

# Alchemical Glossary

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### Adept

A highly experienced chymist, often specifically one who has successfully prepared grand arcana like the philosophers' stone.

### Alembic

A distillation head comprising a dome to collect the vapors rising from a boiling substance (generally held in an attached curcubit) and a gutter and beak to channel the condensed vapors into a receiver. Used in preference to a retort for distilling volatile materials.

### Alkahest

A solvent described by Van Helmont that is supposedly able to divide all substances into their component ingredients and then reduce these further into their primordial water.

### Ambergris (or "ambergreece")

A fragrant secretion of the sperm whale, used in perfumes.

### Aqua fortis

Literally, "strong water," an acid generally prepared in Newton's day by distilling saltpeter with oil of vitriol or with vitriol itself. The aqua fortis of commerce was composed primarily of nitric acid.

### Aqua regia

Literally, "royal water," an acid capable of dissolving gold, usually prepared in the early modern period by dissolving sal ammoniac in aqua fortis, and today by mixing a three-to-one ratio of hydrochloric acid and nitric acid.

### Aqua vitae

Literally, "water of life"; generally distilled alcohol.

### Arcanum, arcana

A secret; literally, "something locked in a chest [*arca*]."

### Argyropoeia

The transmutation of base metals into silver.

### Arsenic

In early modern usage, the term arsenic refers to what we call white arsenic or arsenic trioxide.

### Athanor

A chemical furnace.

### Aurum horizontale

A Helmontian term, defined in the front matter of the *Opuscula medica inaudita* as a substance that "is gold in weight, but not yet sufficiently yellow"; cf. Luna fixa.

### Balsamus fuliginis

Literally, "balsam of soot," an arsenic-based salve for wounds.

### Balsamus Samech

A Paracelsian medicament prepared by digesting spirit of wine with salt of tartar; the salt (largely potassium carbonate) absorbs water from the spirit of wine (dilute ethanol) and dissolves itself into a thick, slimy liquid.

### Bezoar

A quasi-legendary stone with universal curative properties found in the bodies of certain animals. The name is occasionally transferred analogically to other medicinal substances, such as *Bezoardicum minerale* (mineral bezoar, a precipitate of antimony pentoxide produced by the action of aqua fortis on butter of antimony).

### Blas

A Helmontian term, defined in the front matter of the *Opuscula* as "a power of motion, whether alterative motion or local motion." In Van Helmont's cosmos, Blas is a force that causes motion and change.

### Butter of antimony

In modern terms, antimony trichloride. Usually prepared in the seventeenth century by distilling a dry mixture of corrosive sublimate (mercuric chloride) and antimony (antimony trisulphide); the "butter" distills over as a white or yellowish fluid that congeals into a solid of a buttery consistency.

#### Calcanthum

The residue produced by strongly roasting blue vitriol (copper sulfate); it is composed mostly of copper oxide.

#### Calcination

A chemical operation involving roasting a substance in an open dish over a hot fire. The product of calcination is referred to as a calx or calcinate.

#### Caput mortuum

Literally, "dead head"; the nonvolatile residue left over in the bottom of a retort or alembic after distillation.

#### Chrysopoeia

The transmutation of baser metals into gold.

#### Cinnabar

A bright red stone, the naturally occurring ore of mercury, chemically mercuric sulfide.

#### Circulation

In modern terms, refluxing; that is, heating a substance (generally in a sealed vessel) to make it evaporate, recondense, and reevaporate continuously.

#### Cohobation

A chemical operation wherein a distillate is poured back over the residue and distilled off again. This process may be often repeated.

#### Colcothar

The residue produced by strongly roasting blue vitriol (copper sulfate); it is composed mostly of copper oxide. The residue from the roasting of iron vitriol (ferrous sulfate) is also called colcothar and is composed of iron oxides.

#### Colophony

A kind of tree resin, sometimes used for sealing vessels airtight.

#### Colostrum

A black material of uncertain composition that alchemists sometimes produced by boiling a lixivium of salt of tartar with oil of terebinth.

#### Concrete

A compound body.

#### Crabs' eyes

Calcareous concretions found in the bodies of crayfish, composed mostly of calcium carbonate and used medicinally. The liquor of crabs' eyes is produced by dissolving these concretions in vinegar.

#### Crisis

In chymical terms, the crisis of a thing is the totality of its virtues and powers.

#### Cucurbit

A gourd-shaped flask (oval body with a neck of greater or lesser length). When fitted to an alembic, the two form a distillation apparatus.

#### Deckname, Decknamen

Literally, a cover name. A term used to hide the identity of a substance or thing; e.g., "hermaphroditical body" for regulis martis.

#### Deflagration

A chemical operation wherein a material or mixture (generally containing saltpeter) is thrown into a hot crucible, where it inflames like gunpowder.

