Mol

Mole (unit)

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The mole (symbol mol) is a unit of measurement, the base unit in the International System of Units (SI) for amount of substance, an SI base quantity proportional to the number of elementary entities of a substance. One mole is an aggregate of exactly 6.02214076×1023 elementary entities (approximately 602 sextillion or 602 billion times a trillion), which can be atoms, molecules, ions, ion pairs, or other particles. The number of particles in a mole is the Avogadro number (symbol N0) and the numerical value of the Avogadro constant (symbol NA) has units of mol?1. The relationship between the mole, Avogadro number, and Avogadro constant can be expressed in the following equation:

1

mol

=

N

0

N

A

=

6.02214076

×

10

23

N

A

{\displaystyle 1{\text{ mol}}={\frac {N_{0}}{N_{\text{A}}}}={\frac {6.02214076\times 10^{23}}{N_{\text{A}}}}}

The current SI value of the mole is based on the historical definition of the mole as the amount of substance that corresponds to the number of atoms in 12 grams of 12C, which made the molar mass of a compound in grams per mole, numerically equal to the average molecular mass or formula mass of the compound expressed in daltons. With the 2019 revision of the SI, the numerical equivalence is now only approximate, but may still be assumed with high accuracy.

Conceptually, the mole is similar to the concept of dozen or other convenient grouping used to discuss collections of identical objects. Because laboratory-scale objects contain a vast number of tiny atoms, the number of entities in the grouping must be huge to be useful for work.

The mole is widely used in chemistry as a convenient way to express amounts of reactants and amounts of products of chemical reactions. For example, the chemical equation 2 H2 + O2 ? 2 H2O can be interpreted to mean that for each 2 mol molecular hydrogen (H2) and 1 mol molecular oxygen (O2) that react, 2 mol of water (H2O) form. The concentration of a solution is commonly expressed by its molar concentration, defined as the amount of dissolved substance per unit volume of solution, for which the unit typically used is mole per litre (mol/L).

Mol

Look up Mol, mol, or mól in Wiktionary, the free dictionary. Mol or MOL may refer to: D mol, a Montenegrin vocal group Mol (TV series), a 2015 Pakistani

Mol or MOL may refer to:

Gretchen Mol

Gretchen Mol (born November 8, 1972) is an American actress. She is known for her role as Gillian Darmody in the HBO series Boardwalk Empire (2010–2014)

Gretchen Mol (born November 8, 1972) is an American actress. She is known for her role as Gillian Darmody in the HBO series Boardwalk Empire (2010–2014). She also appeared in the films Rounders (1998), Celebrity (1998), The Thirteenth Floor (1999), The Notorious Bettie Page (2005) – in which she played the title character – 3:10 to Yuma (2007), and Manchester by the Sea (2016).

Molly

Look up Molly, molly, Mollie, mollie, or mollies in Wiktionary, the free dictionary. Molly or mollies may refer to: Any of the fish in the Mollienesia

Molly or mollies may refer to:

Molar mass

identical (for all practical purposes), differing only in units (dalton vs. g/mol or kg/kmol). However, the most authoritative sources define it differently

In chemistry, the molar mass (M) (sometimes called molecular weight or formula weight, but see related quantities for usage) of a chemical substance (element or compound) is defined as the ratio between the mass (m) and the amount of substance (n, measured in moles) of any sample of the substance: M = m/n. The molar mass is a bulk, not molecular, property of a substance. The molar mass is a weighted average of many instances of the element or compound, which often vary in mass due to the presence of isotopes. Most commonly, the molar mass is computed from the standard atomic weights and is thus a terrestrial average and a function of the relative abundance of the isotopes of the constituent atoms on Earth.

The molecular mass (for molecular compounds) and formula mass (for non-molecular compounds, such as ionic salts) are commonly used as synonyms of molar mass, as the numerical values are identical (for all practical purposes), differing only in units (dalton vs. g/mol or kg/kmol). However, the most authoritative sources define it differently. The difference is that molecular mass is the mass of one specific particle or molecule (a microscopic quantity), while the molar mass is an average over many particles or molecules (a macroscopic quantity).

The molar mass is an intensive property of the substance, that does not depend on the size of the sample. In the International System of Units (SI), the coherent unit of molar mass is kg/mol. However, for historical reasons, molar masses are almost always expressed with the unit g/mol (or equivalently in kg/kmol).

Since 1971, SI defined the "amount of substance" as a separate dimension of measurement. Until 2019, the mole was defined as the amount of substance that has as many constituent particles as there are atoms in 12 grams of carbon-12, with the dalton defined as ?+1/12? of the mass of a carbon-12 atom. Thus, during that period, the numerical value of the molar mass of a substance expressed in g/mol was exactly equal to the numerical value of the average mass of an entity (atom, molecule, formula unit) of the substance expressed in daltons.

Since 2019, the mole has been redefined in the SI as the amount of any substance containing exactly 6.02214076×1023 entities, fixing the numerical value of the Avogadro constant NA with the unit mol?1, but because the dalton is still defined in terms of the experimentally determined mass of a carbon-12 atom, the numerical equivalence between the molar mass of a substance and the average mass of an entity of the substance is now only approximate, but equality may still be assumed with high accuracy—(the relative discrepancy is only of order 10–9, i.e. within a part per billion).

