

Diffusion rate of
methylene blue on
agar plates at
different
temperatures essay
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Diffusion is the movement of particles from an area of high concentration to an area of low concentration wherein substances are independent, rapid and in random motion which frequently collide with each other in the sides of the container. This study aimed to assess the influence of temperature on the diffusion rate of methylene blue on agar plates. To determine the relationship between the two variables, five set-ups of agar plates were prepared and placed in storage incubators at different temperatures- 0C, 15C, 25C, 40C, 60C. A drop of methylene blue was placed in each set-up with an initial diameter of 10mm.

Then, changes in the diameter of each dye was recorded at a regular five minute interval for fifty minutes and the diffusion rate was calculated by substituting the final diameter to the initial diameter over the time lapse. The diffusion rates of the methylene on the agar plate at a temperature of 0C is 0. 066, at 15C is 0. 126, at 25C is 0. 32, at 40C is 0. 554, at 60C is 1. 66. The results showed that the diffusion rate of methylene blue on agar plate occurs faster at a higher temperature but slower at a lower temperature. An increase in temperature would increase the kinetic energy of the solution; therefore, molecules would spread from high to low concentration more rapidly. It is recommended that the same test should be performed in a well isolated place and executes a proper handling procedure to have an accurate and precise data.