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Frontier Specialty Chemicals, Inc. **Technical Data Sheet**
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Catalog Number: **NMP576**

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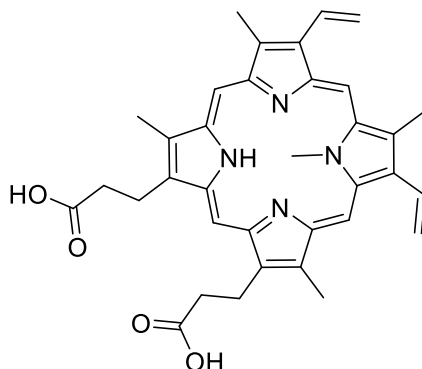
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For research use only

Not intended or approved for
diagnostic or therapeutic use.

Product Name: N-Methyl Protoporphyrin IX

Catalog Number: **NMP576**



Sizes Available: 5 mg, 25 mg, and larger sizes available

Molecular weight: 576.69 g/mol

Molecular Formula: C₃₅H₃₆N₄O₄

CAS Number: 79236-56-9

Storage: Store at 0 – 4 °C and protect from light.

Synonyms: N-Methyl Protoporphyrin IX,

Field of Interest: Ferrochelatase, Heme Biosynthesis,

Background: N-Methyl Protoporphyrin IX is a transition state analogue and a potent inhibitor of ferrochelatase, the enzyme that inserts iron into protoporphyrin IX and is commonly used to induce haem deficiency in cell cultures

References:

1. Regulation of soluble guanylate cyclase activity by porphyrins and metalloporphyrins, Ignarro, Louis J.; Ballot, Bryan; Wood, Keith S., Journal of Biological Chemistry (1984), 259(10), 6201-7.

2. Bovine ferrochelatase. Kinetic analysis of inhibition by N-methylprotoporphyrin, manganese, and heme, Dailey, Harry A.; Fleming, Jennie E., *Journal of Biological Chemistry* (1983), 258(19), 11453-9.
3. Three-Dimensional Structure-Activity Analysis of a Series of Porphyrin Derivatives with Anti-HIV-1 Activity Targeted to the V3 Loop of the gp120 Envelope Glycoprotein of the Human Immunodeficiency Virus Type 1, Asim Kumar; Jiang, Shibo; Strick, Nathan; Lin, Kang; Haberfield, Paul; Neurath, A. Robert, *Journal of Medicinal Chemistry* (1994), 37(8), 1099-108 DOI:10.1021/jm00034a007
4. Acquisition of iron from transferrin regulates reticulocyte heme synthesis, Ponka, Premysl; Schulman, Herbert M., *Journal of Biological Chemistry* (1985), 260(27), 14717- 21.
5. Bovine ferrochelatase. Kinetic analysis of inhibition by N-methylprotoporphyrin, manganese, and heme , Dailey H A; Fleming J E, *The Journal of biological chemistry* (1983), 258(19), 11453-9.
6. Heme deficiency is associated with senescence and causes suppression of N-methyl-D-aspartate receptor subunits expression in primary cortical neurons, Chernova, Tatyana; Nicotera, Pierluigi; Smith, Andrew G., *Molecular Pharmacology* (2006), 69(3), 697-705. DOI:10.1124/mol.105.016675.
7. Recombinant cytochromes c biogenesis systems I and II and analysis of haem delivery pathways in *Escherichia coli*, Feissner Robert E; Richard-Fogal Cynthia L; Frawley Elaine R; Loughman Jennifer A; Earley Keith W; Kranz Robert G, *Molecular microbiology* (2006), 60(3), 563-77
8. Characterization of porphyrin interactions with peripheral type benzodiazepine receptors, Verma, Ajay; Snyder, Solomon H., *Molecular Pharmacology* (1988), 34(6), 800-5.
9. Prediction of Anti-HIV-1 Activity of a Series of Tetrapyrrole Molecules, Vanyur, Rozalia; Heberger, Karoly; Jakus, Judit, *Journal of Chemical Information and Computer Sciences* (2003), 43(6), 1829-1836. DOI:10.1021/ci0304627
10. Peripheral benzodiazepine receptor ligands in rat liver mitochondria: effect on cholesterol translocation, Tsankova, Virginia; Magistrelli, Armando; Cantoni, Lavinia; Tacconi, Maria Teresa, *European Journal of Pharmacology* (1995), 294(2/3), 601-7. DOI:10.1016/0014- 2999(95)00603-6

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the SDS on request. **N-Methyl Protoporphyrin IX** is manufactured, shipped according to standard practices, and intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

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