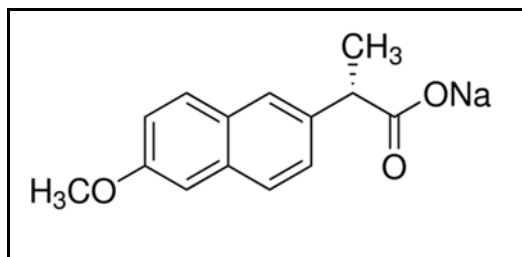


Naproxen Sodium
220 mg tablet

Structure:



Molecular Formula and Mass: C₁₄H₁₃NaO₃ - 252.24

Category: Anti-inflammatory

Sample:

Grind 1 tablet and dissolve in 100.00 mL methanol. The concentration of the solution = (220 mg/100.00 mL) = 2.20 mg/mL. Solution is then filtered and 2.00 mL is further diluted with an additional 9.00 mL of methanol creating a final concentration of 0.400 mg/mL. The required concentration of the sample solution representing 100% is 0.400 mg/mL.

Standards:

High standard:

The high limit is 115%; therefore the concentration of high standard = (0.400 mg/mL) X 1.15 = 0.460 mg/mL. Weigh approximately 11.5 mg of standard. If you weighed 11.3 mg of standard, dissolve it in: (11.3 mg)/(0.460 mg/mL) = 24.6 mL of methanol.

Low standard:

The low limit is 85%; therefore the concentration of low standard = (0.400 mg/mL) X 0.85 = 0.340 mg/mL. Dilute 1.00 mL of high standard to 1.35 mL by adding 0.35 mL of methanol (1.15/0.85 = 1.35).

Spotting:

Spot on the 5 X 10 cm silica gel TLC aluminium plate with 3 µL aliquots as follows:

Left spot	low standard (85%) = 1.02 µg
Center Spot	100% sample = 1.20 µg
Right Spot	high standard (115%) = 1.38 µg

Development:

Mix 47.50 mL of ethyl acetate with 2.50 mL of glacial acetic acid. Develop the plate in a small glass chamber with approximately 20.00 mL of this solution until the solvent front reaches to within 1 cm of the top of the TLC plate (R_f = 0.68).

Detection:

UV:

Dry the plate and observe under UV light (254 nm). Observe the intensity and the size of the spots.

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