



# Distillation Principals

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## Course Objectives

1. Define distillation and how it's used in a chemical process.
2. Describe sources of heat input for a distillation column.
3. Define the following distillation related terms: sensible heat, initial boiling point, boiling range, final boiling point, latent heat, vapor pressure, total pressure, partial pressure, differential pressure, under pressure, under vacuum, and relative volatility.
4. Describe the relationship between vapor pressure and the following: boiling point, temperature, and total pressure.
5. Describe the operating principles of how changes in temperature and pressure affect the boiling point of a substance.
6. Describe how the distillation process affects changes in states of matter.
7. Explain the theory of separating mixture into lighter and heavier components by distillation.
8. Describe the operating principles of: single-batch, successive-batch, and continuous distillation system.



## Key Terms (Define the following)

covalent compounds - \_\_\_\_\_  
\_\_\_\_\_

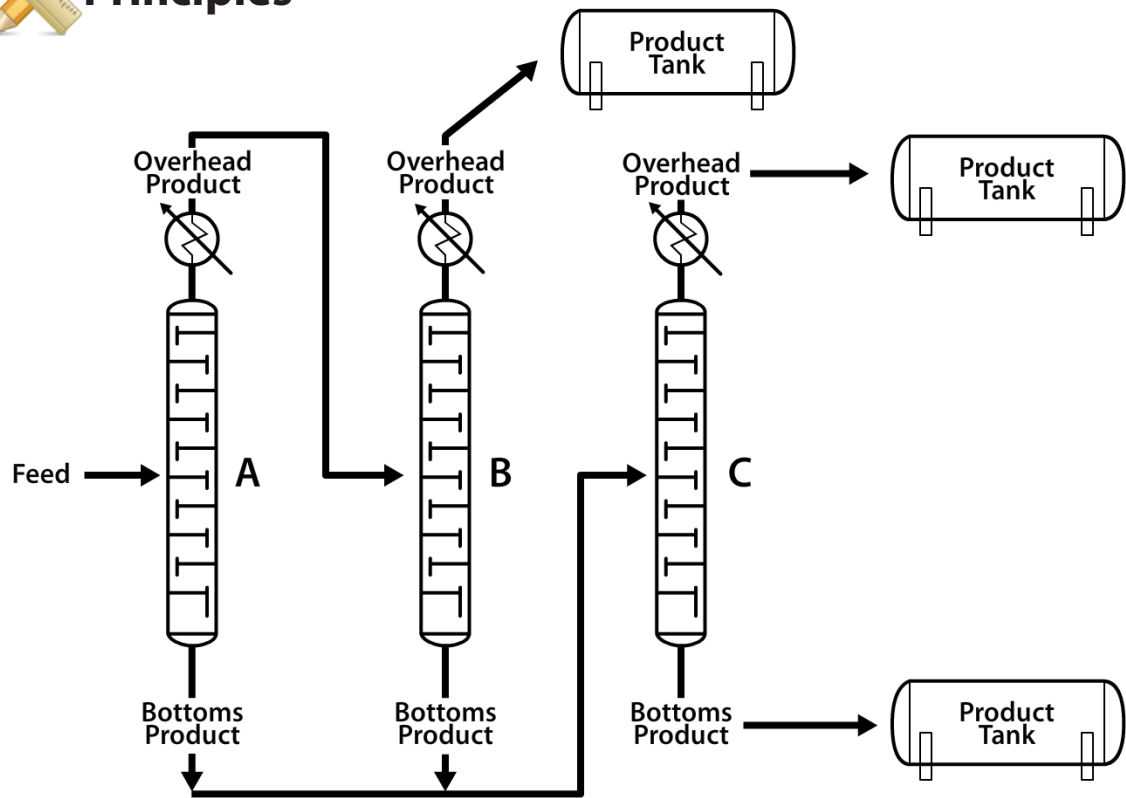
ionic compounds - \_\_\_\_\_  
\_\_\_\_\_

phase change - \_\_\_\_\_  
\_\_\_\_\_

volatilization - \_\_\_\_\_  
\_\_\_\_\_



## Principles



## Questions

1. In a liquid mixture, heavier molecules have lower boiling point than lighter molecules.  
 True  
 False
2. Sublimation and deposition occur in a distillation process.  
 True  
 False
3. What is the term for heat that cannot be measured?  
 Sensible  
 Latent