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Frontier Specialty Chemicals, Inc. **Technical Data Sheet**
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Catalog Number: **Co654-9**

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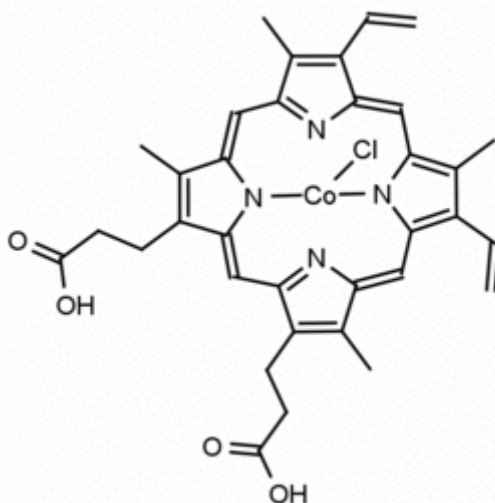
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For research use only

Not intended or approved for
diagnostic or therapeutic use.

Product Name: Co(III) Protoporphyrin IX chloride

Catalog Number: Co654-9



Sizes Available: 100 mg, 250 mg, 1 g, and larger sizes available

Molecular weight: 655.04 g/mol

Molecular Formula: $C_{34}H_{32}ClCoN_4O_4$

CAS Number: 102601-60-5

Storage: Store at room temperature, protected from light

Synonyms: MFCD00216774, Protoporphyrin IX cobalt chloride, 8,13-DIVINYL-3,7,12,17-TETRAMETHYL-21H, 23H- PORPHINE-2, 18-DIPROPIONIC ACID COBALT(III) CHLORIDE

Field of Interest: Natural Products Synthesis, Catalysis, Heme Oxygenase Pathway, Inflammation

Background: **Co(III) Protoporphyrin IX chloride** is a porphyrin based natural product that can catalyze the production of hydrocarbons and carbon monoxide from an aldehyde, and can act as a sensing device on optical surfaces.^{1,2} Medically, the compound up-regulates heme-oxygenase (HO-1) and can modulate the HO-1/carbon monoxide axis in inflammatory injury and myocardial infarction.^{3,4}

References:

- 1) Dennis, Michael; Kolattukudy, P. E., A cobalt-porphyrin enzyme converts a fatty aldehyde to a hydrocarbon and carbon monoxide, Proceedings of the National Academy of Sciences of the United States of America (1992), 89(12), 5306-10. DOI:10.1073/pnas.89.12.5306.
- 2) Botelho do Rego, A. M.; Ferrara, A. M.; Rei Vilar, M., Grafting of Cobaltic Protoporphyrin IX on Semiconductors toward Sensing Devices: Vibrational and Electronic High-Resolution Electron Energy Loss Spectroscopy and X-ray Photoelectron Spectroscopy Study, Journal of Physical Chemistry C (2013), 117(43), 22298-22306. DOI:10.1021/jp402032x.
- 3) Onyiah, Joseph C.; Sheikh, Shehzad Z.; Maharshak, Nitsan; Steinbach, Erin C.; Russo, Steven M.; Kobayashi, Taku; Mackey, Lantz C.; Hansen, Jonathan J.; Moeser, Adam J.; Rawls, John F.; et al, Carbon Monoxide and Heme Oxygenase-1 Prevent Intestinal Inflammation in Mice by Promoting Bacterial Clearance, Gastroenterology (2013), 144(4), 789-798. .2012.12.025.
- 4) Lakkisto, Paivi; Kyto, Ville; Forsten, Hanna; Siren, Juha-Matti; Segersvard, Heli; Voipio-Pulkki, Liisa-Maria; Laine, Mika; Pulkki, Kari; Tikkanen, Ilkka, Heme oxygenase-1 and carbon monoxide promote neovascularization after myocardial infarction by modulating the expression of HIF-1 α , SDF-1 α and VEGF-B, European Journal of Pharmacology (2010), 635(1-3), 156-164, DOI:10.1016/j.ejphar.2010.02.050

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the SDS on request. **Co(III) Protoporphyrin IX chloride** 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.

Warranty and Disclaimer: Frontier Specialty Chemicals, Inc. warrants the product conforms to the specifications stated herein. In the event of nonconformity, Frontier will replace products or refund purchase price, at its sole option, and Frontier shall not be responsible for any other loss or damage, whether known or foreseeable to Frontier. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Frontier assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.