



MICROMETRIC PROPERTIES OF SAFOOF MOHAZZIL: AN ALTERNATE APPROACH

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ABSTRACT

Safoof Mohazzil is an important Unani formulation which is therapeutically used to treat Obesity. Pharmacologically it has been proved a drug of choice for weight loss. Obesity is a major challenge in today's world but *Safoof Mohazzil* is an alternative approach to it. Particle size is a basic physical characteristic for finished product. Particle size and shape plays a vast role in particle size distribution. Reduction in particle size impacts directly on the bioavailability of drug. **Methods:** Micrometric properties of *Safoof Mohazzil* have been evaluated by the standard methods. **Results:** Results showed the different values of Tapped density, Bulk density, Hauser's ratio, Compressibility index, Bulkiness and Angle of Repose. **Conclusion:** Micrometric properties of *Safoof Mohazzil* powder show good flowability. The Bulkiness value indicates that the powder is light in nature. The Micrometric properties will serve as a reference standard in future for quality control of *Safoof Mohazzil* and intern will prevent from adulteration. The current work may be used as standard monograph for identification and evaluation of the other such formulations.

KEYWORDS: *Safoof Mohazzil*; *Micrometric properties*; *Standardization*; *Unani Medicine*.

INTRODUCTION

Safoof Mohazzil is an important Unani Poly herbal preparation used to treat Obesity since ancient times. Scientific study proves that Fourteen week treatment with *Safoof Mohazzil* significantly prevents the increase in body weight.^[1] *Safoof Mohazzil* is a traditional formulation commonly prescribed by Unani physicians for weight loss. The antioxidant and anti-inflammatory activity of *Safoof Mohazzil* support the traditional use of this formulation for treatment of obesity.^[2]

MATERIAL AND METHODS

Procurement of drug: *Safoof Mohazzil* was procured from registered Unani shop and was later identified by experts. it contains powder of various drugs like *Tukhme badiyan* (*Foeniculum vulgare* Mill.), *Nankhawah* (*Trachyspermum ammi* syn *Ptychotis ajowan*), *Zeera Siyah* (*Carum carvi* L.), *Berg sudab* (*Ruta graveolens* L.), *Lakh maghsool* (*Kerria lacca* syn *Coccus lacca*), *Marzan josh* (*Oligonum vulgare*) and *Bura armani* (*Armenian bole*).

Micrometric properties^[3,4]

Safoof Mohazzil was evaluated for various Micrometric properties like Bulk density, Tapped density, Hauser's ratio, Compressibility index, Bulkiness and Angle of

Repose. All the micrometric properties were determined by standard methods by following formula:

Bulk Density = wt. of powder blend/wt. of apparent volume

Tapped density = wt. of powder blend/ tapped volume

Bulkiness = 1/bulk density

Carr's index = Tapped density – Bulk density/Tapped density×100

Hauser's ratio= Tapped density/ Bulk density

Angle of repose is determined by the formula $\tan\theta = h/r$

Where, h = Height of pile of powder from the peak to the ground and r = Horizontal

Distance from the middle of the pile to the edge

Procedure: 5g of powder of *Safoof Mohazzil* was placed in 100mL measuring cylinder separately. The cylinder was fixed on the tap density apparatus, model LABINDIA, and the volume V₀, occupied by each of the sample without tapping was noted. After 500 taps the occupied volume V₅₀₀ was recorded, subsequently after 750 and 1250 Taps, V₇₅₀ and V₁₂₅₀ were noted.

RESULTS

The results of Micrometric properties of *Safoof Mohazzil* is depicted in **Table no. 1**

S. NO	Parameters	Results (n=3) ±SD
1.	Bulk Density (gm/ml)	0.7692 ±0.0001
2.	Tapped Density (gm/ml)	0.4091 ±0.0001
3.	Bulkiness (ml/gm)	1.3000 ±0.0001
4.	Compress. Index %	15.3846 ±0.0004
5.	Hauser's ratio %	1.1818 ±0.0001
6.	Angle of Repose (°)	32.26% ±0.11

DISCUSSION

Bulk Density of a granulation is primarily dependant on particle size, particle size distribution and particle shape. It is an indirect measure of granule flow. Hauser's ratio was observed to be 1.1818 %, which confirms the granules have good flow property as Hausener's ratio less than 1.25 indicates good flow and the values greater than 1.25 indicate poor flow.^[5,6,7] The simplest way for measurement of free flow of powder is compressibility index. The value below 15% indicates a powder has good flowability whereas value above 25% indicates low flowability. So the powder of *Safoof Mohazzil* has good flowability because the compressibility index value is 15.3846.^[8] The Bulkiness value of *Safoof Mohazzil* indicates that the powder is light in nature. The Angle of repose is used to characterize a flow property of the powder material. It was determined by conventional fixed height funnel method. Repose angle increases with the increase in percentage of fines. The Micrometric properties will serve as a reference standard in future for quality control of *Safoof Mohazzil* and inturn will prevent from adulteration.

CONFLICT OF INTEREST: Nil.

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