Acetate of lead and pyroacetic spirit

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by decomposing a solution of the magnesian salt with solution of ammonia, as long as precipitation takes place; then filter and evaporate. Lactate of lead is also a gummy salt; but having left a syrupy solution for a long time, a granular salt was obtained, which by drying became light and as brilliant as silver. It does not alter by exposure to the air, and dissolves in alcohol. In general lactic acid has the property of yielding a salt of lead, which is soluble in alcohol, a character by which it is distinguished from many other acids. When the neutral salt is decomposed by a small quantity of ammonia, a subsalt is precipitated; it is also obtained by digesting the neutral salt with an excess of oxide of lead, which swells up. The subsalt dissolves with difficulty in water; it is most frequently coloured with extractive matter; its aqueous solution is rendered turbid by the carbonic acid of the air, has an alkaline reaction, and an astringent taste. When it is boiled in water, and the boiling solution is filtered, the greater part of the salt is precipitated in the state of a light yellow powder. If this subsalt be dried, it becomes farinaceous and soft to the touch; and if it be ignited, it burns like amadou, and leaves metallic lead amounting to about $\frac{1}{3}$ of the salt employed.

Lactate of copper is green, and does not crystallize. According to Scheele the lactate of zinc crystallizes. The perlactate of iron is of a red brown colour, gummy and insoluble in alcohol. The protolactate of mercury is deliquescent, and dissolves in alcohol; but it is easily decomposed by it, yielding carbonate of mercury, and the liquid acquires an æthereal odour. The perlactate of mercury is red, gummy, and deliquescent. After some weeks it deposits a semi-crystalline powder, which has not yet been examined. Lactate of silver is a soft transparent gummy mass, which has a disagreeable taste, is soluble in alcohol, and is slightly decomposed by it; it becomes greenish-yellow by drying, and red when redissolved in water; it then deposits a brown precipitate.

What has now been stated refers to lactates more or less mixed with alcoholic extract; they are yet unknown in a state of purity. Those who may occupy themselves with this subject in future, ought principally to direct their attention to determining whether what is called lactic acid is a mixture of two acids, which resemble each other, but which give different salts.—*Ann. de Chim. et de Ph.* xlv. 420.

ACETATE OF LEAD AND PYROACETIC SPIRIT. BY M. MATTEUCI.

Acetate of lead, when exposed to a gentle heat, begins to fuse at 136° Fahr.; the liquid mass boils at 212°, and afterwards condenses into a very white mass at nearly the same heat. During this first fusion of the acetate of lead, it loses merely the three atoms of water which it contained. When heated above the temperature at which it becomes solid, it undergoes a second fusion, and at 536° it is completely liquid. It boils for some time, and after having acquired a brownish colour, it again becomes solid, and has a dirty white colour, without any appearance of crystallization; this mass is trisacetate

cetate of lead. During this operation it yields only acetic acid and a little pyroacetic spirit; afterwards the latter product only is obtained, mixed with much carbonic acid. Analysed by means of oxide of copper pyroacetic spirit yielded

Oxygen.....	33·7361	= 2 atoms.
Hydrogen.....	6·4039	= 3 do.
Carbon	59·8600	= 5 do.

100·0000

When pure pyroacetic spirit rapidly decomposes: by exposure to the air for a few minutes it becomes acid and milky, acetic acid and a substance of an oleaginous appearance are produced. It is rapidly decomposed by potassium with the disengagement of much heat; the spirit thickens and becomes of a yellowish-brown; soon an oleaginous substance collects on the surface, which has a fine green colour and a smell like that of mint; the liquid from which it separates contains acetate of potash. Chlorine occasions the formation of a similar oil.—*Ann. de Chim. et de Ph.* vol. xlv. p. 429.

REDUCTION OF TITANIUM. BY M. LIEBIG.

M. Rose has observed that the chloride of titanium and ammonia discovered by him did not sublime when heated, and that at higher temperatures a part of the salt was reduced to metallic titanium, a very thin plate of which covered the place previously occupied by the salt. It is upon this observation that the following method is founded, by which any quantity of this metal may be obtained at a moderate expense.

Put into a glass tube of two or three feet long and half an inch in diameter, recently prepared chloride of titanium and ammonia. This substance, without being pressed, ought to fill about half the tube, which is then to be placed horizontally on a furnace, and connected with an apparatus for disengaging ammoniacal gas, which is to be well dried by being passed through a tube containing caustic potash.

The empty part of the tube is then to be surrounded by burning coals, and a gentle current of ammonia is to be passed through it. The part which contains the salt is to be gradually heated, and the heat is to be insensibly increased until the tube begins to soften. The chloride of titanium and ammonia is entirely reduced; and when the tube is cooled, the metal may be taken out in the state of powder, and possessing a deep violet-blue colour, or in cohering scales with the appearance of copper. Care must be taken not to expose it to the air before it is cold, because it readily burns, and is converted into titanous acid. In using *sublimed* chloride of titanium and ammonia for the reduction of titanium, the metal is obtained in the form of very brilliant crystalline groups.

The part of the tube which is least heated is sometimes stopped up by the muriate of ammonia which collects in it; on which account it is useful to introduce a small tube about 6 or 8 inches in length, and to remove the muriate of ammonia which adheres to it occasionally.

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