



## Materials Safety Data Sheet

### Ammonium bicarbonate

#### Section 1 Product and Company identification

**Company name:** Bicarbonatos Nacionales S.A. de C.V.

**Address:** Antiguo Camino a Penwalt s/n, El Castillo. It is located between parallel road to Guadalajara-Guanajuato railroad and Guadalajara-El Salto highway. El Salto, Jalisco. Zip code: 45680.

#### Emergency telephone numbers

**México:** +55 5831 7905 – SETIQ 01 800 00 214 00

**Guatemala:** +502 66285858

**El Salvador:** +503 22517700

**Honduras:** +504 2540 2520

**Nicaragua:** +505 2269 0361 – Toxicology MINSAs: +505 22897395

**Costa Rica:** +506 25370010 – Emergencies 9-1-1. Intoxication Center +506 2223-1028

**Panama:** +507 5126182 – Emergencies 9-1-1

**Colombia:** +018000 916012 Cisproquim / (571) 2 88 60 12 (Bogotá)

**Peru:** +511614 65 00

**Ecuador:** +593 2382 6250 – Emergencies (ECU) 9-1-1

**Argentina:** +54 115031 1774

#### Section 2 COMPOSITION/INFORMATION ABOUT THE INGREDIENTS

PRODUCT CHEMICAL NAME: **Ammonium bicarbonate, NH<sub>4</sub>HCO<sub>3</sub>**

CAS No.: **1066-33-7**

OTHER NAMES: **Ammonium acid carbonate, Ammonic bicarbonate, Ammonic carbonate, Monoammonium salt of carbonic acid, Ammonium hydrogen carbonate.**



### Section 3 HAZARD IDENTIFICATION

**United Nations Classification:**

**NFPA Classification: Health hazard: 1, Flammability: 0, Reactivity: 0.**

**Potential acute health effect: Harmful if swallowed**

### Section 4 FIRST AID

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

**INHALATION:** Remove the person to fresh air. If breathing is irregular or stops, perform artificial respiration. Do not give oral medication. In case of unconsciousness, place person into a stable position and seek medical attention.

**EYE CONTACT:** In case of have contact lenses, remove them immediately. Flush with large amounts of rinse water for, at least, 10 minutes, occasionally lifting upper and lower eyelids, and seek medical attention.

**SKIN CONTACT:** Remove contaminated clothing immediately, wash contaminated skin area with large amounts of water and soap or an adequate skin cleanser. Do NOT use solvents or thinners.

**INGESTION:** In case of accidental ingestion, seek medical attention immediately. Keep the person at rest. Do NOT induce vomiting.

### Section 5 FIRE FIGHTING PROCEDURES

Recommended fire extinction material: Extinction powder or CO<sub>2</sub>. In case of larger fires, alcohol-resistant foam and water spray are recommended. Do NOT try to extinguish the fire with direct water stream.

Specific risks: Fire will produce dense black smoke. Poisonous products like carbon monoxide and carbon dioxide may be generated by thermal decomposition. Exposure to hazardous substances can produce negative health effects.

Fire protection equipment: According the size and magnitude of the fire, heat and fire protection clothing, autonomous respirators, gloves, protective glasses or face masks and boots may be required.

Other recommendations: Cool recipients and containers with water spray yet. Take into account wind direction. Ensure that the fire-fighting agents do not enter watercourses or sewers.



## Section 6 ACCIDENTAL RELEASE MEASURES

Individual precautions: Eliminate potential sources of ignition, and provide ventilation. Do not smoke. Avoid inhalation of vapors. For exposure control and individual Protection.

Cleaning procedures: Contain and collect spillage with non-combustible absorbent materials (dirt, sand, vermiculite, diatomite...). Pour the product and the absorbent in a suitable container. Contaminated zone should be cleaned immediately with a suitable decontaminant.

Environment: Avoid contamination of drains, superficial and underground water, and soil. Local authorities should be advised if significant spillages cannot be contained or whether lakes, rivers or sewage systems were contaminated by the product.

## Section 7 HANDLING AND STORAGE

**HANDLING:** Vapors are heavier than air and may spread along the floor; they may also form explosive mixtures in the air. Avoid flammable or explosive vapor concentrations in the air. Prevent the presence at the workplace of hazardous vapor concentrations. Ammonium bicarbonate should be handled or processed only in areas away from any source of ignition. Electrical equipment should be protected to the appropriate standard. The product could be electrostatically charged: bonding and grounding containers during dispensing or transferring. Workers must wear antistatic clothing and shoes, and floor should be conductive. Keep the containers tightly closed, away from sources of ignition like heat, sparks and fire. Use non-sparking tools. Avoid contact with eyes and skin. Avoid inhalation of dust, or spray mist. For personal protection, check Section 8. Do NOT use pressure to empty the containers. Do NOT eat, smoke or drink where ammonium bicarbonate is being handled, processed or stored. Health and safety at work legislations must be applied. Keep the product in containers identical to the original ones.

**STORAGE:** Store according to local legislation. Observe information on the label. Store the containers at a temperature between 5 and 35°C, in a dry, well ventilated place, away from heat sources and direct sunlight. Keep away from sources of ignition. Keep away from oxidizing agents, strong acid and strong alkaline products. Do not smoke. Unauthorized personal is not allowed. Once containers are opened, they should be carefully closed and placed in an upright position to avoid spills.

## Section 8 EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

**Exposure controls:** Technical procedures; provide good ventilation through local ventilation or extraction. If it is not enough to preserve low levels of particle and vapor concentration, use respirators or protective equipment.



