

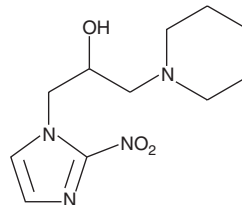
# PRODUCT INFORMATION



## Pimonidazole

Item No. 89130

**CAS Registry No.:** 70132-50-2  
**Formal Name:**  $\alpha$ -[(2-nitro-1H-imidazol-1-yl)methyl]-1-piperidineethanol  
**Synonyms:** NSC 380540, Ro 03-8799  
**MF:** C<sub>11</sub>H<sub>18</sub>N<sub>4</sub>O<sub>3</sub>  
**FW:** 254.3  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 202, 316 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

Pimonidazole is supplied as a crystalline solid. A stock solution may be made by dissolving the pimonidazole in the solvent of choice, which should be purged with an inert gas. Pimonidazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of pimonidazole in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

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 pimonidazole can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of pimonidazole in PBS (pH 7.2) is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Hypoxic cells are low oxygen cells that when present in tumors are radioresistant and chemoresistant. Pimonidazole is a small molecule radiosensitizer that has proven to be an effective and nontoxic hypoxia marker for human squamous cell carcinomas of the cervix, head, and neck.<sup>1</sup> This immunochemical hypoxia marker has been widely used in experimental and clinical studies due to its chemical stability, water solubility, and wide tissue distribution. It is generally administered in aqueous solution by injection.

### Reference

1. Kaanders, J.H.A.M., Wijffels, K.I.E.M., Marres, H.A.M., *et al.* Pimonidazole binding and tumor vascularity predict for treatment outcome in head and neck cancer. *Cancer Res.* **62(23)**, 7066-7074 (2002).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 04/09/2024

#### 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