

## LIST OF SYMBOLS

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|               |   |
|---------------|---|
| %             | Percentage                                  |
| °C            | Degree Celsius                              |
| $\mu\text{L}$ | Micro liter                                 |
| $\mu$         | Specific growth rate                        |
| $\mu_{\max}$  | Maximum specific growth rate                |
| $\varepsilon$ | Gas holdup                                  |
| $\tau$        | shear stress                                |
| $\gamma$      | shear rate                                  |
| $\tau_y, B$   | Bingham yield stress                        |
| $\mu_p$       | plastic viscosity                           |
| $\tau_y, C$   | Casson yield stress                         |
| $\mu_{p,C}$   | Casson viscosity                            |
| K             | consistency index                           |
| $n$           | flow behavior (power-law) index             |
| ALR           | Airlift Bioreactor                          |
| ATP           | Adenosine triphosphate                      |
| cm            | Centimeter                                  |
| D             | Dilution rate                               |
| g             | grams                                       |
| h             | hours                                       |
| $K_{La}$      | Volumetric oxygen mass transfer coefficient |
| L             | Litres                                      |
| M             | Molar                                       |

|      |  |
|------|--|
| mg   | milligram                                  |
| min  | Minutes                                    |
| mL   | Milliliter                                 |
| mm   | Millimeter                                 |
| m    | miter                                      |
| MTCC | Microbial Type Culture Collection and Gene |
| Bank |  |
| nm   | nanometer                                  |
| NCIM | National Collection of Industrial          |
|      | Microorganisms                             |
| NBRC | National Biological resource Centre        |
| Pa   | Pascal                                     |
| R    | Correlation Coefficient                    |
| rpm  | Revolutions per minute                     |
| S/N  | Signal to noise ratio                      |
| sp.  | Species                                    |
| UV   | Ultra-Violet                               |
| Usg  | Superficial gas velocity                   |
| v/v  | volume/volume                              |
| vvm  | Volume of air flow per unit volume of      |
|      | media per minute                           |
| w/v  | Weight/volume                              |