**Respiratory protection:**

**Staff from pulverization processes:** Respiratory equipment with air supply.

**Rest of the staff:** Well ventilated areas; respiratory equipment with air supply can be substituted by a mask composed both activated carbon filter and particle filter.

**Hand protection:** Use of polyvinyl alcohol or nitric rubber gloves. Protection creams can be useful to protect exposed skin. However, they must NOT be applied after exposure has produced.

**Eye protection:** Wear impact resistant glasses, especially manufactured to protect against spills. Eye wash stations should be provided in the immediate work area for emergency use.

**Skin protection:** Wear protective clothing (anti-static, manufactured with natural or synthetic fabrics and resistant to high temperatures). Exposed skin with the product should be washed.

**Section 9 PHYSICAL AND CHEMICAL PROPERTIES**

**GENERAL INFORMATION:**

Aspect: White, crystalline powder

Odor: Ammonia pH: 8.3 (100 g/l, 20 °C)

Vapor pressure: 79 mbar (25- 4 °C) 526 mbar (50 °C) 1086 mbar (59, 25 °C)

Relative density: 1.58 g/cm<sup>3</sup> g/cm<sup>3</sup> (20 °C)

Specific weight: 850 g/m<sup>3</sup> approximately

Solubility: 178 g/kg at 20 °C in water

Partition coefficient water/octanol (Log Pow): -2.4 (25°C)

**Section 10: STABILITY AND REACTIVITY**

**Thermal decomposition:** >30°C. Do not overheat to avoid decomposition.

**Stability:** Stable under normal handling and storing conditions.

**Hazardous decomposition products:** In case of fire, dangerous decomposition products can be formed, such as: carbon monoxide and carbon dioxide, nitrogen oxide and ammonia. Keep far from oxidizing agents and strongly alkaline or strongly acid materials to prevent exothermic reactions.

**Incompatible materials:** nitrites, nitrates and strong acids and bases.

**Section 11 TOXICOLOGICAL INFORMATION**

DL50 (ingestion, male/female rat): 1.576 mg/kg approximately

Harmful if swallowed

There is not data available on tests performed on the preparation. Chronic exposure of am-



monium bicarbonate during work time can cause acute health effects shortly after exposure (for example: irritation of mucous membrane and respiratory tract, negative health effects on kidneys, liver and central nervous system). The most common symptoms are: headache, vertigo, fatigue, somnolence, and in severe cases, unconsciousness.

Long-term contact with ammonium bicarbonate can produce fat loss in the skin, causing non-allergic contact dermatitis and allowing product absorption more easily afterwards. Splashing in the eyes can cause irritation and reversible damage.

**ADDITIONAL INFORMATION:** Tests with bacteria or mammal cell cultures did not show any mutagenic effects.

## Section 12 ECOLOGICAL INFORMATION

### FISH TOXICITY:

Other (a)(s) Continuous flow assay

Oncorhynchus mykiss/CL50 (96h): 102.13 mg/l

Microorganisms/effects on activated sludge

DIN 38412 Part 27 Aquatic

Pseudomonas putida/CE10 (16h): 1.680 mg/l

**AQUATIC TOXICITY EVALUATION:** There is a high probability that this product is not harmful to aquatic organisms.

### PERSISTENCE AND DEGRADABILITY

**EVALUATION:** Inorganic product, it cannot be eliminated from water through biological purification processes. Can be oxidized into nitrite and reduced to nitrogen by microorganisms.

**BIOACCUMULATION POTENTIAL:** Due to water/octanol partition coefficient (log Pow), it is possible the accumulation by microorganisms.

### ADDITIONAL INDICATIONS

**ECOTOXICAL ADDITIONAL INFORMATION:** Product should not be shed to waterways or sewage system without previous treatment. According to actual research and knowledge, there is no further negative ecological damage.

## Section 13 DISPOSAL CONSIDERATIONS

**WASTE TREATMENT:** Treatment according to current legislation.

**CONTAINER ELIMINATION:** Washing and disposal according to current legislation.



## Section 14 TRANSPORT INFORMATION

Product not hazardous according to the transport regulations (ADR, RID, ADN, IMDG, GGV-See, OACI/IATA).

**ADDITIONAL INFORMATION:** Consider special transport regulations in each country and prepare all the documentation required.

## Section 15: REGULATORY INFORMATION

This sheet complies with the legal regulations of the following countries:

México: NOM-018-STS-2000

Guatemala: Labor Code, agreement 12

Honduras: Executive Agreement No. STSS-053-04

Costa Rica: Decree No. 28113-S

Panama: Resolution #124, March 20th, 2001.

Colombia: NTC 445, July 22nd, 1998.

Ecuador: NTE INEN 2 266:200

## Section 16: DISCLAIMER

The information indicated in this security data sheet related to this product may not be valid for such material used in combination with other products or processes. It is the responsibility of the user the interpretation and application of this information for its particular purposes. The user should consider that health hazards and safety information is given as a guide for safe handling and use of this specific product. This guide has been elaborated by technicians and the information is provided in good faith. However, this information may not be complete. In fact, safe handling and use of this product may allow additional considerations.

- **COFEPRIS**

Agreement about additives and adjuvants in foods, beverages and food supplements; their uses and final sanitary disposal.

- **United States legislation**

FDA Code of Federal Regulations, Generally recognized as safe (GRAS)



**Bicarbonato de Amonio**

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- **European Union (EU) legislation**

Regulation (EC) No. 1333/2008 of the European Parliament and of the Council of 16 December 2008 of food additives.

Labeling codification for EU: E503ii.

- **Codex Alimentarius (FAO)**

Number SIN or number INS 503ii, 503(ii).

**Main countries using the ingredient in their new products:**

- Brazil
- China
- India
- Italy
- México
- United Kingdom