

ON A NEW PROCESS FOR THE EXTRACTION OF INDIGOTIN FROM COMMERCIAL INDIGO.

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A few years ago I had occasion to use indigotin as pure as possible and in considerable quantities, for industrial purposes, and endeavored to obtain it from commercial indigo by some of the well known methods. Eventually I adopted the following process, which is easy of execution and gives a satisfactory yield.

Commercial indigo, finely ground and intimately mixed with about an equal weight of zinc dust is spread in layers, about an inch deep, on thin boards, and introduced into a steam chest so constructed that it can be closed air tight, and provided with a steam pipe for the introduction of steam and one for its exit: also with an aperture for the introduction of a solution of sulphurous acid. The indigo mixture is also screened, to prevent condensed steam dropping upon it. When these arrangements are complete the air is driven out by a rapid current of steam: then the steam valve is nearly closed, a little steam being allowed to pass through the apparatus, so as to prevent the entrance of air. Next the solution of sulphurous acid is introduced, a little at a time, so as to saturate the steam in the chest with sulphur dioxide, and it is maintained in this condition while the reduction of the indigo is going on.

The reaction between the zinc, sulphur dioxide and indigotin goes on rapidly, and in about one or two hours the indigotin should be completely reduced. It then presents a dirty yellow or greenish yellow color, and when it dries, which it quickly does on taking from the steam chest, is not liable to rapid oxidation, but may be kept for several days without much change. From the mixture the indigo white may be recovered in an extraction apparatus by means of wood spirit, or by digestion in flasks filled to the neck with the same solvent. On exposure of the solution in shallow vessels to the air the indigotin is precipitated pure and crystalline. The yield is large, and probably a theoretical one when all necessary precautions are employed.