

### D.III. i. 1.1

#### Analysis of liquid absorption of medicinal powders (Enslin-apparatus)

**Introduction/Objectives** : wettability of the solid medicine-systems plays an important role of the dissolution and absorption of the active ingredient, and the stability of the suspensions which were prepared from them, or rather dusting powder's effect. Analysis of liquid absorption is simulated the dermal process, which can define with Enslin–apparatus.

The angle of inclination of line, which can be drawn to the initial phase of saturation curve, is the rate of this analysis, and characteristics of the powder.  $\text{tg}\alpha = \text{liquid volume} / \text{time} \text{ [ml/s]}$ .

A liquid absorption capacity is the inverse of liquid absorption's rate. [s/ml].

The **Enslin-number** [ml/g].: is the ratio of equilibrated liquid volume (equilibrium phase of saturation curve) and the quantity of powder.

#### Performing the practice :

- 1: Fill the system with water, without bubble, end of the pipette.
- 2: Measure the powders.
- 3: Put the powder (0,50 g) on the filter, start the stopwatch.
- 4: Read off the absorbed fluid water by powder.

**Attention!** Practice supervisor gives the usable substances one of the following at the beginning of practice:

1. Talcum
2. Silica colloidalis anhydrica

#### Assessment:

Represent the saturation curve of measured substance on a diagram (as a function of time the absorbed fluid volumes). Give the liquid absorption rate, the ability and the Enslin-number!

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<b>Task: Analysis of liquid absorption of medicinal powders</b>	
Group:	Responsible for worksheet
Name of practice supervisor	Date:

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**Purity and quality of tools**

Tools	Qualification		Controller's signature
	Appropriate	Inappropriate	
G3-filter funnel			
Pipette 2 ml			
Pipette 5 ml			

**Measurement:**

Powder:	
Liquid volume (ml)	Time(s)
	0
	30
	60
	90
	120
	150
	180
	210
	240
	270
	300
	330
	360

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Liquid volume (ml)	Time (s)
	0
	30
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	30
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Powder volume : 0.50 g

Liquid absorption rate:

Liquid absorption ability:

Enslin number:

Powder volume : 0.50 g

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Powder volume : 0.50 g

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**Assessment:**

