

CHAPTER OVERVIEW

1: Introduction

Thermodynamics is a quantitative subject. It allows us to derive relations between the values of numerous physical quantities. Some physical quantities, such as a mole fraction, are dimensionless; the value of one of these quantities is a pure number. Most quantities, however, are not dimensionless and their values must include one or more *units*. This chapter reviews the SI system of units, which are the preferred units in science applications. The chapter then discusses some useful mathematical manipulations of physical quantities using quantity calculus, and certain general aspects of dimensional analysis.

[1.1: Units](#)

[1.2: Quantity Calculus](#)

[1.3: Dimensional Analysis](#)

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