

# 世界最新 英汉双解化学词典

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The Facts On File  
Dictionary of Chemistry  
Third Edition

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John Daintith

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# 序

本词典是用于学校使用的一系列词典之一。它的读者对象是化学专业的学生,但是我们希望它对其他学科的学生以及任何对科学感兴趣的人都能有所帮助。本系列世界最新英汉双解词典的其余分册分别是《生物学词典》、《细胞与分子生物学词典》、《生物化学词典》、《植物学词典》、《生物技术与遗传工程词典》、《有机化学词典》和《无机化学词典》。

本书第 1 版出版于 1980 年。第 3 版对第 1 版进行了大量修改和扩充。该词典现在包含 2300 余条现代化学中的词汇。在书后的附录中还包含一些有用的表:化学元素、希腊字母表、基本常数、基本粒子表和元素周期表。

我们在此感谢为此书的出版而付出努力的所有人们。在致谢页中列出了参编人员。我们对那些给予帮助和建议的人们也表示感谢。

# 译者序

化学是自然科学的主要基础学科,与科学技术和国民经济的发展有着非常紧密的联系。化学科学的发展状况是衡量科学技术水平的一个重要尺度。

近年来,化学得到了长足的发展,产生了一系列崭新的分支学科和边缘学科。掌握一定的化学知识对于许多行业的人们来说是必不可少的。为了便于大家更好的理解化学词汇的含义和概念,我们特翻译了这本词典。

本词典是根据 John Daintith 编著的《The Facts on File Dictionary of Chemistry》(第3版)翻译的,该词典包括 2300 余条现代化学中的词汇,以简明扼要的语言定义和说明了常用的化学术语和概念,并配有一些简图与内容进行交叉参照,使读者能迅速地获得词汇的正确涵义。

本词典能使读者尽快掌握最常用的化学基础英语词汇,了解这些词汇的科学含义,还能使读者从中学习一定的化学知识、新的实验技术和实验方法,是一本学习化学专业英语和化学知识的工具书。本词典对于从事与化学相关领域的人来说,是一本有用的参考书。特别适合于大学化学系和其他科学系科的学生使用,对大专院校教师、科研工作者、化学工程技术人员等同样也是十分有用的。

本词典编译过程中得到耿信笃教授、宋俊峰教授、李华儒教授认真校阅修改并提出许多中肯意见,在此表示诚挚的感谢。由于本词典涉及的化学内容比较广泛,加上编译者经验和水平有限,错误和疏漏之处在所难免,敬请读者批评指正。

译者

2007 年 10 月

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注意 除特殊说明外,本书中的熔点和沸点均指一个标准大气压下。液体的相对密度是指在一个标准大气压下,液体在 20℃时的密度与水在 4℃时的密度之比。气体的相对密度是相对于空气而言的,二者均是在标准温度和压力下。

在文中用到了以下缩写:

p. n	质子数(原子数)
r. a. m.	相对原子质量(原子重量)
m. p.	熔点
b. p.	沸点
r. d.	相对密度

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# 凡 例

1. 本词典所收录词条内容涵盖现代化学的术语和概念。

2. 本词典的编排方式为英汉双解,采用双栏排版;左栏为英文原文,右栏为相应的中文翻译。由于两种语言的不同,英汉两部分的内容并非完全对应。

3. 本词典英文词条和相应的中文词条字体采用黑体,其解释部分字体采用白体。英文术语的其他名称或化学式置于英文词条后的括号中,中文的相应名称也置于中文词条后的括号中,例如:

**aluminum oxide**(*alumina*,  $\text{Al}_2\text{O}_3$ )      氧化铝(三氧化二铝,  $\text{Al}_2\text{O}_3$ )

4. 本词典排序以英文部分首词排序,括号中的其他名称及化学式不参加排序。

5. 词条的释义:

(1) 如释义为分层次解释的,则列以小标题以突出不同梯度的知识点,例如:

**azide**    1. An inorganic……      叠氮化物    1. 含有……

2. An organic……      2. 通式为……

(2) 英文中的斜体、大小写均严格按相关规定书写。

(3) 有些词条需与其他词条进行对照,则列出要参阅(比较)的词条,例如:

