



# TECHNICAL INFORMATION

## SODIUM BICARBONATE USP #2

Revision Date: 12/10/2015

**CHEMICAL NAME:** Sodium Bicarbonate  
**FORMULA:** NaHCO<sub>3</sub>  
**MOLECULAR WEIGHT:** 84.01  
**CAS NAME:** Carbonic acid monosodium salt  
**CAS NUMBER:** 144-55-8  
**DESCRIPTION:** White, crystalline powder  
**GRADE:** USP Grade # 2 Fine Granular

<u>SCREEN ANALYSIS:</u>		
<u>Cumulative Percent Retained</u>		
<u>U. S. Std. Sieve No.</u>	<u>Minimum</u>	<u>Maximum</u>
+ 80	0	1
+ 100	0	5
+ 200	70	100
+ 325	90	100

**BULK DENSITY: poured**  
 Typical range: 62 to 72 lbs. / ft<sup>3</sup>

### MEETS THE FOLLOWING FOOD GRADE SPECIFICATIONS

	<u>United States Pharmacopoeia</u>	<u>Food Chemical Codex (FCC)</u>	<u>Other</u>
Assay	99.0% - 100.5%	99.0% - 100.5%	---
pH (3% solution)	---	---	7.8-8.5
Insolubles (Clarity)	Clear solution	Clear solution	---
Moisture	0.25% max	0.25% max	---
Ammonia	20 ppm max	Passes smell test	---
Arsenic	2 ppm max	---	---
Heavy Metals	5 ppm max	---	---
Lead	---	2 ppm max	---
Cadmium	---	---	1 ppm max
Calcium	---	---	100 ppm max
Copper	---	---	1 ppm max
Iron	---	---	2 ppm max
Limit of Sulfur	150 ppm max	---	---
Chloride	150 ppm max	---	---
Appearance	---	---	---
Normal Carbonate	Passes USP Test	---	---
Identification	Responds to Test	Responds to Test	---

**THEORETICAL PROPERTIES:** The following properties are provided for convenience and reference only. These properties are not normally tested in the commercial product and no representation is made relative to the commercial product.

**THERMAL DECOMPOSITION:** Decomposes (without melting) into Na<sub>2</sub>CO<sub>3</sub>, H<sub>2</sub>O, and CO<sub>2</sub>  
**ALKALI EQUIVALENT:** 1 lb. NaHCO<sub>3</sub> = 0.369 lb. Na<sub>2</sub>O  
**CARBON DIOXIDE EQUIVALENT:** 1 lb. NaHCO<sub>3</sub> = 0.524 lb. CO<sub>2</sub>  
**SPECIFIC GRAVITY:** 2.16 g / cm<sup>3</sup>  
**SPECIFIC HEAT @ 25 °C:** 20.94 cal / deg mol  
**SOLUBILITY IN WATER @ 60 °C:** 16.4 g / 100 g H<sub>2</sub>O  
**SOLUBILITY IN OTHER SOLVENTS:** Insoluble in alcohol  
**HEAT OF FORMATION:** - 227.25 K cal / mol  
**HEAT OF SOLUTION:** 3.81 K cal / mol  
**TASTE:** Slightly alkaline



**PACKAGING:**  
 Multi-wall Paper Bags: 50 lbs. & 25 kg.  
 Super sacks: 2000 lbs. & 2450 lbs.

**HANDLING:**  
 Information concerning the handling and use of this product is provided in a material data sheet (MSDS). This MSDS must be fully read and understood prior to any exposure, handling, or use of the product.

**SHELF LIFE:** 2 years from manufacturing date

**APPLICATIONS:** Prepared cake mixes, baking powders, pharmaceuticals (excipient use only), and special cleansers

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