗ |
| Celery and products thereof | ✗ |
| Peanuts and products thereof | ✗ |
| Mustard and products thereof | ✗ |
| Fish and products thereof | ✗ |
| Molluscs and products thereof | ✗ |

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| | |
|--------------------------|----------|
| Soy and products thereof | X |
|--------------------------|----------|

| | |
|--------------------------------|----------|
| Crustacea and products thereof | X |
|--------------------------------|----------|

3.2 Suitability for other diets:

| | | | |
|----------|---|--------------------|---|
| Coeliacs | ✓ | Lactose intolerant | ✓ |
| Halal | ✓ | Vegans | ✓ |
| Kosher | ✓ | Vegetarian | ✓ |

3.3 GMO Declaration:

Ammonium bicarbonate does not contain genetically modified organisms and is not produced using raw materials of a genetically modified origin. At no stage during production does the product come into contact with genetically modified organisms.

3.4 Irradiation:

Ammonium bicarbonate is not treated with ionizing radiation .

3.5 BSE/TSE declaration:

The used ingredients for Ammonium bicarbonate are not of animal origin. The processing equipment and the packing material which is used to manufacture, pack or fill the products into the packing units do not come into contact with any meat or meat-by product.

3.6 Residual Solvents:

Ammonium bicarbonate fully complies with the ICH requirements regarding residual solvents. No solvents are likely to be present.

4. STORAGE CONDITIONS

| | |
|--------------------|----------------------------------------------------------------------------------------------------------------------|
| Storage conditions | In closed original packaging. Must be kept cool and dry in a well-ventilated place. Prevent temperatures above 30°C. |
| Shelf life | 24 months after production, under the above mentioned conditions. |

5. FOOD SAFETY

5.1 Hygiene:


This product is produced in a facility with an on HACCP based food safety system.

5.2 Identifications of dangers:

| | |
|--------------------------------------------------------------------------|----------------------------------|
| Classification of the substance (Regulation (EC) No 1272/2008) | Acute toxicity, oral, Category 4 |
|--------------------------------------------------------------------------|----------------------------------|

5.3 Labeling, directions for use:

5.3.2 Hazards identification:

| | |
|------------------|-------------------------------------------------------------------------------------|
| Hazard pictogram |  |
| Signal Word | Warning |

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| | |
|-----------------------------------------|---------------------------------------|
| Hazard Statements | H302:Harmful if swallowed. |
| Supplemental information on the label : | Contains: Ammonium hydrogen carbonate |

5.3.3 Safety Recommendation:

| | |
|------------|----------------------------------------------------------------------------------------------------------|
| Prevention | P270:Do no eat, drink or smoke when using this product. P264:Wash hands thoroughly after handling. |
| Response | P312:Call a POISON CENTER or doctor/physician if you feel unwell. P301+P330:IF SWALLOWED:Rinse mouth. |
| Disposal | P501: Dispose of contents/container to hazardous or special waste collection point. |

6. EXTENDED PRODUCT INFORMATION

6.1 Usage

Ammonium bicarbonate or short ammonium, (and Hartshorn salt or baker's ammonia), is used as a leavening agent, in the baking of cookies and other edible treats. It gives an explosive and fast leavening for baked goods that are baked for a short time like cookies. Ammonium carbonate is especially suited to thin, dry cookies. When heated it releases ammonia, carbon dioxide gases, and water. Thin cookies allow the ammonia to be completely baked out, rather than remaining behind, as it would in a thicker mass.

Limitation: Ammonium bicarbonate tend to be used only in thin products with a final moisture content below 5%. Products outside these constraints, such as cakes or soft cookies, can retain ammonia within the final product with an adverse impact on Quality.

Dosage for baking: 1tsp (4g) on 500 grams of flour.

Ammonium bicarbonate decomposes at 60°C and does not leave any flavor affecting residues while having highest leavening properties.

Chemical reaction when heated:

Ammonium bicarbonate = ammonia + water + carbon dioxide

$NH_4HCO_3 = NH_3 + H_2O + CO_2$

6.2 Dictionary

| | | |
|----|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NL | The Netherlands | Ammoniumbicarbonaat (Ammoniumwaterstofcarbonaat, Bakkers ammonium, Ammoniumcarbonaat) |
| GB | Great Britain (UK) | Ammonium bicarbonate (Ammonium hydrogen carbonate, Ammonium bicarbonate, Bicarbonate of ammonia, Hartshorn, Baking ammonia, ammonium hydrogen carbonate, powdered baking ammonia, bicarbonate salt of ammonia, Carbonic acid, monoammonium salt) |
| DE | Germany | Ammoniumcarbonate, Bäckerammoniak (Ammoniumbicarbonat, Ammoniumhydrogencarbonat, Hirschhornsalz, ABC-Trieb) |
| FR | France | Bicarbonate d'ammonium |
| ES | Spain | Bicarbonato de amonio |
| PT | Portugal | Hidrogenocarbonato de amónio |
| IT | Italy | Bicarbonato d'ammonio |

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| | | |
|----|-----------------------|------------------------------------------------------------------|
| | | (Idrogenocarbonato d'ammonio) |
| DK | Denmark | Ammoniumbicarbonat (Ammoniumhydrogencarbonat) |
| NO | Norway | Aammoniumhydrogenkarbonat |
| SE | Sweden | ammoniumbikarbonat (Ammoniumvätekarbonat) |
| FI | Finland | Ammoniumvetykarbonaatti |
| IS | Iceland | Ammóníumbíkarbónat (Ammóníumvetniskarbónat, Ammóníumkarbónat) |
| CZ | Czech Republic | Hydrogenuhlíčan amonný |
| SK | Slovak Republic | hydrogénuhlíčan amónny |
| HU | Hungary | Ammónium-bikarbonát (Ammónium-hidrogén-karbonát) |
| HR | Croatia (Hrvatska) | Amonijev bikarbonat |
| GR | Greece | Όξινο ανθρακικό αμμώνιο |
| SI | Slovenia | Amonijev bikarbonat (Amonijev hidrogenkarbonat) |
| PL | Poland | Wodorowęglan amonu |
| RO | Romania | Carbonat acid de amoniu |
| BG | Bulgaria | Амониев хидроген карбонат |
| RU | Russian Federation | гидрокарбонат аммония |
| TR | Turkey | Amonyum bikarbonat |

7. DISCLAIMER

Although we take great care in setting up this product specification, we cannot accept any liability for the completeness and fully accurateness of the information provided. The content of this Product Specification is completed to the best of our knowledge.

This document does not dismiss the user of his legal obligations with respect to food safety.

This product specification replaces any previously issued specifications.