Patented Feb. 4, 1941 2,230,752

UNITED STATES PATENT OFFICE

2,230,752

SATURATED ETHYLAMINE DERIVATIVES

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No Drawing. Application February 12, 1938, Serial No. 190,326. In Germany February 15, 1937

3 Claims. (Cl. 260—583)

This invention relates to new and valuable chemical compounds which are saturated derivatives of ethylamine of the general formula

$$\begin{array}{l} R_1{-}CH{-}CH_3 \\ \quad\quad | \\ R_2{-}N{-}R_3 \end{array}$$

wherein R_1 is an alkyl radical having six carbon atoms in a straight or branched chain, R_2 is hydrogen or a lower alkyl radical, and R_3 is an alkyl radical having one, three or five carbon atoms, or cycloalkyl.

These compounds have favcurable antispasmodic properties.

R_1 is a straight chain or branched chain, hexyl radical. R_2 may be hydrogen, an alkyl radical, for example methyl, ethyl, propyl, isopropyl, butyl, isobutyl, isoamyl, etc. R_3 is likewise an alkyl radical containing one, three or five carbon atoms, for example of the kind mentioned with respect to R_2 or cycloalkyl, for example, cyclopentyl, cyclohexyl, methyl cyclohexyl radicals and the like.

The production of the new compounds is effected by treating saturated alkylethylamines of the formula:

$$\begin{array}{l} R_1{-}CH{-}CH_3 \\ \quad\quad | \\ H{-}N{-}R_2 \end{array}$$

wherein R_1 is an alkyl radical having six carbon atoms in a straight or branched chain and R_2 is hydrogen or an alkyl, cycloalkyl or aralkyl radical with agents which yield a hydrocarbon residue, that is to say, with alkylating, cycloalkylating, or aralkylating agents.

As alkylating agents there may be employed, for example di-methyl sulphate or di-ethyl sulphate. Another group of alkylating agents are the alkyl halides such as butyl, isobutyl or isoamyl halides, for example, the iodides or bromides. Finally, the alkylation of the initial amines may be effected by condensation with aldehydes or ketones and simultaneous reduction.

For the production of cycloalkyl derivatives of the initial amines known cycloalkylating agents may be employed. The initial amines may for example be condensed with cycloaldehydes or cycloketones and simultaneously reduced.

Finally, as aralkylating agents there may be employed benzyl chloride, benzaldehyde and hydrogen, phenylethyl chloride, phenylacetaldehyde and hydrogen etc.

Examples

1. 26 gms. of amino-2-octane,

$$CH_3.(CH_2)_5.CH.(NH_2).CH_3$$

were condensed with 17 gms. of cyclopentanone on the water bath and then dissolved in 200 ccs. of 75% alcohol and subjected to reduction on the water bath with 20 gms. of activated aluminium. The working up was effected by the usual processes.

The cyclopentylamino-2-octane, $C_{13}H_{27}N$ obtained boils at 120° C. under 9 mm. pressure as a colourless oil of slight basic odour. The hydrochloride crystallised from alcohol-ether in needles of melting point 105° C.

2. 42 gms. of methylamino-2-octane,

$$CH_3(CH_2)_5.CH.(NH.CH_3).CH_3$$

were heated with 15.5 gms. of isoamyl bromide under a reflux condenser and the reaction mixture was taken up in dilute mineral acid and the aqueous solution shaken out with ether for the removal of the non-basic portion. The base separated on the addition of alkali. The tertiary base, methylisoamyl - amino - 2 - octane, $C_{14}H_{31}N$ obtained boils at 150° C. under 15 mm. pressure. The yield was 60% of the theoretical.

What we claim is:

1. Saturated derivatives of ethyl amine of the general formula

$$\begin{array}{l} R_1{-}CH{-}CH_3 \\ \quad\quad | \\ R_2{-}N{-}R_3 \end{array}$$

wherein R_1 is an alkyl radical containing six carbon atoms, R_2 is a radical selected from the group consisting of hydrogen and lower alkyl radicals, R_3 is a radical selected from the group consisting of alkyl, containing one, three and five carbon atoms, and cyclo alkyl radicals.

2. Cyclopentylamino-2-octane.

3. Methylisoamyl-amino-2-octane.

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