



## Whiteness of precipitated sulphur

H. Rose

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does not reduce the chromic acid. Sulphur only is separated, but especially in the first case, the separation requires some hours. If, however, the solutions be heated, then a notable quantity of sulphuric acid is formed, sulphur being also always separated, but in small quantity.

A solution of iodate of potash, or of soda even, when cold, is decomposed by sulphuretted hydrogen, and a great quantity of sulphuric acid is formed. It then becomes of a reddish brown colour, on account of the iodine set free, but the ulterior action of the sulphuretted hydrogen decolorates it. The deposit of sulphur, which occurs in this case, is caused by the conversion of the iodine set free into hydriodic acid. The solution reddens litmus paper sensibly after decomposition, and contains sulphuric and hydriodic, but no iodic acid. After the destruction of the sulphuretted hydrogen by a solution of oxide of copper, nitrate of silver produces in the liquor separated from the sulphuret of copper, a precipitate insoluble in ammonia. It is well known that a mixture of free iodine and water is converted by sulphuretted hydrogen into hydriodic acid, accompanied with a deposit of sulphur, and without forming any sulphuric acid. If, however, the mixture be heated during the action of the sulphuretted hydrogen, sulphuric acid is formed in small quantity. A solution of bromate of potash acts with sulphuretted hydrogen like that of iodate of potash. In the cold solution there are produced sulphuric and hydrobromic acids and a deposit of sulphur.

Chlorate of potash, on the contrary, is not decomposed by sulphuretted hydrogen, either cold or even at a boiling heat. Neither sulphuric nor hydrochloric acid is formed, and the liquor does not lose its neutrality. If it assume an opalescent appearance, on account of a trace of sulphur which is separated, it is derived merely from the decomposition of some sulphuretted hydrogen by the air of the atmosphere. If the sulphuretted hydrogen contained in the solution be destroyed by oxide of copper, a salt of silver added to the solution after the separation of the sulphuret of copper, produces no precipitate of chloride of silver. The solution of oxichlorate of potash acts exactly the same as that of the chlorate, with sulphuretted hydrogen.—*Journal de Pharmacie*, Aout, 1839.

#### WHITENESS OF PRECIPITATED SULPHUR. BY H. ROSE.

It is a well-known fact, that sulphur, which separates from liquids in a state of minute division, has not the usual yellow colour of sulphur, but is whitish or grayish. The cause of this difference of colour has been long a subject of discussion, and it has been generally concluded that it arises from the different states of division. If milk of sulphur and flowers of sulphur be examined by the microscope, the grains of the milk of sulphur are certainly observed to be the smaller of the two; but this is unquestionably not the only cause of the difference between them.

In the opinion of M. Rose it has escaped notice, that the peculiar yellow colour of sulphur is wanting only in those cases in which it

is deposited from solutions containing free sulphuretted hydrogen; the more they contain of this the whiter is the sulphur. It is never whiter than when it is deposited from water saturated with sulphuretted hydrogen, in which the hydrogen of the sulphuretted hydrogen has been gradually oxidized by the contact of the air. If on the contrary finely divided sulphur be precipitated from solutions which do not contain free sulphuretted hydrogen, it has a yellow colour, even when the quantity is small. It is sufficient to decompose a small quantity of a solution of an alkaline hyposulphite by an acid, to be convinced of the truth of this assertion.

White or gray precipitated sulphur, (milk of sulphur) contains a very small quantity of sulphuretted hydrogen, in the state of persulphuret of hydrogen. If it be fused and the small quantity of gas disengaged from the surface of the fused sulphur be conducted by the aid of a current of atmospheric air into a solution of lead, a notable quantity of sulphuret of lead is obtained. M. Rose treated in this way a large quantity of the different modifications of this white sulphur prepared in different modes, and he always obtained the same result.

In melting flowers of sulphur, or roll sulphur, it is true that there is sometimes obtained a little sulphuretted hydrogen; but the quantity of it is so small that it cannot be compared with that disengaged from the milk of sulphur. Water cannot remove from this last-mentioned substance the small quantity of sulphuretted hydrogen which it contains; for all the modifications examined were washed with water till it produced no effect in a solution of lead.—*Journal de Pharmacie*, Aout, 1839.

#### URIC ACID.

M. Fritzsche has analysed hydrated crystallized uric acid. When the process given by M. Bœtger of preparing uric acid is adopted, and which consists in dissolving pigeons' dung in a solution of borax, and precipitating the uric acid with hydrochloric acid, the acid is procured in much larger crystals when the solution contains a great quantity of organic matter than when it does not contain any. The separation of the uric acid takes place readily, and but a small quantity remains in the liquor. Even this separates on standing, in the form of yellowish brown dendritic crystals, of a line in length, and are hydrated uric acid. This hydrate, when dried at  $212^{\circ}$  Fahr., loses about 21.52 per cent. of water. It is only these large crystals which are hydrated; whenever it is precipitated from hot dilute solutions the acid is always of this kind; the smaller the crystals are, the more readily they part with a portion of their water at the usual temperature, and it is on this account that they have been so long unknown.—*L'Institut*, No. 304.

#### CHLORIODIDE OF POTASSIUM. BY M. FILHOL.

When a current of chlorine gas is passed through perfectly neutral iodide of potassium dissolved in twice its weight of water, the first bubbles of the gas communicate a brown colour to the liquor; the