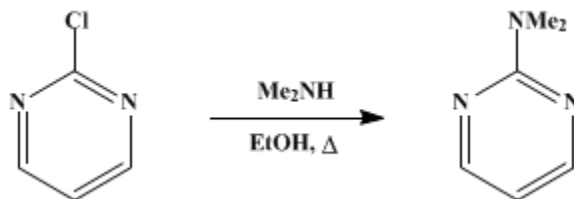


## 2-(DIMETHYLAMINO)PYRIMIDINE

[Pyrimidine,2-dimethylamino-]



Submitted by C. G. Overberger, Irving C. Kogon, and Ronald Minin<sup>1</sup>.  
Checked by Charles C. Price and T. L. V. Ulbricht.

### 1. Procedure

In a 250-ml. three-necked flask equipped with a reflux condenser and a gas-inlet tube are placed 45.6 g. (0.4 mole) of 2-chloropyrimidine (p. 182) and 150 ml. of absolute ethanol. The mixture is refluxed for 6 hours while anhydrous dimethylamine is bubbled into the solution (Note 1). The solution is cooled, and 100 ml. of ethanol is removed by distillation using a water aspirator. The residue is chilled in an ice bath for 1 hour, and 75 ml. of ether is added to cause precipitation of dimethylamine hydrochloride. After the removal of dimethylamine hydrochloride and solvent, the residue is distilled at reduced pressure from a Claisen flask (Note 2). The fraction boiling at 85–86°/28 mm. is collected; yield 40–42.5 g. (81–86%),  $n_D^{25}$  1.5420 (Note 3).

### 2. Notes

1. Anhydrous dimethylamine may be conveniently prepared by allowing 25% aqueous dimethylamine to drop onto solid potassium hydroxide, the gas evolved being dried by passage over solid potassium hydroxide.
2. The compound is hygroscopic, and care should be taken to prevent exposure to air.
3. N-Methylaminopyrimidine is similarly prepared; b.p. 96–98°/28 mm., m.p. 57.5–58.5° (65% yield).

### 3. Discussion

Similar procedures for this preparation have been reported by Brown and Short<sup>2</sup> and by Copenhaver and Kleinschmidt.<sup>3</sup>

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### References and Notes

1. Polytechnic Institute of Brooklyn, Brooklyn 2, New York.
  2. Brown and Short, *J. Chem. Soc.*, **1953**, 331.
  3. Copenhaver and Kleinschmidt, Brit. pat. 663,303 [*C. A.*, **46**, 10212 (1952)].
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### Appendix Chemical Abstracts Nomenclature (Collective Index Number); (Registry Number)

ethanol (64-17-5)

ether (60-29-7)

potassium hydroxide (1310-58-3)

dimethylamine (124-40-3)

dimethylamine hydrochloride (506-59-2)

2-Chloropyrimidine (1722-12-9)

2-(Dimethylamino)pyrimidine,  
Pyrimidine,2-dimethylamino- (5621-02-3)

N-Methylaminopyrimidine