2. Ethylamine $(C_2H_5NH_2)$ can be obtained from N-ethylphthalimide on treatment with (2019 Main, 10 April I)

(d) CaH₂

(b) NH_2NH_2 (c) H_2O

(a) NaBH₄

2. The reaction for the production of ethylamine from N-ethylphthalimide can be takes place as follows:

$$\begin{array}{c} O \\ H \\ H \\ N \\ C_2H_5 \\ \hline \\ NH_2 \\ \hline \\ NH_2 \\ \hline \\ NH_2 \\ \hline \\ (Hydrazine) \\ H \\ NH \\ \hline \\ C_2H_5 \\ \hline \\ NH_2 \\ \hline \\ (Hydrazine) \\ \hline \\ NH \\ \hline \\ C_2H_5 \\ \hline \\ NH_2 \\ \hline \\ (Hydrazine) \\ \hline \\ (An aliphatic 1°-arnine) \\ \hline \end{array}$$

This reaction is the second step of Gabriel phthalimide synthesis for the preparation of aliphatic 1°-amines and amino acid. In this step concentrated alkali can also be used in place of hydrazine.