

# TECHNICAL INFORMATION

## SODIUM BICARBONATE U.S.P. Grade #1 POWDER

Revised  
December 2013

<b>CHEMICAL NAME:</b>	Sodium Bicarbonate	<b>SCREEN ANALYSIS:</b>		
<b>FORMULA:</b>	NaHCO <sub>3</sub>	<b><u>Cumulative Percent Retained</u></b>		
<b>MOLECULAR WEIGHT:</b>	84.01	<b><u>U. S. Std. Sieve No.</u></b>	<b><u>Minimum</u></b>	<b><u>Maximum</u></b>
<b>CAS NAME:</b>	Carbonic acid monosodium salt	+ 100	0	2
<b>CAS NUMBER:</b>	144-55-8	+ 200	20	50
<b>DESCRIPTION:</b>	White, crystalline powder	+ 325	60	100
<b>GRADE:</b>	USP Grade # 1 Powder	<b><u>BULK DENSITY: poured</u></b>		
		Typical range: 65 to 75 lbs / ft <sup>3</sup>		

### MEETS THE FOLLOWING FOOD GRADE SPECIFICATIONS

#### United States Pharmacopoeia    Food Chemical Codex (FCC)

Assay	99.0% - 100.5%	99.0% - 100.5%
Insolubles (Clarity)	Clear solution	Clear solution
Moisture	0.25% max	0.25% max
Ammonia	Passes USP test	Passes smell test
Arsenic	2 ppm max	---
Heavy Metals	5 ppm max	---
Lead	---	2 ppm max
Limit of Sulfur	150 ppm max	---
Chloride	150 ppm max	---
Appearance	---	---
Sodium Carbonate	---	---
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

*AIB*  
Compliant



Certified to  
ANS/NSF 60

Maximum Use 100 mg/l