



PRODUCT SPECIFICATION

Product : **Piperazine Citrate**

Characters : a white or almost white crystalline or granular powder. It melts at about 190°C.

Solubility : freely soluble in water

Identification (A) Infrared absorption (IR) : IR spectrum of sample is concordant with that of the reference standard

Appearance of solution : 5 % w/v solution "S" is clear and not more intensely coloured than reference solution B8

Related substances : Ethylene diamine – NMT 0.25 %
Triethylene diamine – NMT 0.25 %

Heavy metals : NMT 20 ppm

Water : between 10.0 % and 14.0 %

Sulfated ash : NMT 0.1 %

Assay (anhydrous basis) : between 98.0 % to 101.0 % of C₂₄H₄₆N₆O₁₄

MSDS : available upon request