

ALIEN PROPERTY CUSTODIAN

PROCESS FOR MANUFACTURING LITMUS DYESTUFF

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This invention relates to improvements in the manufacture of litmus dyestuff by treating β -orcin with ammonia in the presence of an alkali.

Litmus dyestuff is generally prepared by fermentating in the open air *Roccella tinctoria* D.C., a kind of lichen or its analogeous vegetable such as *Roccella Montagnei* Bel. R. *fuciformis* D.C., *R. fucoides* Wain and *Ochrolechia tartarea* Massal, with an ammonium salt added thereto under an alkaline condition.

It requires as long time as about 40 days to produce litmus dyestuff by this known method, and the lichen, the raw material, is found only in very limited parts of the world. These are inevitable drawbacks of the known process.

According to this invention an easily obtainable material, β -orcin or its derivatives as diffractaic acid which is easily decomposed and produces β -orcin is employed as the raw material, and litmus dyestuff or analogous one can be produced in a very short time.

The new process consists of treating the raw material abovementioned with ammonia or an ammonia producing substance in the presence of an alkali, e. g. carbonate of alkali, bicarbonate of alkali, and caustic alkali.

This process is very simple and requires only a few hours for producing litmus dyestuff, and the sensitiveness of the product is not inferior to the best litmus dyestuff now sold in the markets.

A kind of lichen such as *Usnea diffracta* Wain which is quite different one from the aforementioned *Roccella* and *Ochrolechia*, contains a de-

riivative of β -orcin and is available as the raw material for this invention.

The process is described by way of following examples.

5 Example 1. 5 parts of β -orcin, 120 parts of sodium carbonate, 50 parts of ammonia and 50 parts of water, all in weight, are mixed together, and this mixture is heated for a few hours at a temperature between 60°C to 80°C when blue litmus dyestuff is produced.

10 Example 2. 5 parts of β -orcin, 15 parts of caustic potash, 5 parts of ammonium carbonate and 30 parts of water, in weight, are mixed together, and this mixture is heated for a few hours at a temperature between 50°C to 80°C.

15 Example 3. 10 parts of diffractaic acid, 10 parts of caustic soda and 100 parts of water are mixed, and this mixture is heated for a few hours, thereafter 25 parts of 30% ammonia water is added to the mixture to react at a temperature between 50°C to 80°C.

20 Example 4. 200 parts of *Usnea diffracta* Wain, 10 parts of caustic soda and 200 parts of water are mixed, and this mixture is heated for a few hours, thereafter 50 parts of 30% ammonia water is added to the mixture to react at a temperature between 50°C to 80°C.

25 In these examples the reaction can be accomplished without heating, but in that case it requires a long time till the product is obtained.

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