KERONE

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ELECTRO MAGNETIC innovative technologies

Kerone Research & Development Centre (KRDC),
B/47, Addl. MIDC. Anand Nagar, Ambernath (East), Thane- 421 506, India
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Batch Convection Heat Treatment for Moisture Analysis of Capsules

ISO 9001-2008 | ISO 9001-2015 | EMS 14001 | OHSAS 18001
In Association with SVCH-Technologii, Moscow (Russia)

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Customer :	**SciTech Centre**
Process :	**Batch Convection Heat Treatment for Moisture Analysis of Capsules**

TEST REPORT No: 47/KRDC/LAB/17 Mum 04/12/2020

Date Sample reception : 26/10/2020
ID : 47/LAB/180

SAMPLE DESCRIPTION:

Sampling : As Requested
Sample Condition : Acceptable
Quantity : 2 nos. of bags
Samples opening date : 26/11/2020
Product : Green & Blue Capsules
Start Date test : 04/12/2020
End Date test : 04/12/2020

LABORATORY EXPERIMENTAL SET UP:

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LAB BATCH CONVECTION HEATING SYSTEM SPECIFICATIONS:

Heating Zone (width*height*depth)	510*480*410 mm
No. of Heaters	6
Total Heater Power	6 kW
Motor	0.5 HP
No. of trays	6
Tray size (width*height*depth)	560 x 435 x 25
Centrifugal Exhaust Blower	1440 rpm

ENVIRONMENT-LABORATORY AMBIENT CONDITIONS:

Temperature (^oC)	28^oC (±5^oC)
Humidity (%)	≤65% RH
Pressure (kN/m2 or kPa)	Not recorded

Note for recommendation: Environmental conditions have a direct impact on test results. Accuracy and consistency of test data are affected by the laboratory conditions

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EQUIPMENTS USED:

Name of Equipment	Picture of Equipment	Specifications
Compact Thermal Imaging Camera		Model: FLIR E-30 Resolution: 160x 120 IR Thermal sensitivity of 0.10°C
Moisture Analyzer		Make: Axis Balance Description: Moisture range: 1%(sample 0.02/0.05g), 0.1% (Sample 0.5/5g), 0.01%(Sample>5g)
Thermo Hygrometer		Model No: HTC-2 Temperature accuracy: ±°C (1.8°F) Temperature resolution: 0.1°C (0.2°F) Humidity range: 10%~99% RH Humidity accuracy: ±5% RH Humidity resolution: 1% RH

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SAMPLE PREPARATION AND METHOD/PROCEDURE:

The experiment has been performed on Blue Capsules to analyze the moisture content of the product. For this experimental run, given 1gm of capsule sample has been placed in small dish inside oven for 4hrs at 105°C.

ANALYTICAL RESULTS:

Setting Temperature: 105°C
Time Cycle: 4 Hrs.

Sr. No.	Sample	Initial Weight noted (grams)	Final Weight noted (grams)	Moisture Calculation ([initial wt-final wt]/initial wt)*100) (%)
1.	A	1.009	0.880	12.78
2.	B	1.028	0.906	11.86

BEFORE AND AFTER PICTURES OF TREATED SPCIMEN SAMPLE:

1) Sample A:

BEFORE

AFTER

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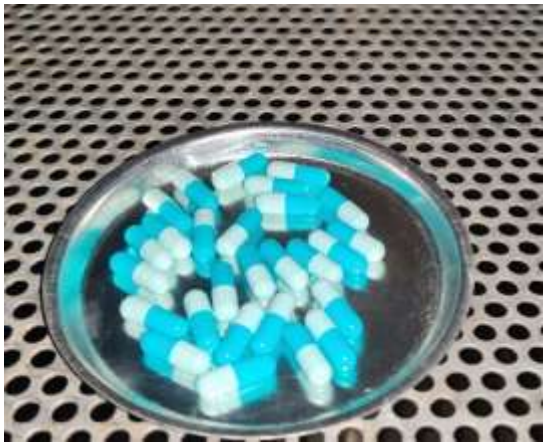
2) Sample B:



BEFORE

AFTER

OBSERVATIONS:

The drying behavior of blue capsules has been investigated under the convection heating system. The drying rate is found to be increasing with respect to increase in time. It has been found that the moisture content on the dry basis (%) decreases with respect to increase in drying time. As per physical investigation, it has been observed that required moisture analyzation results has been achieved.

Miss Komal Bhoite
Tested By