

# CHEMISTRY

WHAT IS FERMENTATION?

**Fermentation** is a process that allows respiration to occur in the absence of oxygen.

Biologically, it allows cells to obtain energy from molecules (glucose) anaerobically.

**Fermentation** reactions are common in muscle cells, yeasts, some bacteria, and plants.

- **Fermentation** in food processing is typically the conversion of carbohydrates to alcohols and carbon dioxide or organic acids using yeasts, bacteria, or a combination of those, under anaerobic conditions.
- **Fermentation** in simple terms is the chemical conversion of sugars into ethanol. The science of fermentation is also known as zymology, or zymurgy.

- **Fermentation** usually implies that the action of microorganisms is desirable, and the process is used to produce alcoholic beverages such as wine, beer, and cider.
- **Fermentation** is also employed in the leavening of bread (CO<sub>2</sub> produced by yeast activity), and for preservation techniques to produce lactic acid in sour foods such as sauerkraut, dry sausages and yoghurt, or vinegar (acetic acid) for use in pickled foods.