

## THE ISOLATION OF FOETIDINE

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The hydrochloride of the alkaloid foetidine has found use in medicine as a hypotensive agent [1-3].

We have investigated the epigeal part of the plant *Thalictrum foetidum* collected in the budding period in the valley of the R. Chon-Kemin and at the village of Susamyr, Kirghiz SSR, with the aim of isolating the foetidine for industrial production. The amount of the substance in the raw material varied from 0.05 to 0.2%. The extractants used were organic solvents and aqueous solutions of mineral acids of different concentrations with subsequent adsorption on KU-1 and KU-2 cation-exchange resins. The alkaloids were desorbed by ethanolic solutions containing 1-3% of ammonia.

On extraction with diethyl ether, the yield of foetidine was 0.12%, with chloroform it was 0.09%, and the ion-exchange method 0.1%.

In other experiments, the comminuted raw material was extracted with 1-2% solutions of sulfuric, hydrochloric, and acetic acids with subsequent alkalization and extraction with chloroform. This gave 0.003% of combined alkaloids.

The ion-exchange method proved to be an effective one for the production of foetidine. The greatest yield was obtained when the raw material was extracted with 1% solutions of hydrochloric and sulfuric acids, followed by adsorption onto KU-1 cation-exchange resin. The results of the investigations performed have permitted the basic technological scheme for the isolation of foetidine from the epigeal parts of *Thalictrum foetidum* to be developed.

The comminuted raw material was extracted with weak solutions of acids followed by sorption onto KU-1 cation-exchange resin and elution of the alkaloids with a 1.5-2% solution of ammonia in 85-90% ethanol. The eluates were concentrated and treated with petroleum ether-chloroform (9:1). The petroleum ether can be replaced by extraction gasoline. The resulting extract was evaporated to dryness, and the residue was dissolved in 5% hydrochloric acid, after which the technical product that deposited was recrystallized. The yield of the preparation amounted to 85% of its content in the raw material.

### LITERATURE CITED

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