**acetaldehyde**    *See* ethanal      乙醛    参阅 ethanal

**adiabatic change** ……      绝热变化 ……

*Compare* isothermal change      与 isothermal change 比较

6. 正文后附有与化学有关的 5 个附录,分别为化学元素、希腊字母表、基本常数、基本粒子表和元素周期表。

## A

**absolute alcohol** Pure alcohol (ethanol).

**absolute temperature** Symbol: T A temperature defined by the relationship:  $T = \theta + 273.15$  where  $\theta$  is the Celsius temperature. The absolute scale of temperature was a fundamental scale based on Charles' law applied to an ideal gas:  $V = V_0(1 + \alpha\theta)$  where  $V$  is the volume at temperature  $\theta$ ,  $V_0$  the volume at 0, and  $\alpha$  the thermal expansivity of the gas. At low pressures (when real gases show ideal behavior)  $\alpha$  has the value  $1/273.15$ . Therefore, at  $\theta = -273.15$  the volume of the gas theoretically becomes zero. In practice, of course, substances become solids at these temperatures. However, the extrapolation can be used for a scale of temperature on which  $-273.15^\circ\text{C}$  corresponds to  $0^\circ$  (absolute zero). The scale is also known as the *ideal-gas scale*; on it temperature intervals were called *degrees absolute* ( $^\circ\text{A}$ ) or *degrees Kelvin* ( $^\circ\text{K}$ ), and were equal to the Celsius degree. It can be shown that the absolute temperature scale is identical to the thermodynamic temperature scale (on which the unit is the kelvin).

**absolute zero** The zero value of thermody-

无水酒精 纯酒精(乙醇)。

**绝对温度** 符号: T.  $T = \theta + 273.15$ , 式中  $\theta$  为摄氏温度。绝对温标是基本的标度,它是建立在查理定律理想气体的基础上的。即  $V = V_0(1 + \alpha\theta)$  式中,  $V$  代表温度为  $\theta$  时的体积,  $V_0$  代表  $0^\circ\text{C}$  时的体积,  $\alpha$  为气体的热膨胀系数。低压下(此时真实气体为理想状态),  $\alpha = 1/273.15$ 。因此,当  $\theta = -273.15$  时,气体体积理论上为 0。实际上,此温度时物质已成为固体。但是,以  $-273.15^\circ\text{C}$  为  $0^\circ\text{C}$  (绝对零度),外推可用作温标。这种标度也被称为“理想气体温标”。在此基础上的温度间隔被称为“绝对温度”( $^\circ\text{A}$ )或“开尔文温度”( $^\circ\text{K}$ ),它们与摄氏温度是等价的。显然,绝对温标和热力学温标是一致的(单位为开尔文)。

**绝对零度** 热力学温度的零度;

namic temperature; 0 kelvin or  $-273.15^{\circ}\text{C}$ .

**absorption** A process in which a gas is taken up by a liquid or solid, or in which a liquid is taken up by a solid. In absorption, the substance absorbed goes into the bulk of the material. Solids that absorb gases or liquids often have a porous structure. The absorption of gases in solids is sometimes called *sorption*. Compare adsorption.

**absorption indicator (adsorption indicator)**

An indicator used for titrations that involve a precipitation reaction. The method depends upon the fact that at the equivalence point there is a change in the nature of the ions absorbed by the precipitate particles. Fluorescein—a fluorescent compound—is commonly used. For example, in the titration of sodium chloride solution with added silver nitrate, silver chloride is precipitated. Sodium ions and chloride ions are absorbed in the precipitate. At the end point, silver ions and nitrate ions are in slight excess and silver ions are then absorbed. If fluorescein is present, negative fluorescein ions absorb in preference to nitrate ions, producing a pink complex.

