# PRODUCT INFORMATION

## Deferiprone

*Item No. 20387*

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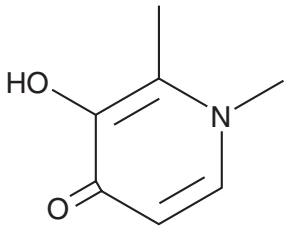
| **CAS Registry No.:** | 30652-11-0 |
| **Formal Name:** | 3-hydroxy-1,2-dimethyl-4(1H)-pyridinone |
| **Synonyms:** | CGP 37391, DN 18001AF |
| **MF:** | $C_7H_9NO_2$ |
| **FW:** | 139.2 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 218, 283 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥2 years |




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

### Laboratory Procedures

Deferiprone is supplied as a crystalline solid. A stock solution may be made by dissolving the deferiprone in the solvent of choice. Deferiprone is soluble in methanol at a concentration of 5 mg/ml.

Deferiprone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, deferiprone should first be dissolved in methanol and then diluted with the aqueous buffer of choice. Deferiprone has a solubility of approximately 0.5 mg/ml in a 1:1 solution of methanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Deferiprone is an iron chelator that binds to iron in a 3:1 (ligand:iron) ratio and has antioxidant and neuroprotective activities.[1] It reverses ferroptosis induced by erastin (Item No. 17754) in HT-1080 fibrosarcoma cells when used at a concentration of 100 µM as well as reduces levels of intracellular iron and inhibits lipid peroxidation in primary rat hepatocytes at 200 and 50 µM, respectively.[2,3] Deferiprone reduces cholesterol diet-induced increases in the levels of amyloid-β (1-42) (Aβ42), Aβ40, and the phosphorylation of tau and glycogen synthase kinase-3β (GSK-3β) in the rabbit hippocampus when administered at a dose of 50 mg/kg.[4] Formulations containing deferiprone have been used in the treatment of thalassemia.

### References


1. Barnabé, N., Zastre, J.A., Venkataram, S., *et al.* Deferiprone protects against doxorubicin-induced myocyte cytotoxicity. *Free Radic. Biol. Med.* **33(2)**, 266-275 (2002).
2. Zheng, J., Sato, M., Mishima, E., *et al.* Sorafenib fails to trigger ferroptosis across a wide range of cancer cell lines. *Cell Death Dis.* **12(7)**, 698 (2021).
3. Morel, I., Cillard, J., Lescoat, G., *et al.* Antioxidant and free radical scavenging activities of the iron chelators pyoverdin and hydroxypyrid-4-ones in iron-loaded hepatocyte cultures: Comparison of their mechanism of protection with that of desferrioxamine. *Free Radic. Biol. Med.* **13(5)**, 499-508 (1992).
4. Prasanthi, J.R., Schrag, M., Dasari, B., *et al.* Deferiprone reduces amyloid-β and tau phosphorylation levels but not reactive oxygen species generation in hippocampus of rabbits fed a cholesterol-enriched diet. *J. Alzheimers Dis.* **30(1)**, 167-182 (2012).





**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