MOL (company)

MOL Plc. (Hungarian: Magyar OLaj- és Gázipari Részvénytársaság, lit. 'Hungarian Oil and Gas Public Limited Company'), also known as MOL Group, is a Hungarian

MOL Plc. (Hungarian: Magyar OLaj- és Gázipari Részvénytársaság, lit. 'Hungarian Oil and Gas Public Limited Company'), also known as MOL Group, is a Hungarian multinational oil and gas company headquartered in Budapest, Hungary. Members of MOL Group include among others the Croatian and Slovak formerly state-owned oil and gas companies, INA and Slovnaft. MOL is Hungary's most profitable enterprise, with net profits of $770 million in 2019. The company is also the third most valuable company in Central and Eastern Europe and placed 402 on the Fortune Global 500 list of the world's largest companies in 2013.

As of October 2021, the largest shareholder is the Mol New Europe Foundation with 10.49% ahead of Maecenas Universitatis Corvini Foundation and Mathias Corvinus Collegium Foundation, both with 10%, OmanOil Budapest with 7.14% and OTP and ING Bank with 4.9% and 4.48% respectively. Nearly 45% of shares are free floated.

MOL is active in exploration and production, refining, distribution and marketing, petrochemicals, power generation, trading and retail. As of 2021, MOL has operations in over 30 countries worldwide, employs 25,000 people, has 2,000 service stations in nine countries (mainly in Central and Eastern Europe) under six brands. MOL's downstream operations in Central and Eastern Europe manufacture and sell products such as fuels, lubricants, additives and petrochemicals. The company's most significant areas of operations are Central and Eastern Europe, Southern Europe, North Sea, Middle East, Africa, Pakistan, Russia and Kazakhstan.

MOL has a primary listing on the Budapest Stock Exchange and is a constituent of the BUX Index. As of October 2021, it has a market capitalization of $6 billion and is the second largest company listed on the Budapest Stock Exchange. MOL also has a secondary listing on the Warsaw Stock Exchange.

Molar concentration

molarity is the number of moles per liter, having the unit symbol mol/L or mol/dm3 (1000 mol/m3) in SI units. Molar concentration is often depicted with square

Molar concentration (also called amount-of-substance concentration or molarity) is the number of moles of solute per liter of solution. Specifically, It is a measure of the concentration of a chemical species, in particular, of a solute in a solution, in terms of amount of substance per unit volume of solution. In chemistry, the most commonly used unit for molarity is the number of moles per liter, having the unit symbol mol/L or mol/dm3 (1000 mol/m3) in SI units. Molar concentration is often depicted with square brackets around the substance of interest; for example with the hydronium ion [H3O+] = 4.57 x 10-9 mol/L.

John de Mol Jr.

Johannes Hendrikus Hubert "John" de Mol Jr. is a Dutch media proprietor. De Mol is one of the men behind production companies Endemol and Talpa. He created

Johannes Hendrikus Hubert "John" de Mol Jr. is a Dutch media proprietor. De Mol is one of the men behind production companies Endemol and Talpa. He created the reality television formats Big Brother, Star Academy and The Voice, and the game shows Fear Factor and Deal or No Deal.

Forbes estimated him to be worth about US$1.8 billion in 2023.

Mol (surname)

Flemish variant), Moll, Mols (a patronymic form), and Van Mol ("from the town Mol"). Alarda Mol (born 1982), Dutch cricketer Albert Mol (1917–2004), Dutch

Mol is a Dutch surname. Meaning "mole" in Dutch, it may be descriptive in origin, or metonymic for a mole catcher. The name could also be patronymic (from the archaic name Molle) or toponymic, referring to the town Mol, Belgium in Antwerp province or a location named "the mole(s)". Among variant forms are De Mol ("the mole"), Demol (a West Flemish variant), Moll, Mols (a patronymic form), and Van Mol ("from the town Mol").

Mol*

Mol (/?mo?l?st??r/, also known as Molstar) is a web-based, open-source, software toolkit for analysis and visualization of macromolecular structures*

Mol* (, also known as Molstar) is a web-based, open-source, software toolkit for analysis and visualization of macromolecular structures. It was developed as a joint initiative between the RCSB PDB and PDBe, based on NGL (developed by RCSB PDB) and LiteMol (developed by PDBe) viewers. Its program for interactive viewing of macromolecular structures in 3D, Mol* Viewer, was published in 2021. Mol* Viewer (typically referred to as simply Mol*) has a stand-alone version, and is also integrated into a number of scientific tools and databases. Some of its most prominent implementations are the web pages of the PDBe, the RCSB PDB, and the AlphaFold Database, where it is used to provide visualizations of every structure on each structure's corresponding entry page. It replaced the integrated NGL and LiteMol viewers previously used by the RCSB PDB and PDBe in 2019.

The code for Mol*, including Mol* Viewer, is hosted on GitHub (under the Open Source MIT license) and includes modules for retrieving macromolecular structure data from public databases, then compressing, storing and visualizing it. It uses built-in BinaryCIF and decompression support to aid in handling large structures, TypeScript for web application development, and WebGL for hardware-accelerated 3D rendering. It adheres to standards of the open web platform and uses the React framework.

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