Chapter 17 Problem 29 [†]

Given
$L_s = 573\ kJ/kg$
$m = 250\ g = 0.25\ kg$

Solution
Find the heat extracted to sublimate the carbon dioxide.

Since the carbon dioxide is already at its sublimation point, extracting heat only causes it to go through a phase change. The heat due to a phase change is

$$Q = mL_s$$

$$Q = (0.25\ kg)(573\ kJ/kg) = 143\ kJ$$

[†]Problem from Essential University Physics, Wolfson