**absorption spectrum** See spectrum.

**abundance** 1. The relative amount of a given element among others; for example, the abundance of oxygen in the Earth's crust is approximately 50% by mass. 2. The amount of a nuclide (stable or radioac-

$0^{\circ}\text{K}$  或者  $-273.15^{\circ}\text{C}$ 。

**吸收** 气体被液体或固体吸收,或者液体被固体吸收的过程。在吸收过程中,被吸收物质进入吸收物的主体内。吸收气体或液体的固体常具有多孔结构。有时也将固体吸收气体的吸收作用称为“吸附作用”。与 adsorption 比较。

**吸收指示剂 (吸附指示剂)**

一种用于包含沉淀反应的滴定法的指示剂。此方法建立在以下情况基础上:在等当点,被沉淀颗粒吸附的离子的性质会发生变化。通常使用的是—种荧光化合物——荧光素。例如,用硝酸银滴定氯化钠溶液时,产生氯化银沉淀;钠离子和氯离子被沉淀吸附。在终点时,银离子和硝酸根离子稍过量且银离子被吸附。若加入荧光素,带负电的荧光素离子比硝酸根离子优先被吸附,产生一种粉红色的配合物。

**吸收光谱** 参阅 spectrum。

**丰度** 1. 一种元素在众多元素中的相对含量。例如,以质量而言,氧在地壳中的丰度约为 50%。

2. 在一给定的样品中,某一核素(稳定的或放射性的)相对于同种元素的其他核素的含量。天然丰度是指

tive) relative to other nuclides of the same element in a given sample. The *natural abundance* is the abundance of a nuclide as it occurs naturally. For instance, chlorine has two stable isotopes of masses 35 and 37. The abundance of  $^{35}\text{Cl}$  is 75.5% and that of  $^{37}\text{Cl}$  is 24.5%. For some elements the abundance of a particular nuclide depends on the source.

**accelerator** A catalyst added to increase the rate of cross-linking reactions in polymers.

**acceptor** The atom or group to which a pair of electrons is donated in a coordinate bond.  $\text{Pi}$ -acceptors are compounds or groups that accept electrons into  $\text{pi}$ ,  $\text{p}$  or  $\text{d}$  orbitals.

**accumulator (secondary cell, storage battery)**  
An electric cell or battery that can be charged by passing an electric current through it. The chemical reaction in the cell is reversible. When the cell begins to run down, current in the opposite direction will convert the reaction products back into their original forms. The most common example is the lead-acid accumulator, used in vehicle batteries.

**acetal** A type of organic compound formed by addition of an alcohol to an aldehyde. Addition of one alcohol molecule gives a *hemiacetal*. Further addition yields the full acetal. Similar reactions occur with

天然存在的核素的丰度。例如, 氯有 2 种稳定的同位素  $^{35}\text{Cl}$  和  $^{37}\text{Cl}$ ,  $^{35}\text{Cl}$  的丰度为 75.5%,  $^{37}\text{Cl}$  的丰度为 24.5%。对一些元素而言, 某一特定核素的丰度取决于其来源。

**加速剂** 一种催化剂, 加入后能加快聚合物交联反应的速率。

**接受体** 在配位键中接受一对电子的原子或基团。 $\pi$  接受体是  $\pi$ 、 $\text{p}$  或  $\text{d}$  轨道接受电子的基团或化合物。

**蓄电池 (二次电池, 储能电池)**  
一种借由电流通过而充电的电池或电池组。电池内部的化学反应是可逆的。当电池用完时, 通以相反方向的电流, 将使反应产物转化为其原来形式。最常见的例子是铅酸蓄电池, 被用作电动车上的电池。

**缩醛** 醇与醛加成所生成的有机物。对醛加成一分子醇得到半缩醛, 进一步加成得到缩醛。酮发生类似反应得到半缩酮和缩酮。

ketones to produce hemiketals and ketals.

