

L-methionine

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

Product Code: TC080M

Product Description :

Molecular weight: 149.21

Molecular formula: $C_5H_{11}NO_2S$

CAS No.: 63-68-3

Quality Control:

Appearance : (USP)

White crystals

Appearance : (EP, BP)

White or almost white crystalline powder or colourless crystals

Appearance : (JP)

White crystals or crystalline powder

Solubility : (USP)

Soluble in water, in warm dilute alcohol and in dilute mineral acids. Insoluble in ether, in absolute alcohol, in benzene and in acetone

Solubility : (EP, BP)

Soluble in water, very slightly soluble in ethanol (96%)

Solubility : (JP)

It is freely soluble in formic acid and soluble in water and very slightly soluble in ethanol (95%). It dissolves in dilute hydrochloric acid.

pH : (USP)

5.60 - 6.10 (1% in water)

pH : (EP, BP)

5.50 - 6.50 (2.5% in water)

pH (JP)

5.2 - 6.2 (2.5% in water)

Identification : FTIR (JP)

Matches with the standard pattern

Identification A : FTIR (USP)

Matches with the standard pattern

Identification A : Specific rotation (EP, BP)

+22.5 to +24.0 ($c = 2\%$ in HCl R1 at $20 \pm 0.5^\circ\text{C}$, dried substance)

Identification B : FTIR (EP, BP)

Matches with the standard pattern

Identification C : TLC (EP, BP)

The principal spot in the chromatogram obtained with the test solution is similar in position, colour and size to the principal spot in the chromatogram obtained with the reference solution

Identification D (EP, BP)

A dark red colour develops

Appearance of solution (EP, BP)

2.5% solution in water is clear and colourless

Clarity & colour of solution (JP)

Solution of 0.5 gm in 20 mL of 2 mol/L HCl is clear and colourless

Chloride (USP)

$\leq 0.05\%$

Chloride (EP, BP)

$\leq 0.02\%$

Chloride (JP)

$\leq 0.021\%$

Ammonium (EP, BP, JP)

$\leq 0.02\%$

Sulfate (USP)

$\leq 0.03\%$

Sulfate (EP, BP)

$\leq 0.03\%$

Sulfate (JP)

$\leq 0.028\%$

Iron (USP)

<= 0.003%

Iron (EP, BP)

<= 0.001%

Sulfated ash (EP, BP)

<= 0.10%

Arsenic (JP)

<= 0.0002%

Related substances : TLC (JP)

The spots other than the principal spot from the sample solution are not more intense than the spot from the standard solution

Related compounds, system suitability : HPLC : resolution (USP, EP, BP)

>= 5.0, the resolution between the methionine and L-methionine sulfoxide peaks

Related compounds : Methionine sulfoxide : HPLC (USP)

<= 0.1%

Related compounds : N-Acetyl-D,L-Methionine : HPLC (USP)

<= 0.20%

Related compounds : Any unspecified impurity : HPLC (USP, EP, BP)

<= 0.10%

Related compounds : Total unspecified impurities : HPLC (USP, EP, BP)

<= 0.3%

Specific rotation (USP)

+22.4° to +24.7° (c = 2% in 6N HCl, at 25°C)

Specific rotation (EP, BP)

+22.5° to +24.0° (c = 2% in HCl R1 at 20 ± 0.5°C, dried substance)

Specific rotation (JP)

+21.0° to +25.0° (c = 2% in 6M HCl at 20°C, dried substance)

Loss on drying (at 105°C, 3 hr) (USP)

<= 0.3%

Loss on drying (at 105°C, 2 hr) (EP, BP)

<= 0.5%

Loss on drying (at 105°C, 3 hr) (JP)

<= 0.3%

Residue on ignition (USP)

<= 0.40%

Residue on ignition (JP)

<= 0.10%

Heavy metals (JP)

<= 0.002%

Assay (NT, on dried basis) (USP)

98.50 - 101.50%

Assay (NT, on dried basis) (EP, BP)

99.00 - 101.00%

Assay (NT, on dried basis) (JP) min.

98.50%

Bacterial endotoxin

<= 1 EU/mg

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.

Revision : 05/2024

Disclaimer :

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