

COMMON ACIDS.	COMMON SALTS.
HNO ₃ , hydric nitrate.	KNO ₃ , Potassic nitrate.
HNO ₂ , " nitrite.	AgNO ₃ , Argentie "
H ₂ SO ₄ , " sulphate.	CaSO ₄ , Calcic sulphate.
H ₂ SO ₃ , " sulphite.	PbSO ₃ , plumbic sulphite.
HClO ₃ , " chlorate.	KClO ₃ , potassic chlorate.
HClO ₂ , " chlorite.	NaClO ₂ , sodic chlorite.
HClO, " hypochlorite.	KClO, potassic hypochlorite.
	FeSO ₄ , ferrous sulphate.
	Fe ₂ Cl ₃ , ferric chloride.

19. The following list gives the composition of a number of common substances. The student will do well to make himself thoroughly familiar with their chemical names and formulas. He should notice the class to which each belongs:—

COMMON NAME.	CHEMICAL NAME.	FORMULA.
Water	Hydric oxide	H ₂ O
Quick-lime	Calcic "	CaO
Oxide of Zinc	Zincic "	ZnO
Black oxide of copper	Cupric "	CuO
Red oxide of mercury or } Red precipitate	Mercuric "	HgO
Oxide of silver	Argentie "	Ag ₂ O
Oxide of lead or } Litharge	Plumbic "	PbO
Magnesia	Magnesic "	MgO
Potash	Potassic "	K ₂ O
Slaked lime	Calcic hydrate	CaH ₂ O ₂
Caustic soda	Sodic "	NaHO
" potash	Potassic "	KHO
Carbonic acid	Carbonic anhydride, or	CO ₂
Choke-damp, After-Damp }	" dioxide	
White sand, quartz, flint &c	Silica, or silicic "	SiO ₂
Black oxide of manganese	Manganic "	MnO ₂
Tin-stone	Stannic "	SnO ₂
Red oxide of iron	Ferric oxide	Fe ₂ O ₃
Alumina (clay)	Aluminic "	Al ₂ O ₃
Loadstone or	Ferrous "	FeO
Black oxide of iron }	Ferric " and	Fe ₃ O ₄
Red lead	Red plumbic oxide	Pb ₃ O ₄
Vitreous copper	Cuprous sulphide	Cu ₂ S
Galena	Plumbic "	PbS
Zinc Blende	Zinc "	ZnS
Common salt	Sodic chloride	NaCl
	Calcic "	CaCl ₂ + 6H ₂ O
	Argentie "	AgCl
Muriatic or hydro- chloric acid }	Hydric "	HCl
Fluor-spar	Calcic fluoride	CaF
Bleaching powder }	Calcic hypochlorite	CaCl ₂ O
Oil of vitriol, sulphuric acid }	Hydric sulphate	H ₂ SO ₄
White vitriol	Zinc "	ZnSO ₄ + 7H ₂ O
Blue vitriol, blue stone }	Cupric "	CuSO ₄ + 5H ₂ O
Green vitriol	Ferrous "	FeSO ₄ + 7H ₂ O
Plaster of paris, } gypsum	Calcic "	CaSO ₄ + 2H ₂ O
Heavy spar	Baric "	BaSO ₄
Glauber's salts	Sodic "	Na ₂ SO ₄ + 10H ₂ O
Epsom salts	Magnesic "	MgSO ₄ + 7H ₂ O
Aqua fortis, nitric acid	Hydric nitrate	HNO ₃
Saltpetre, nitre	Potassic "	KNO ₃
Chili saltpetre	Sodic "	NaNO ₃
Lunar caustic or } Nitrate of silver	Argentie "	AgNO ₃
	Cupric "	Cu(NO ₃) ₂ + 6H ₂ O

Chalk, limestone, } marble &c	Calcic carbonate	CaCO ₃
Washing soda	Sodic "	Na ₂ CO ₃ + 10H ₂ O
Potashes, pearlashes	Potassic "	K ₂ CO ₃
White lead	Plumbic "	PbCO ₃
Smelling salts	Ammonic "	(NH ₄) ₃ (CO ₃) ₂
	Phosphoric anhydride	P ₂ O ₅
	Tribasic phosphoric acid	H ₃ PO ₄
Bone-earth, bone ash	Tricaleic phosphate	Ca ₃ (PO ₄) ₂
Vinegar, acetic acid	Hydric acetate	C ₂ H ₃ O ₂
	Potassic acetate	KC ₂ H ₃ O ₂
Sugar of lead	Plumbic "	Pb(C ₂ H ₃ O ₂) ₂ } + 3H ₂ O
Verdigris	Cupric "	Cu(C ₂ H ₃ O ₂) ₂ } + 3H ₂ O
	Zinc "	Zn(C ₂ H ₃ O ₂) ₂ } + 3H ₂ O
	Chromic anhydride	CrO ₃ , (chromium, } Cr=52.5)
Chromome acid	Hydric chromate	H ₂ CrO ₄
Chromic yellow	Plumbic "	PbCrO ₄
Chromate of potash	Potassic "	K ₂ CrO ₄
Sugar	Sucrose	C ₁₂ H ₂₂ O ₁₁
Alum	Aluminic potassic }	Al ₂ K ₂ (SO ₄) ₄ + }
	sulphate	24H ₂ O
Cast iron corres- ponds closely to }		Fe ₄ C
Coal oil "		C ₁₂ H ₂₄

Many of the metallic salts owe their crystalline character to a certain definite number of atoms of water which they hold in a state of chemical combination, and this is termed *water of crystallisation*. It determines the crystallographic form and often modifies the color of the crystal. It is held with varying tenacities. Some salts give up their water of crystallisation to the air at ordinary temperatures and fall to a powder (*efflorescence*), as sodic carbonate. Others, as common alum, require considerable heat to drive off the water. This water is essential to the crystalline form but not to the chemical properties of the salt. It is chemically combined, as is proved by its strict obedience to the law of multiple proportions, but it is less powerfully combined with the other materials than the water in hydrates, as CaH₂O₂. The latter requires a comparatively high temperature to effect its expulsion and is called *water of constitution*, *constitutional water*, or *water of hydration*. Often a salt of this kind when dried will again absorb water from the air and become a hydrate, (*deliquescence*).

NOTES ON HYGIENE.

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(Continued from last month.)

Let us next examine the ear. It consists of three distinct parts the outer ear or lobe, the middle ear or tympanum, and the inner ear or labyrinth. The lobe you can examine for yourself, consequently I need not describe it. It is so fashioned that it can with the greatest success receive sound and transmit it to the inner ear through the auditory canal. The tympanum or drum is a cavity behind a dense slanting fibrous membrane called the *membrana tympani*, behind which there is a tube leading to the pharynx or upper part of the throat, called the *Eustachian tube*. The labyrinth or internal ear consists of three parts, called the vestibule, the cochlea, and the semicircular canals. Sound is transmitted from the vestibule to the brain through the auditory nerve. The cochlea is shaped somewhat