

Physical requirement 1. Ex. *Arthrobacter* sp., *Psychrobacter* sp. B. Mesophiles: – are microorganisms such as some species of bacteria, fungi, and even some archaea that are best active at median temperatures. Psychrophiles are characterized by lipid cell membranes chemically resistant to the softening caused by extreme cold and often create protein antifreeze to keep their internal space liquid and protect their DNA even in temperatures below water's freezing point. Temperature: – bacteria have a minimum optimum and maximum temperature for growth and can be divided into 4 groups based on their optimum growth temperature A. Psychrophiles: – are cold-loving bacteria. They are usually found in Arctic and Antarctic regions and in streams fed by glaciers. Their importance lies in their ability to produce spores and cause spoilage of canned foods.