**acetaldehyde** See ethanal.

**acetamide** See ethanamide.

**acetate** See ethanoate.

**acetic acid** See ethanoic acid.

**acetone** See propanone.

**acetonitrile** See methyl cyanide.

**acetophenone** See phenyl methyl ketone.

**acetylation** See acylation.

**acetyl chloride** See ethanoyl chloride.

**acetylene** See ethyne.

**acetyl group** See ethanoyl group.

**acetylide** See carbide.

**Acheson process** See carbon.

**achiral** Describing a molecule that does not exhibit optical activity.

**acid** A substance that gives rise to hydrogen ions (or  $\text{H}_3\text{O}^+$ ) when dissolved in water. An acid in solution will have a pH below 7. This definition does not take into account the competitive behavior of acids in solvents and it refers only to aqueous systems. The *Lowry-Brønsted theory* defines an acid as a substance that exhibits a tendency to release a proton, and a base as a

乙醛 参阅 ethanal。

乙酰胺 参阅 ethanamide。

乙酸酯 参阅 ethanoate。

乙酸 参阅 ethanoic acid。

丙酮 参阅 propanone。

乙腈 参阅 methyl cyanide。

苯乙酮 参阅 phenyl methyl ketone。

乙酰化 参阅 acylation。

乙酰氯 参阅 ethanoyl chloride。

乙炔 参阅 ethyne。

乙酰基 参阅 ethanoyl group。

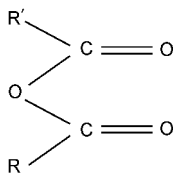
乙炔化物 参阅 carbide。

艾奇逊法 参阅 carbon。

非手性 用以描述不存在旋光性的分子。

酸 种溶解在水中,能产生氢离子(或  $\text{H}_3\text{O}^+$ )的物质。酸溶液  $\text{pH} < 7$ 。这种定义未考虑酸作为溶剂的竞争行为,而且仅指水体系。路易斯布朗斯特理论定义酸为易失去质子的物质,碱为易接受质子的物质。因此,当酸失去质子时,形成的离子是其共轭碱。强酸(如硝酸)与水完全反应放出  $\text{H}_3\text{O}^+$ ,即硝酸的酸性比  $\text{H}_3\text{O}^+$  强,其共轭碱硝酸根离子的碱

substance that tends to accept a proton. Thus, when an acid releases a proton, the ion formed is the *conjugate* base of the acid. Strong acids (e. g.  $\text{HNO}_3$ ) react completely with water to give  $\text{H}_3\text{O}^+$ , i. e.  $\text{HNO}_3$  is stronger than  $\text{H}_3\text{O}^+$  and the conjugate base  $\text{NO}_3^-$  is weak. Weak acids (e. g.  $\text{CH}_3\text{COOH}$  and  $\text{C}_6\text{H}_5\text{COOH}$ ) are only partly dissociated because  $\text{H}_3\text{O}^+$  is a stronger acid than the free acids and the ions  $\text{CH}_3\text{COO}^-$  and  $\text{C}_6\text{H}_5\text{COO}^-$  are moderately strong bases. *See also* Lewis acid.

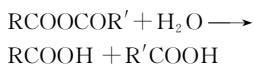


Acid anhydride structure  
酸酐的结构

**acid anhydride** A type of organic compound of general formula  $\text{RCOOCOR}'$ , where R and R' are alkyl or *aryl groups*. They are prepared by reaction of an acyl halide with the sodium salt of a carboxylic acid, e. g. :



Like the acyl halides, they are very reactive acylating agents. Hydrolysis is to carboxylic acids:



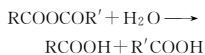
*See also* acylation.

性弱。由于  $\text{H}_3\text{O}^+$  的酸性比游离的弱酸强，且  $\text{CH}_3\text{COO}^-$  和  $\text{C}_6\text{H}_5\text{COO}^-$  是中等强碱，因此弱酸（如  $\text{CH}_3\text{COOH}$  和  $\text{C}_6\text{H}_5\text{COOH}$ ）仅部分解离。参阅 Lewis acid。

**酸酐** 通式为  $\text{RCOOCOR}'$  的有机物式中，R 和 R' 为烷基或芳基。它们可由酰基卤与羧酸的钠盐反应制得。例如：



和酰基卤一样，它们是活泼的酰化试剂，水解生成羧酸：



参阅 acylation。

**acid - base indicator** An indicator that is either a weak base or a weak acid and whose dissociated and undissociated forms differ markedly in color. The color change must occur within a narrow pH range. Examples are methyl orange and phenolphthalein.

