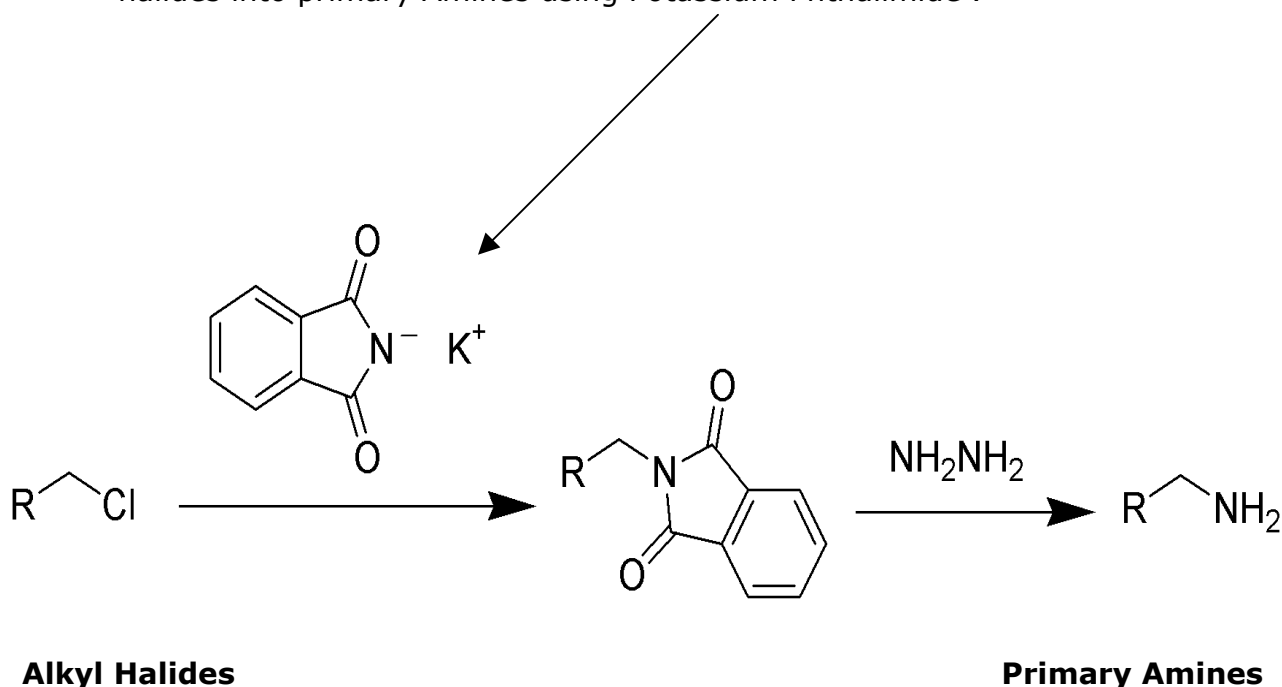


APPLICATIONS OF POTASSIUM PHTHALIMIDE

(1) It is a Reagent used in the Gabriel Synthesis of Amines.

Potassium Phthalimide is used for the synthesis of N-alkylated phthalimides which produce primary amines (Gabriel synthesis) by the hydrolysis reaction.

The **Gabriel synthesis**, is a Chemical Reaction that transforms primary Alkyl halides into primary Amines using Potassium Phthalimide .



The Potassium salt of the product reacts with a primary Alkyl Halide to form an Alkyl phthalic imide. The reaction fails with secondary alkyl halides.

(2) It is used in Hofmann Degradation Reaction

Potassium phthalimide, $\text{K}^+ \cdot \text{C}_8\text{H}_4\text{NO}_2^-$, a widely used reagent for the preparation of Anthranilic Acid *via* Hofmann Degradation or of Primary Alkyl Amines *via* the Gabriel Synthesis, Crystallizes in polar layers of potassium cations coordinated by five O and three N centres alternating with apolar layers of stacked benzene subunits.

(3) It is Used to produce Potassium Phthalimide-N-oxyl, a Organo Catalyst.

Potassium phthalimide-*N*-oxyl was used as an effective, easy to handle and readily available Lewis basic organocatalyst for the facile addition of Tri Methyl Silyl Cyanide to various Carbonyl compounds at room temperature under mild conditions to afford corresponding Cyanohydrin Tri Methyl Silyl Ethers in high to quantitative yields. The high yields of products, high turnover numbers of the catalyst, compatibility of other functional groups, and simplicity in the operation are the advantages.

(4) Used as an Intermediate for Dyes and Pesticides .

It is used as an intermediate for the synthesis of
Synthetic Indigo,
Pesticides ,
Pigments,
Dyes and Pharmaceuticals.
It is used also as a Fungicide.

(5) Use of Potassium Phthalimide for identification of Alkylene Bis Halides and Bis Sulfonates.

(6) Synthesis of N-Alkyl Phthalimides and N-Alkyl Succinimides through Alkylation of Potassium Phthalimide and Potassium Succinimide in dry media catalyzed by phase-transfer catalyst under microwave irradiation is also possible to give fairly high yield.

(7) Used as LR /AR /ACS Grade fine chemicals.