#### Detonation

Deflagration.

#### Drif

A term used by Van Helmont (*Ortus medicinae*, 1648, 595) for the powerful medicinal substance prepared and used by an Irish chymist named Butler.

#### Duelech

According to Van Helmont, the material of which bladder and kidney stones are produced.

#### Dulcify

Literally, "to sweeten"; see Edulcorate.

### Eagle

A *Deckname* used in the Philalethes treatises for a distillation; that is, sophic mercury of seven eagles has been distilled seven times.

### Edulcorate

A chemical operation in which salty or sour materials are removed from a product to leave a "sweetened" (generally meaning tasteless in this context) substance. Edulcoration may be carried out by simple washing with water, by repeated distillations of water or spirit of wine, or by other means.

### Egg

A digesting flask with an oval (egg-shaped) body and a long neck.

### Elixir

Most usually, a synonym for the philosophers' stone. In some cases, however (for example, the "elixir of volatile salt"), elixir can mean merely a potent medical arcanum.

### Empyreuma (or empyreumatics)

Burned-smelling materials produced during a distillation.

### Ens primum

Literally, "first being"; the most potent and purified essence of a thing.

### Ens veneris

Literally, "being of Venus [i.e., copper]." A Helmontian pharmaceutical made by George Starkey and Robert Boyle in the early 1650s. Starkey produced it, at least initially, by subliming a mixture of calcined copper vitriol (colcothar) and sal ammoniac.

### Essential oil

The volatile oil isolated by distilling plant materials, generally by steam distillation.

### Essential salt

A salt, named by analogy with essential oil, prepared from plant material; it was supposed to contain the crasis of the herb.

### Exantlation

Literally, "exhaustion"; a Helmontian term referring to the loss of corrosivity that acids suffer as they act on other substances.

### Feces

Residues, either from distillation (e.g., caput mortuum), solution, sublimation, or other purification processes.

### Flowers

A sublimate; the term arises from the radiate crystals resembling flowers that are often produced during the sublimation of certain substances. The term "flowers of sulfur" is still used occasionally today to refer to sulfur purified by sublimation.

### Gas

A Helmontian term, defined at the start of his *Opuscula medica inaudita* as "a noncoagulable spirit, such as is belched out from fermenting wine, or likewise that red substance produced when aqua fortis is acting."

### Gas sulphuris

The Gas produced by burning sulfur; in modern terms, sulfur dioxide.

### Gas sylvestris

The Gas produced by burning charcoal; in modern terms, carbon dioxide.

### Glaure, or glaure Augurelli

A substance mentioned by Giovanni Aurelio Augurello in his 1515 poem *Chrysopoeia*. Van Helmont mentions it and notes that "this nymph lacks a proper name up to this day" ("Glaure Augurelli, quae Nympha alio nomine proprio caret hactenus"; *Ortus medicinae*, 1648, "In verbis, herbis et lapidibus est magna virtus," 577). Indeed, its identity is uncertain, although it has been variously identified as a component of gold, as bismuth, and as other substances.

### Humor

A liquid.

### Jove or Jupiter

Tin.

**Lili**

A Paracelsian remedy containing antimony, praised by Van Helmont (*Ortus medicinae*, 1648 "Arcana Paracelsi," 790).

**Litharge**

Calx of lead, or yellow lead oxide, prepared by roasting lead.

**Lixivate**

To purify a material by leaching, that is, dissolving the soluble component in hot water and separating it, often by filtering.

**Lixivium**

The liquid product of leaching.

**Luna**

Usually silver, but in George Starkey's terminology, it can also be a *Deckname* for antimony.

**Lunafaction**

The making of silver.

**Luna fixa**

A metal having the weight and chemical properties of gold but lacking its color.

**Lute**

Either the claylike compound smeared over joints and vessels to seal and protect them or the act of such sealing.

**Mars**

Usually iron, but to Newton, George Starkey and others in the tradition of Alexander von Suchten it can also mean the male, sulfurous "seed" found in iron, and by extension found in the martial regulus of antimony.

**Mellago**

Any artificially produced substance with the consistency of honey.

**Menstruum**

A solvent, often of corrosive character.

**Mercurius vitae**

Antimony oxychloride; a poisonous and violently emetic white powder made by precipitating butter of antimony with water.

**Mercury, sophic**

The philosophers' mercury; the material of which the philosophers' stone was supposed to be made also sometimes the "prime matter" of which the world was thought to be composed.

**Mercury, vulgar**

The Hg of our periodic table.

**Mercury of the metals**

A hypothetical ingredient of all metals, which supposedly combined with sulfur and sometimes salt to yield the complete metal.