**acid dyes** The sodium salts of organic acids used in the dyeing of silks and wool. They are so called because they are applied from a bath acidified with dilute sulfuric or ethanoic acid.

**acid halide** See acyl halide.

**acidic** Having a tendency to release a proton or to accept an electron pair from a donor. In aqueous solutions the pH is a measure of the acidity, i. e. an acidic solution is one in which the concentration of  $\text{H}_3\text{O}^+$  exceeds that in pure water at the same temperature; i. e. the pH is lower than 7. A pH of 7 is regarded as being neutral.

**acidic hydrogen** A hydrogen atom in a molecule that enters into a dissociation equilibrium when the molecule is dissolved in a solvent. For example, in ethanoic acid ( $\text{CH}_3\text{COOH}$ ) the acidic hydrogen is the one on the carboxyl group,  $-\text{COOH}$ .

**acidic oxide** An oxide of a nonmetal that reacts with water to produce an acid or with a base to produce a salt and water. For example, sulfur(VI) oxide (sulfur trioxide)

**酸-碱指示剂** 一种为弱酸或弱碱的指示剂。其解离和未解离状态的颜色有明显差异。颜色变化必须在很窄的 pH 范围内发生。如甲基橙和酚酞。

**酸性染料** 用于丝绸和羊毛染色的有机酸的钠盐。由于是在经稀硫酸或醋酸酸化后使用,故得名。

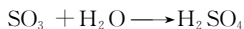
**卤化酰基, 酰基卤** 参阅 acyl halide。

**酸性的** 是指有释放质子或从给予体中接受电子对的趋势。在水溶液中, pH 是酸度的量度标准, 即酸溶液就是在相同温度下溶液中的  $\text{H}_3\text{O}^+$  浓度大于其在纯水浓度, 即  $\text{pH} < 7$ 。pH = 7 时显中性。

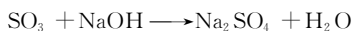
**酸性氢** 当分子溶于溶剂时, 分子中参与解离平衡的氢原子。例如, 在醋酸( $\text{CH}_3\text{COOH}$ )中, 酸性氢为羧基( $-\text{COOH}$ )上的氢。

**酸性氧化物** 与水反应产生酸, 或与碱反应产生盐和水的非金属氧化物。例如, 硫(VI)氧化物(三氧化硫)与水反应生成硫(VI)酸:

reacts with water to form sulfuric (VI) acid:



and with sodium hydroxide to produce sodium sulfate and water:



See also amphoteric, basic oxide.

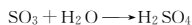
**acidimetry** Volumetric analysis or acid-base titration in which a standard solution of an acid is added to the unknown (base) solution plus the indicator. *Alkalimetry* is the converse, i. e. the base is in the buret.

**acidity constant** See dissociation constant.

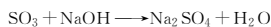
**acid rain** See pollution.

**acid salt (acidic salt)** A salt in which there is only partial replacement of the acidic hydrogen of an acid by metal or other cations. For polybasic acids the formulae are of the type  $\text{NaHSO}_4$  (sodium hydrogensulfate) and  $\text{Na}_3\text{H}(\text{CO}_3)_2 \cdot 2\text{H}_2\text{O}$  (sodium sesquicarbonate). For monobasic acids such as HF the acid salts are of the form  $\text{KHF}_2$  (potassium hydrogen fluoride). Although the latter were at one time formulated as a normal salt plus excess acid (i. e.  $\text{KF} \cdot \text{HF}$ ) it is preferable to treat these as hydrogen-bonded systems of the type  $\text{K}^+(\text{F}-\text{H}-\text{F})^-$ .

**acid value** A measure of the free acid present in fats, oils, resins, plasticizers, and solvents, defined as the number of milli-



与氢氧化钠反应生成硫酸钠和水:



参阅 amphoteric, basic oxide.

