Two Proposals concerning Nomenclature in Thermodynamics

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Nomenclatur in physics is settled by the IUPAP (International Union of Pure and Applied Physics{*}). I present two proposals for change of nomenclature in thermodynamics, concerning 1. the use of the unit mol, and 2. the nomenclature of the quantities of state. My first proposal probably entails only small changes in a conventional thermodynamics text. My second proposal is more radical, and may be more suited for personal use.

1. proposal: The IUPAP distinguishes the unit mol and Avogadros number $6.022140 \cdot 10^{23}$. It defines Avogadros constant as $N_A = 6.022140 \cdot 10^{23} \text{ mol}^{-1}$. Then it defines to each quantity (of a substance) $A \sim$ particle number a quantity $B = A + N_A$ [e. g. mole number $n = (\text{particle number } N) \div N_A$], and to each quantity $A \sim 1$ particle number a quantity $B = A \cdot N_A$ [e. g. molar mass $M = N_A \cdot (\text{particle mass } m)$]. I believe the distinction between the mole and Avogadros number is unnecessary and only complicates the formalism. It is better to set both quantities equal: $1 \text{ mol} = 6.022140 \cdot 10^{23} = \text{ Avogadros number}$. Avogadros constant then becomes 1.

The quantities $A$ & $B$ are now really the same thing, except that $B$ has the mol (a numerical factor) in its units. The double notation $N$ und $n$ (particle number), $m$ und $M$ (particle mass), $k_B$ and $R$ (Boltzmanns constant), $e$ and $F$ (elementary charge) isn't nice, but can't be helped by now.

2. proposal: In thermodynamics one distinguishes between extensive quantities (of a substance) on one hand, such as $n$ (mol number), $m$ (mass), $V$ (volume), $U$ (inner energy), $S$ (entropy), and intensive quantities on the other hand, such as $M$ (molar mass), $p$ (pressure), $T$ (absolute temperature). Extensive quantities double when the amount of substance is doubled, intensive quantities remain unchanged. In my opinion, the difference between extensive and intensive quantities is so fundamental, that it should be taken account of in the notation. I do this by writing extensive quantities with capital letters ($N$ instead of $n$ for the mole number, $M$ instead of $m$ for the mass) and intensive quantities with small letters ($\theta$ instead $T$ for the absolute temperature - IUPAP recommends $\theta$ for the Celsius-temperature, and $T$ for the absolute temperature; I switch the roles) or with capital letters with the index mol adhered ($M_{\text{mol}}$ instead $M$).

*The International Union of Pure and Applied Physics (IUPAP), founded in 1922, is an international organization with various tasks regarding "global physics". IUPAP issues a RED BOOK with the title SYMBOLS, UNITS, NOMENCLATURE AND FUNDAMENTAL CONSTANTS IN PHYSICS. This is a widely accepted reference for physicists all over the world "on the use of symbols, units, nomenclature and standards". The edition from 1987 has 75 pages and can be downloaded from internet (search IUPAP REDBOOK or SUNAMCO RED BOOK).