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ALIEN PROPERTY CUSTODIAN

PROCESS FOR THE PREPARATION OF ANHYDROUS COMPOUNDS OF THE PENTITES

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The preparation of anhydrous bodies of the hexites by way of distillation in the presence of catalysers is already known. Anhydrous compounds of the pentites, however, have not yet been prepared.

It has now been found that pentites can be transformed into anhydrous compounds, if the pentites are heated to higher temperatures, and/or are treated with catalysers promoting the splitting-off of water. Methionic acid is particularly well suited for use as catalyser.

In consequence of the reduction in size of the molecules due to the splitting-off of water the anhydrous compounds are distillable. In the process of preparing anhydrous pentites under the present invention the conditions of work are to be selected in such a way that a too extensive undesired splitting-off of water in the direction towards furfural is prevented.

The anhydrous pentites are capable of being readily esterified with acid. They can be advantageously used as esterifying agents in the fat and lacquer industries, as softening agents in the varnish industry, and for the manufacture of printing cylinders and oil cloth, in the motorcar industry as a material for the protection from low temperatures, as basic material for ointments in the pharmaceutical and cosmetic industries, etc.

Examples

1. 60 milligrams of methionic acid are admixed to 60 grams of xylite, whereupon the mixture is stirred for two hours at ordinary tempera-

ture, then heated up to 50 to 70 centigrades for one hour, and thereafter cooled down to room temperature, whereupon the water is distilled off, at first in vacuo, and later on at a still further reduced pressure (a high vacuum of 3 to 5 millimeters of Hg). The residue is passed through a high-vacuum distillation process, in the course of which, in addition to but a small quantity of fore-shot, the anhydrous compounds will come over at 218 centigrades and 8 millimeters of Hg as a fair and viscid oil.

2. 50 grams of xylite are heated up to 120 centigrades for one hour together with 2% of coal, subsequently filtered, when still hot, and quickly distilled off in vacuo at a 5 mm column. After fractionation one will obtain:

Mono-anhydrous xylite KP 207° 5 mm Hg 34 g=68%
Di-anhydrous xylite KP 170° 5 mm Hg 3 g=5%

Either of these compounds is a fair and viscid oil of yellowish shade.

3. 50 grams of xylite are quickly heated in vacuo up to 250 centigrades as a minimum together with 5% of Zn Cl₂. An oil mixture, light-brown in color, will pass over, from which after fractionation the following will be obtained:

Mono-anhydrous xylite KP 207° 5 mm Hg 20 g=40%
Di-anhydrous xylite KP 170° 5 mm Hg 10 g=20%

Other catalyzers, e.g. aluminum oxide, which do not display their effect in the gaseous phase, can also be used as catalyzing agents in the place of methionic acid, coal, chloride of zinc.

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