**酸式滴定法** 在指示剂存在的情况下,将标准酸加入含指示剂的未知(碱)溶液的容量分析法或酸碱滴定法。碱式滴定法正好相反,是将碱加入滴定管中。

**酸度常数** 参阅 dissociation constant.

**酸雨** 参阅 pollution。

**酸式盐** 酸中的酸性氢被金属或其他阳离子部分取代而形成的盐。对多元酸而言,其分子式的形式如  $\text{NaHSO}_4$  (硫酸氢钠) 和  $[\text{Na}_3\text{H}(\text{CO}_3)_2 \cdot 2\text{H}_2\text{O}]$  (碳酸氢钠)。对一元酸(如 HF)而言,其酸式盐如  $\text{KHF}_2$  (氟氢化钾)。虽然后者以前被写为通常的盐加过量酸(即  $\text{KF} \cdot \text{HF}$ )的形式,但将其写为  $\text{K}^+(\text{F}-\text{H}-\text{F})^-$  型的氢键系统更为可取。

**酸度** 是脂肪、树脂、塑料和溶剂中游离酸的量度,定义为中和 1 g 物质中的游离酸所需的氢氧化钾的毫

grams 1 of potassium hydroxide required to neutralize the free acids in one gram of the substance.

**Acrilan** (*Trademark*) A synthetic fiber that consists of a copolymer of 1-cyanoethene (acrylonitrile, vinyl cyanide) and ethenyl ethanoate (vinyl acetate).

**acrolein** See propenal.

**acrylic acid** See propenoic acid.

**acrylic resin** A synthetic resin made by polymerizing an amide or ester derivative of 2-propenoic acid (acrylic acid). Examples of acrylic materials are Acrilan (from propenenitrile) and Plexiglas (polymethylmethacrylate). Acrylic resins are also used in paints.

**acrylonitrile** See propenenitrile.

**actinic radiation** Radiation that can cause a chemical reaction; for example, ultraviolet radiation is actinic.

**actinides** See actinoids.

**actinium** A soft silvery-white radioactive metallic element that is the first member of the actinoid series. It occurs in minute quantities in uranium ores and the metal can be obtained by reducing the trifluoride with lithium. It can be produced by neutron bombardment of radium and is used as a source of alpha particles. The metal glows in the dark. Actinium is reac-

克数。

阿克利纶 (商标) 由 1-腈基乙烯 (丙烯腈, 乙烯腈) 和 乙烯基乙基酯 (乙烯基乙酸酯) 的共聚物组成的合成纤维。

丙烯醛 参阅 propenal。

丙烯酸 参阅 propenoic acid。

丙烯酸类树脂 由 2-丙烯酸 (丙烯酸) 的酰胺或酯衍生物聚合而成的合成树脂。丙烯酸材料的实例如阿克利纶 (从丙烯腈制备) 和耐热有机玻璃 (聚甲基异丁烯酸)。在涂料中也使用丙烯酸树脂。

丙烯腈 参阅 propenenitrile。

光化学辐射 能引起化学反应的辐射。例如, 紫外辐射就是光化学辐射。

钢系元素 参阅 actinoids。

钢 一种柔软的、银白色、放射性金属元素, 是钢系元素的第一个成员。铀矿中含有少量钢。它通过用锂还原三氟化钢而获得, 能由中子轰击镭产生, 被用作  $\alpha$  粒子源。这种金属可在黑暗中发光。钢很活泼, 遇水立刻反应产生氢气。

符号: Ac; m. p.:  $(1050 \pm 50)^\circ\text{C}$ ; b. p.:  $(3200 \pm 300)^\circ\text{C}$ ; r. d.: 10.06  $(20^\circ\text{C})$ ; p. n.: 89; 最稳定同位素

tive; it reacts readily with water to produce hydrogen.

Symbol: Ac; m. p.  $1050 \pm 50^\circ\text{C}$ ; b. p.  $3200 \pm 300^\circ\text{C}$ ; r. d. 10.06 ( $20^\circ\text{C}$ ); p. n. 89; most stable isotope  $^{227}\text{Ac}$  (half-life 21.77 years).

