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Technical Datasheet

Sodium bicarbonate

Meets USP-NF, EP, BP, JP and IP testing specifications

Product Code: TC230M

Product Description :

Molecular weight: 84.01
Molecular formula: $NaHCO_3$
CAS No.: 144-55-8

Quality Control:

Appearance (USP)
White crystalline powder

Appearance (BP, EP)
White or almost white crystalline powder

Appearance (JP)
White crystals or crystalline powder

Appearance (IP)
A white crystalline powder or small, opaque, monoclinic crystals

Solubility (USP)
Soluble in water, insoluble in alcohol

Solubility (BP, EP)
Soluble in water, Practically insoluble in ethanol (96%)

Solubility (IP)
Freely soluble in water, practically insoluble in ethanol (95%)

Solubility (JP)
It is soluble in water, and practically insoluble in ethanol (95%) and in diethyl ether.

pH (5% in water at 25°C) (JP)
7.90 - 8.40

Identification (JP)
Reactions for sodium salt and for bicarbonate

Identification A (USP)
Reactions for sodium

Identification A (BP, EP, IP)
A gas is evolved and solution becomes red

Identification B (USP, IP)
Reactions for bicarbonate

Identification B (BP, EP)
Reactions for carbonate and bicarbonate

Identification C (BP, EP, IP)
Reactions for sodium salts

Appearance of solution (BP, EP, IP)
5% solution in water is clear and colourless.

Clarity and colour of solution (JP)
5% solution in water is clear and colourless.

Insoluble substances (USP)
The resulting solution is complete and clear

Limit of organics (USP)
<= 0.01%

Arsenic (USP, EP, BP, JP, IP)
<= 0.0002%

Carbonate (USP)
<= 0.23%

Carbonate (EP, BP, IP)
The pH of freshly prepared 5% solution in water is not greater than 8.6

Carbonate (JP)
No red colour develops immediately

Normal carbonate (USP)
The solution does not assume more than a faint pink colour immediately

Chloride (USP)
<= 0.015%

Chloride (EP, BP)
<= 0.015%

Chloride (JP)
<= 0.040%

Chloride (IP)
<= 0.02%

Heavy metals (JP, IP)
<= 0.0005%

Aluminum (USP)
<= 0.0002%

Iron (USP)
<= 0.0005%

Iron (EP, BP, IP)
<= 0.002%
Sulphate (EP, BP)
<= 0.015%
Sulphate (IP)
<= 0.015%
Sulphur compounds (USP)
<= 0.015%
Ammonia (USP)
<= 0.002%
Ammonium (EP, BP)
<= 0.002%
Ammonium (JP)
The gas evolved does not change moistened red litmus paper to blue
Calcium (IP)
2% W/V solution, when boiled for 5 min. is clear
Calcium (USP, EP, BP)
<= 0.01%
Copper (USP)
<= 0.0001%
Magnesium (USP)
<= 0.004%
Loss on drying (USP)
<= 0.25% (Over silica gel for 4 hr.)
Assay (HCl T, dried basis) (USP)
99.00 - 100.50%
Assay (HCl titration) (IP, EP, BP)
99.00 - 101.00%
Assay (H_2SO_4 Titration) (JP)
min. 99.00%

Storage and Shelf Life:

Store below 30°C away from bright light.
Shelf life is 48 months.
Use before expiry date given on the product label.

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