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## Benedict test lab report



# RAHUL ENGINEERS LABORATORY

(A Govt. of Rajasthan Regd. MSME Unit)

ISO/IEC 17025:2005 Accredited Laboratory by NABL  
ISO 9001:2005 Certified Laboratory

MSME REGD. NO. 06/020/2008/MSME  
S.D.P. No. 17/02/4801/48 & 21/03/09  
GSTR-1 RAJ/APP/2004/25  
PIN - ALPVP 3102 X  
ISO 9001:2008  
NABL Lab No. 1701 1701

FACILITIES: Testing of Cement, Aggregate, Blocks, Concrete Cubes, Paver Blocks, Chim. Spill, Water, Oil, Mineral, Quartz, Fibre, Soapstone, Dolomite/surf or / Silite/surf, Enam. Lime Stone, Blum, Clay On Ore & Baunite

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Report No: REL-MECH/180018-1/PR

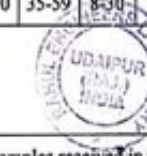
**TEST REPORT**

Date :- 07-04-18

|    |                                  |                                                                                      |  |  |
|----|----------------------------------|--------------------------------------------------------------------------------------|--|--|
| 1  | Name of Customer                 | Raj Minerals Crushing Plant, Village-Bastilya, near Iwal, Distt-Udaipur (Raj)-310418 |  |  |
| 2  | Customer Reference No.           | Order Slip, Dated:- 03.04.18                                                         |  |  |
| 3  | Types of Sample                  | Stone Sand                                                                           |  |  |
| 4  | Sample Identification            |                                                                                      |  |  |
| 5  | Date & Mode of Receipt of Sample | 03.04.18, Sample submitted by customer.                                              |  |  |
| 6  | REL Job No                       | REL-180018-1                                                                         |  |  |
| 7  | Name of Work                     | Testing of Stone Sand                                                                |  |  |
| 8  | Location                         | Bastilya, Iwal, Teh. Badgaon                                                         |  |  |
| 9  | Date of Sampling                 | .....                                                                                |  |  |
| 10 | Date of Testing                  | 04.04.18 to 06.04.18                                                                 |  |  |

**Test Results:-**

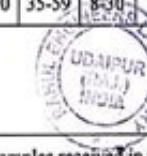
| S. No. | Particulars                               | Test Method Reference        | Test Results | Specification As per IS:383-2016 |
|--------|-------------------------------------------|------------------------------|--------------|----------------------------------|
|        | <b>Deleterious Material</b>               |                              |              |                                  |
|        | (a) Material finer than 75 mic. Sieve (%) | IS:2186 (P-1)/1963 (R.A-10)  | 4.17         | 15 max.                          |
| 1.     | (b) Coal & Lignite (%)                    |                              | <0.01        | 1 max.                           |
|        | (c) Shale (%)                             | IS:2186 (P-2)/1963 (R.A-16)  | Nil          | 1 max.                           |
|        | (d) Clay Lumps (%)                        |                              | <0.01        | 1 max.                           |
|        | (e) Soft Fragments (%)                    |                              | <0.01        | 1 max.                           |
|        | (f) Water Absorption (%)                  | IS:2186 (P-3)/1963 (R.A-216) | 0.58         | .....                            |
|        | (g) Specific Gravity                      | IS:2186 (P-3)/1963 (R.A-216) | 2.76         | .....                            |



Issued By:   
(M.P. Jain)  
Manager (Tech.)

| S. No.                       | Gradation Test IS: 2386 Part I                     | Silt and Clay Content IS: 2386 Part I-1963 (P-1) | Fineness Modulus IS: 2386 P-1 | Remarks                                  |
|------------------------------|----------------------------------------------------|--------------------------------------------------|-------------------------------|------------------------------------------|
| Size Sieve (mm)              | 10    4.75    2.36    1.18    600    300    150    | 0.00    0.50    0.10                             | 2.87                          |                                          |
| % Passing                    | 100    100    99    95    85    63    35           | 0    0    0                                      |                               | Conforming to Grading Zone II of IS: 383 |
| Specification as per IS: 383 | 90-100    75-100    55-90    35-59    8-35    0-10 | 15 max.                                          | .....                         |                                          |