**actinoids (actinides)** A group of 15 radioactive elements whose electronic configurations display filling of the 5f level. As with the lanthanoids, the first member, actinium, has no f-electrons ( $\text{Ac} [\text{Rn}] 6d^1 7s^2$ ) but other members also show deviations from the smooth trend of f electron filling expected from simple considerations, e. g. thorium  $\text{Th} [\text{Rn}] 6d^2 7s^2$ , berkelium  $\text{Bk} [\text{Rn}] 5f^8 6d^1 7s^2$ . The actinoids are all radioactive and their chemistry is often extremely difficult to study. In general, artificial methods using high-energy bombardment are used to generate them. *See also* transuranic elements.

**activated charcoal** *See* charcoal.

**activated complex** The partially bonded system of atoms in the transition state of a chemical reaction.

**activation energy** Symbol:  $E_a$  The minimum energy a particle, molecule, etc., must acquire before it can react; i. e. the energy required to *initiate* a reaction regardless of whether the reaction is exothermic or endothermic. Activation energy is often represented as an energy barrier that must be o-

$^{227}\text{Ac}$ (半衰期 21.77 年)。

**锕系元素** 由电子结构填充在 5f 轨道上的 15 种放射性元素组成的一组元素。与镧系一样,第 1 个元素锕没有 5f 电子 [ $\text{Ac}(\text{Rn})6d^1 7s^2$ ], 但其他元素也表现出与 f 电子填充趋势的偏离。如  $\text{Th} [\text{Rn}] 6d^2 7s^2$  和  $\text{Bk} [\text{Rn}] 5f^8 6d^1 7s^2$ 。锕系都具有放射性,很难研究其化学性质。一般来说,他们是用高能轰击的人工方法制造的。

参阅 transuranic elements.

**活性炭** 参阅 charcoal.

**活化配合物** 化学反应的过渡态中原子部分成键的系统。

**活化能** 符号:  $E_a$ 。微粒、分子等参加反应前必须获得的最低能量。即:引发反应所需的能量,不管反应是放热还是吸热。活化能常代表反应发生所必须克服的能垒。参阅 Arrhenius equation.

vercome if a reaction is to take place. *See* Arrhenius equation.

**activator** *See* promoter.

**active mass** *See* mass action, law of.

**active site** **1.** a site on the surface of a catalyst at which catalytic activity occurs or at which the catalyst is particularly effective. **2.** The position on the molecule of an enzyme that binds to the substrate when the enzyme acts as a catalyst. *See* enzyme.

**activity** **1.** Symbol;  $a$  Certain thermodynamic properties of a solvated substance are dependent on its concentration (e. g. its tendency to react with other substances). Real substances show departures from ideal behavior and a corrective concentration term—the activity—has to be introduced into equations describing real solvated systems. **2.** Symbol;  $A$  The average number of atoms disintegrating per unit time in a radioactive substance.

**activity coefficient** Symbol;  $f$  A measure of the degree of deviation from ideality of a solvated substance, defined as:

$$a = fc$$

where  $a$  is the activity and  $c$  the concentration. For an ideal solute  $f = 1$ ; for real systems  $f$  can be less or greater than unity.

**acyclic** Describing a compound that is not cyclic (i. e. a compound that does not contain a ring in its molecules).

**活化剂** 参阅 promoter.

**有效质量** 参阅 mass action, law of.

**活性点** **1.** 催化剂表面存在催化活性的部位, 或催化剂实际有效的部位。  
**2.** 当酶作催化剂时, 酶与底物结合的位置 (在分子水平上)。参阅 enzyme.

**活度** **1.** 符号:  $a$ 。溶剂化物质的一种取决于自身浓度的热力学性质 (如与其他物质反应的趋势)。真实物质表现为与理想行为的偏差, 必须将浓度校正项——活度引入到描述真实溶剂化的方程中去。  
**2.** 符号:  $A$ 。放射性物质在单位时间内衰变的平均原子数。

**活度系数** 符号:  $f$ 。溶剂化物质偏离理想程度的量度。定义为:  $a = fc$ 。 $a$  为活度,  $c$  为浓度。对理想溶液,  $f = 1$ ; 对真实体系,  $f$  可能小于或大于 1。

**无环的** 没有环的化合物 (即分子内不含环的化合物)。