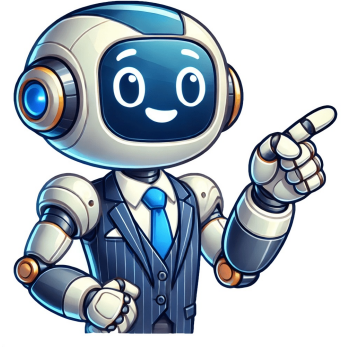


I'm not a robot

















**Masa molecular na**

[illegible]



International System of Units (SI), such that energy is measured in joules, and the amount of substance is measured in moles. It is also an SI derived unit of molar thermodynamic energy defined as the energy equal to one joule in one mole of substance.[1][2] For example, the Gibbs free energy of a compound in the area of thermochemistry is often quantified in units of kilojoules per mole (symbol: kJ·mol<sup>−1</sup> or kJ/mol), with 1 kilojoule = 1000 joules.[3] Physical quantities measured in J·mol<sup>−1</sup> usually describe quantities of energy transferred during phase transformations or chemical reactions. Division by the number of moles facilitates comparison between processes involving different quantities of material and between similar processes involving different types of materials. The precise meaning of such a quantity is dependent on the context (what substances are involved, circumstances, etc.), but the unit of measurement is used specifically to describe certain existing phenomena, such as in thermodynamics it is the unit of measurement that describes molar energy.[4] Since there are 6.02214076×1023 particles (atoms, molecules, ions etc.) per mole, 1 joule per mole is equal to 1 joule multiplied by 6.02214076×1023 particles. Because of the typical order of magnitude for energy changes in chemical processes, kJ·mol<sup>−1</sup> is normally used instead of J·mol<sup>−1</sup>. For example, heats of fusion and vaporization are usually of the order of 10 kJ·mol<sup>−1</sup>, bond energies are of the order of 100 kJ·mol<sup>−1</sup>, and ionization energies of the order of 1000 kJ·mol<sup>−1</sup>. [5] For this reason, it is common within the field of chemistry to quantify the enthalpy of reaction in units of kJ·mol<sup>−1</sup>. [6] Other units sometimes used to describe reaction energetics are kilocalories per mole (kcal·mol<sup>−1</sup>), electron volts per particle (eV), and wavenumbers in inverse centimeters (cm<sup>−1</sup>). 1 kJ·mol<sup>−1</sup> is approximately equal to 1.04×10<sup>−2</sup> eV per particle, 0.239 kcal·mol<sup>−1</sup>, or 83.6 cm<sup>−1</sup>. At room temperature (25 °C, or 298.15 K) 1 kJ·mol<sup>−1</sup> is approximately equal to 0.4034 



k
B
T


{\displaystyle k\_{B}T}

. <sup>^</sup> "What does Joule per Mole mean? Definition, meaning and sense". www.tititudorancea.com. Retrieved 2020-06-05. <sup>^</sup> "Calorimetry and Molar Enthalpy". Retrieved 2021-03-05. <sup>^</sup> "Units in Thermochemical Calculations - AP Central | College Board". apcentral.collegeboard.org. Retrieved 2023-05-21. <sup>^</sup> McGlashan, M. L. (2007-10-31). Chemical Thermodynamics: Volume 1. Royal Society of Chemistry. ISBN 978-1-84755-582-3. <sup>^</sup> Schroeder, Daniel (1999). An Introduction to Thermal Physics. ISBN 978-0201380279. <sup>^</sup> "5.4: Enthalpy of Reaction". Chemistry LibreTexts. 2014-11-18. Retrieved 2023-05-21. Retrieved from "

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