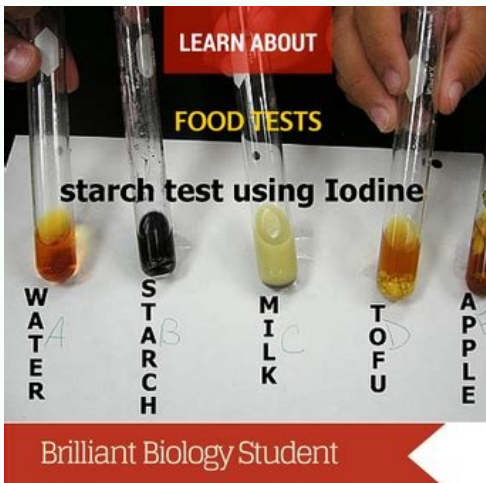
Tested By:  
(Machhindra Narayan)  
Scientist



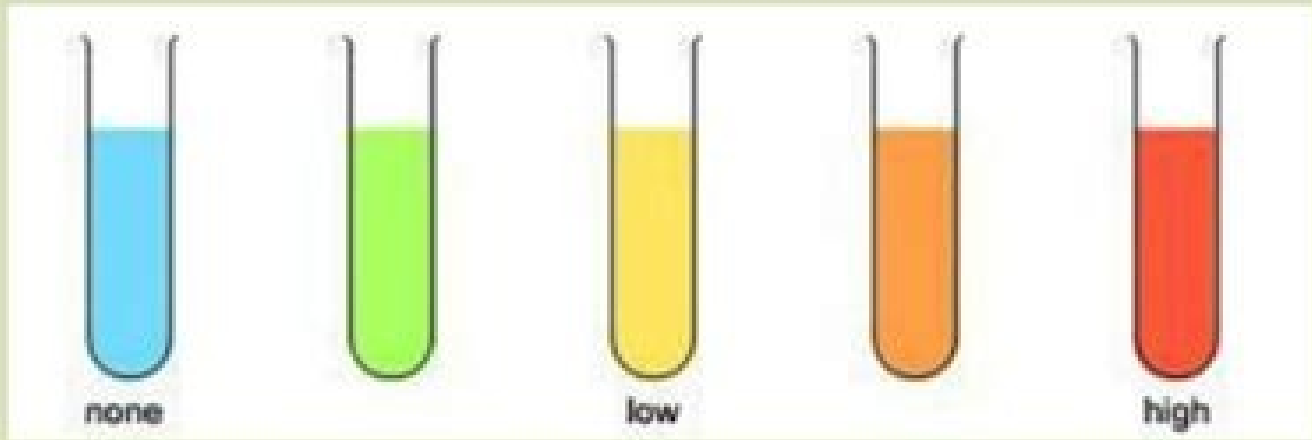
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Manager (Tech.)

**Note:- 1. The test results refer only to the samples received in the Laboratory.**  
**2. This report shall not be reproduced in full without written approval from Rahul Engineers Laboratory.**  
**3. Rahul Engineers' Laboratory shall not be responsible in any action following the interpretation of test results.**  
**4. Any discrepancy in test results should be reported within 15 days.**  
**5. Subject to Udaipur Jurisdiction only.**

**End of Report**  
Page 1 of 1



Testing carbohydrates.  
Quantitative Benedict's Results  
and Acid Hydrolysis of Sucrose.



Compare the results of the Benedict's test with starch before and after hydrolysis. Why are they different?

Before hydrolysis, starch formed a blue precipitate, whereas after hydrolysis it had a different color. Benedict's reagent reacts with reducing sugars in order to produce a precipitate. Since starch is not a reducing sugar, Benedict's test had a negative result. However, the hydrolysis of starch produces glucose which will react to Benedict's reagent. As a result, Benedict's test after hydrolysis had a positive result.

Compare the results of the Iodine test with starch before and after hydrolysis. Why is there a difference?

Before and after hydrolysis on iodine's test, both starch turned into a black precipitate which indicates a positive result because of the presence of amylose.

Table 2.7 Fermentation test

| Carbohydrates | Height of the bubbles | Fermented (yes/no) |
|---------------|-----------------------|--------------------|
| Glucose       | 3.3 cm                | Yes                |
| Fructose      | 2.1 cm                | Yes                |
| Sucrose       | 2.0 cm                | Yes                |
| Lactose       | 1.8 cm                | Yes                |
| Maltose       | 1.4 cm                | Yes                |
| Starch        | 6.5 cm                | Yes                |

Fermentation test using yeast is used to determine which carbohydrates substrates positively influence yeast fermentation since yeast seems to have greater ability to utilize certain carbohydrates.

Fermentation is a process that is important in anaerobic conditions when there is no oxidative phosphorylation to maintain the production of ATP (Adenosine triphosphate) by

