

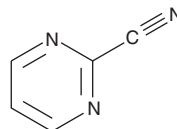
# PRODUCT INFORMATION



## 2-cyano-Pyrimidine

Item No. 10007121

CAS Registry No.: 14080-23-0  
Formal Name: 2-pyrimidinecarbonitrile  
MF: C<sub>5</sub>H<sub>3</sub>N<sub>3</sub>  
FW: 105.1  
Purity: ≥98%  
UV/Vis.: λ<sub>max</sub>: 213, 254 nm  
Supplied as: A crystalline solid  
Storage: -20°C  
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

2-cyano-Pyrimidine is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-cyano-pyrimidine in the solvent of choice, which should be purged with an inert gas. 2-cyano-Pyrimidine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2-cyano-pyrimidine in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 2-cyano-pyrimidine can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of 2-cyano-pyrimidine in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Cathepsin K is a lysosomal cysteine protease found in osteoclasts whose elevated activity has been linked to the formation of osteoporosis and arthritis.<sup>1</sup> 2-cyano-Pyrimidine is a cathepsin K inhibitor whose basic structure and derivatives are being studied for the treatment of osteoporosis. 2-cyano-Pyrimidine has an IC<sub>50</sub> value of 170 nM for inhibition of cathepsin K.<sup>1</sup>

### Reference

1. Altmann, E., Aichholz, R., Betschart, C., *et al.* 2-cyano-pyrimidines: A new chemotype for inhibitors of the cysteine protease cathepsin K. *J. Med. Chem.* **50**(4), 591-594 (2007).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM