Answer on Question #45018 – Chemistry – Inorganic Chemistry

Question

The specific heat of tungsten is 0.03 cal/g·^{o}C. If a 50 gram sample of tungsten absorbs 100 calories of heat, what will be the change in temperature of the sample?

Solution

The heat absorbed by the sample (Q) equals to:

$$Q = m·C·\Delta T,$$

where m – mass of the sample, g; C – specific heat of the sample material, cal/g·^{o}C; ΔT – change in temperature of the sample.

Hence

$$\Delta T = Q / m·C = 100 \; cal / 50 \; g · 0.03 \; cal/g·^{o}C = 66.7 \; ^{o}C$$

Answer: *66.7 ^{o}C*