

# TECHNICAL BULLETIN



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## SODIUM BICARBONATE

### MATERIAL & FUNCTION

Sodium bicarbonate or sodium hydrogen carbonate is the chemical compound with the formula  $\text{NaHCO}_3$ . Sodium bicarbonate is a white crystalline powder. Other names are baking soda, bread soda, cooking soda, bicarbonate of soda.

Colloquially, its name is shortened to sodium bicarb, bicarb soda, sodibic or bicarb. Sodium Bicarbonate is one of the basic alkali chemicals and it has a wide variety of applications. It is applied to fields such as fibre, soap, paper, food, electricity, etc. It is also used as a solution for today's environmental pollution, as it is used to reduce water or air pollution.

Sodium Bicarbonate is an odourless and white crystalline powder of relatively low toxicity. It is not flammable and its dust is not explosive.

Natural Sodium Bicarbonate is low in purity so it is usually manufactured by passing carbon dioxide through soda ash.

### APPLICATIONS

Sodium Bicarbonate is widely used as a weak alkali buffer agent for supplementary feeds, a major raw material for baking powder as food additives and acid neutralizer agent after chromium tanning in leather manufacturing, as well as dye stuffs and pharmaceutical ingredients.

Food additives

■ Sodium Bicarbonate is an essential ingredient in the food and beverage industry.

Sodium Bicarbonate is acted as a chemical leavening agent for baked goods.

Sodium Bicarbonate releases carbon dioxide gas when it reacts with an acid or heated. With this application, Sodium Bicarbonate is an essential ingredient in baking powders.

Sodium Bicarbonate is a valuable buffer and neutralizer in beverages. It is used as a source of carbon dioxide in several soft drinks

■ Feed supplement

Buffer agent, Sodium Bicarbonate is a universally recognized feed ingredient that functions as a unique safe, natural buffering system in the animal. Sodium Bicarbonate acts as a buffer agent and antacid cattle feed ingredient.

Addition of Sodium Bicarbonate to the animal feed tends to enhance the buffer supply of normal salivation, reduce rumen acidity by increasing pH and improve fibre digestion.

■ Pharmaceuticals

Digestive. Sodium Bicarbonate has a long history as an antacid. Sodium

Bicarbonate is used as an antacid for short-term relief of stomach upset. Sodium

Bicarbonate plays a vital role in human health, as a therapeutic agent in itself, as an

agent in the manufacture of other health-aids and as an essential component of the body physiological operation.

Haemodialysis. A highly pure grade of Sodium Bicarbonate is used in haemodialysis. Patients in treatment are less stressed when bicarbonate is present in the dialysis fluid.

#### ■Leather & textile

Sodium Bicarbonate is a valuable agent in treating wool and silk fibres and dyeing and printing fabrics. The complex processes involved in producing natural leather require precise control of tanning solutions. Sodium bicarbonate is therefore used in tanning as a neutralizer, buffer, pretreating agent and cleaner.

#### ■Specialty chemical manufacture

Sodium Bicarbonate is essential to production of many chemicals. Sodium Bicarbonate is used in synthesizing, processing and purifying chemicals and polymers, serving as a catalyst, as a neutralizing and buffering agent and a reactant.

#### ■Rubber & plastics

Sodium Bicarbonate is widely used in the rubber and plastics industry as a blowing agent. It releases carbon dioxide during the process in which the finished item is formed, causing it to expand into the desired foamed state.

#### ■Pollution abatement

Sodium Bicarbonate is a safe, easy-to-use chemical for biological control of wastewater treatment. Sodium Bicarbonate helps maintain proper pH and alkalinity in waste water and it reduces biological oxygen demand and controls sulphide odours. Sodium Bicarbonate is proven to be among the most effective collectors of sulfur dioxide. When used for flue gas desulfurization, Sodium Bicarbonate is injected directly into the flue gas ducts and it reacts with SO<sub>2</sub> to form sodium sulfate. The cleaned flue gas then exits through the stack.

#### ■Deodorizers

Sodium Bicarbonate has odour absorbent properties and the deodorizers are used in carpet and room, refrigerator, also garbage containers. Highly effective and inexpensive, Sodium Bicarbonate absorbs smoke and musty odours.

#### ■Others

Fire extinguishers - Sodium Bicarbonate is also used in several kinds of dry chemical fire extinguishers.

\*Abstergent, lipid stabilizer, water treatment agent, detergent etc.

Dairy Usage: Sodium bicarbonate has been traditionally used as a buffer to maintain rumen pH, alleviate butterfat depression due to low fibre diets and aid fibre digestibility.

Poultry Usage: In broiler and turkey diets sodium bicarbonate is used as a sodium source to maintain electrolyte balance, improve heat stress tolerance and dry litter. In layer diets sodium bicarbonate is used to improve eggshell quality, particularly in older hens and during heat stress. Powder and fine granular grades have a wide range of uses in foods, chemicals and pharmaceuticals. Granular grades are found in foods and doughnuts, cleaning compounds, pharmaceutical and many other products.

### **DIRECTION FOR USE**

Consult your technical representative

## **PACKAGING**

2 and 4 kg bottles, 25 kg bag (Technical Grade)

500 kg bag (food Grade)

## **IMPORTANT NOTICE TO CUSTOMER**

*Since the use of this product is beyond the control of either seller or manufacturer, their only obligation shall be to replace any quantity of product which is proven defective. They cannot assume any risk liability in excess of the purchase price of the product itself, which does not include labour or a consequential damages resulting from the use of this product. Determining the suitability of this product for any intended use shall be solely the responsibility of the user. **ALWAYS TEST FIRST***

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