

## CHAPTER OVERVIEW

### 9: The Carathéodory Principle

The formulation of the second law from thermodynamics used the concept of heat engines, at least indirectly. But the law is very general and one could ask whether there is another formulation which does not invoke heat engines but leads to the notion of absolute temperature and the principle that entropy cannot spontaneously decrease. Such a version of the second law is obtained in an axiomatization of thermodynamics due to C. Carathéodory.

[9.1: Mathematical Preliminaries](#)

[9.2: Carathéodory Statement of the Second Law](#)

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