FT-70059A

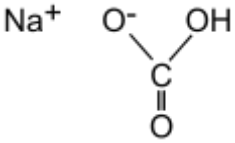
Sodium bicarbonate

Product Information

Chemical name : **Sodium bicarbonate**, ACS grade
Syn.: **sodium hydrogeno carbonate**; Carbonic acid sodium salt; Carbonic acid monosodium salt; Natrium bicarbonicum; Natrium hydrogencarbonicum; Sodium hydrocarbonate

Cat. Number : 70059A, 1Kg 70059B, 2.5Kg

Structure : $NaHCO_3$
Molecular Weight : 84.01
CAS: 144-55-8 **EC numbe**r: 205-633-8



Properties: Form: white solid crystalline powder
Melting point: 50°C (323 K, 122°F) n Density: 2.20 g/cm^3
pKa: 10.329 and 6.351(carbonic acid) Log P: -0.82
Refractive index (nD)1.3355]
Solubility : readily soluble in water >9% w/v, clear, colorless

Storage: Room temperature (Z)

Safety: **Irritant** Causes serious eye irritation. Risk Statements: 36/37/38
LD50: 4.22 g/kg Safety Statements: 36/37/39

Applications: Suitable for many biochemistry and biotechnology applications.
Widely used to make buffers for purification, coating, chemical reactions, assays,…

Specifications

Test	Specification €70059A
Purity	>97.7%
Ammonium (%)	0.02
Chloride (%)	0.003
Heavy Metals (as Pb)	0.0005
Iron (%)	0.002
Dnase (P/F)	0.001
Magnesium (%)	0.005%
Phosphates (%)	0.001%
Potassium (%)	0.005%
Sulfur compounds (%)	0.003%
Insolubles	0.015%

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Technical information

●Chemical reactions

Sodium bicarbonate is an amphoteric compound, giving midly alkaline aqueous solutions due to the formation of carbonic acid and hydroxide ion:

$HCO^{-}3 + H_2O \rightarrow H2CO3 + OH^{-}$

Reaction with an acid produce a salt and carbonic acid:

$NaHCO_3 + HCl \rightarrow NaCl + H_2CO_3$, which readily decomposes to carbon dioxide and water: $H_2CO_3 \rightarrow H_2O + CO_2$
$NaHCO_3 + CH_3COOH \rightarrow CH_3COONa + H_2O + CO_2(g)$

Reaction with bases such as sodium hydroxide form carbonates:

$NaHCO_3 + NaOH \rightarrow Na_2CO_3 + H_2O \ <\!\!\rightarrow CO_2 + 2\ NaOH$

Sodium bicarbonate participates to equilibrium reactions in aqueous solution:
$2\ NaHCO_3 \ <\!\!\rightarrow \ Na_2CO_3 + CO_2 + H_2O$(will at sufficiently high concentration will precipitate out of solution)
As a result, Sodium bicarbonate has a strong buffering effect. Its pKa is pKa: 10.329 and 6.351(carbonic acid)[r]

● Solubility in water is high: 9 g/100 mL (increase with temperature from 69 g/L (0 °C) eot 96 g/L (20 °C),165 g/L (60 °C) and 236 g/L (100 °C)[r]. It is soluble in acetone, but insoluble in ethanol

Ordering information

Catalog size quantities and prices may be found at http://www.interchim.com.

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06

Rev.N07E