
OPIUM



Drog Name : Opium

Plant Name : *Papaver somniferum*

Family : Papaveraceae



DEFINITION REACTION-I

Opium + 5 ml distilled water

Filter the extracted from cotton

The filtrate + FeCl₃ TS

DARK RED COLOUR

Meconic acid

+ diluted HCl or mercury chloride

COLOR IS NOT LOST

difference from acetate and formate

The difference from thiocyanates

DEFINITION REACTION-II

Opium+
CHCl₃ R (5 ml)+
dilute NH₃ (2 ml)

Shake for 10
minutes

Filtered into capsule from cotton

Evaporated to dryness in a
water bath

Residual+
1 drop formaldehit TS +
5 drop H₂SO₄ R

**STRONG RED
COLOR**

The
presence of
MORFIN

The outer
ring is a
gray-white
colored
crystal

QUANTITY DETERMINATION

Opium (1 g)

+ 10 ml distilled water
(crushed in mortar)

Homogeneous mixture
+ 1 g $\text{Ca}(\text{OH})_2$ + 10 ml water

Mixed 10 min.

To precipitate
meconic acid as
Ca-meconate

Ca-meconate is precipitate

Water is added until the extract is 54 grams

The filtrate :
Ca-morfinat

Residual:
Ca-
meconate

Filter through pleated filter paper

To make
morphine
alkaline

Ca-morfinat (filtrate)
+ 1 g NH₄Cl
+ 1 ml methanol

Facilitates
crystallization

1 hour

MORPHINE BASE ↓

Filter through plain filter paper

Filtrate:
CaCl₂

Residual:
Morphine
base

The morphine base is washed with distilled water



Dissolve in boiling methanol
+ 10 ml 0,1 N H_2SO_4

Heated in water bath for 5 min, cooled



+ Methyl red (Indicator)

pH 4,4-6,2
Acid: red
Alkaline: yellow



Back titration with 0,1 N NaOH



Calculation

1L 1N H₂SO₄



285,3 g anhydrous morphine equivalent

1ml 0,1N H₂SO₄



0,02853 g anhydrous morphine equivalent

1ml 0,1N NaOH



0,02853 g anhydrous morphine equivalent

meq H₂SO₄ = meq NaOH

Accurately sample = A gram
Amount of NaOH spent in titration = m ml;

1 ml 0,1 N NaOH



0,02853 g anhydrous
morphine equivalent

(10-m) ml NaOH



X g anhydrous
morphine equivalent

A g drog



X g morphine

100



???

% Amount
of
morphine