**Minium**

Red lead oxide, often made by roasting litharge (lead monoxide) in the presence of air.

**Moon**

See Luna.

**Niter**

Either saltpeter (potassium nitrate) or "the volatile niter," a hypothetical component of the atmosphere that formed the respirable part of air and supplied a principle of life to the world.

**Oil of terebinth**

A wood oil extracted by distillation, either oil of turpentine extracted from pine and other northern evergreens or the oil of the tropical terebinth tree.

**Oil of vitriol**

See Spirit of vitriol.

**Per deliquium**

Literally, "by dissolution," referring to hygroscopic materials (e.g., salt of tartar) that are allowed to dissolve in the humidity of the open air.

**Peroledi**

A Helmontian (and perhaps Paracelsian) term for the layers of the air.

**Phlegm**

A term for any watery substance produced or isolated by laboratory operations, especially distillation. The term also refers to one of the four humors in the human body.

**Phlogiston**

A burning substance, usually associated with sulfur.

**Powder of Vigo**

A substance associated with the chymist Johannes de Vigo and described in Van Helmont's *De lithiasi*.

**Pyrotechny**

A synonym for chymistry in the Helmontian tradition.

**Rectify**

To "correct" a substance, usually by purifying or concentrating it by distillation.

**Regulus**

The metallic component refined from an ore. Most often applied by Newton and other chymists to metallic antimony or alloys thereof.

**Regulus martis**

Literally, "regulus of Mars," often called "martial regulus," the regulus of antimony produced by refining stibnite with iron.

**Regulus stellatus**

Martial regulus that has been allowed to crystallize slowly under a thick slag, forming a starlike pattern on its surface.

**Retort**

A vessel for distillation.

**Reverberation**

The process of high-temperature heating within a domed furnace, which was thought to drive the flames back downward.

**Roche alum**

The *alumen roccae* of the medieval alchemists, so called because of its originally Moroccan provenance.

**Sal alkali**

An alkaline carbonate (rarely hydroxide); in Newton's day the term was used for both the potassium and sodium salts.

**Sal ammoniac**

A volatile salt composed mostly of ammonium chloride.

**Sal gemmae**

Rock salt.

**Salt of tartar**

A salt produced by calcination of tartar (potassium bitartrate); it is predominantly potassium carbonate.

**Saltpeter**

See Niter.

**Saturn**

Usually lead, but in Philalethan chymistry it can also refer to stibnite.

**Scoria**

Slag.

**Slact**

Slag.

**Sol**

Usually gold, but in Philalethan chymistry it can also refer to sulfurous component of metals, especially the sulfur of iron that is transferred to martial regulus of antimony during the latter's reduction from stibnite.

**Solifaction**

The making of gold.

**Spagyria**

A branch of chymistry concerned with the separation of compound bodies into their constituents and their recombination, generally with an eye toward their medicinal use.

Spirit of vitriol

Sulfuric acid, usually made by distilling iron or copper sulfate.

Spirit of wine

Ethanol prepared by the distillation of wine; the spirit of wine of commerce in Newton's day was about 50 to 70 percent ethanol.

Stibium

Stibnite, the native sulfide ore of antimony.

Stinking spirit

Usually ammonium carbonate in George Starkey's notebooks.

Sublimation

In modern chemistry, the conversion of a solid to vapor without passing through the liquid phase. In Newton's day, the term was used more generally to refer both to this and to some distillations.

Succedaneum

A drug or chemical that has been substituted for another, based on similarity of action or properties.

Sulfur

Either the element sulfur of our periodic table or the hypothetical substance that, along with mercury and salt, made up the three Paracelsian principles.

Sulfur auratum

Antimony pentasulfide, a bright yellow compound.

Sun

See Sol.

Tartar

The salt, largely potassium bitartrate, that forms as crystalline deposits in containers of wine, often purified to form "cream of tartar."

Terra figulina

Literally, "potter's clay."

Touchstone

The black stone upon which metals were rubbed to give a streak of characteristic color indicating the type and quality of the metal.

Urinal

A round-bottomed flask traditionally used by physicians for collecting urine samples.

Venus

Usually copper, but in Philalethan chymistry it can also refer to silver as a *Deckname*.

Vermilion

Cinnabar, mercuric sulfide of a brilliant red color.

Vitriolated tartar

Potassium sulfate, produced by reacting salt of tartar or oil of tartar with spirit of vitriol.

Vitriol of Mars

Iron sulfate.

Vitriol of Venus

Copper sulfate.

Wormwood

A bitter European herb, *Artemisia absinthium*.

Starkey, G. (2004). *Alchemical laboratory notebooks and correspondence* (W. R. Newman and L. M. Principe, Eds.). Chicago: The University of Chicago Press.

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