

Question#19308

How much heat in kilocalories is required to melt 1.0mole of isopropyl alcohol (rubbing alcohol; molar mass = 60.0g/mol)? The heat of fusion and heat of vaporization of isopropyl alcohol are 21.4cal/g and 159cal/g , respectively

Solution:

$Q=cm$, where m – mass, c - Enthalpy of fusion (heat of fusion),

Such as 1 mole=60 g, $m=60$ g,

$$Q=21.4*60=1284 \text{ cal} = 1.284 \text{ Kcal}$$

Answer: 1.284 Kcal.