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Frontier Specialty Chemicals, Inc. **Technical Data Sheet**  
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Catalog Number: **B655-9**

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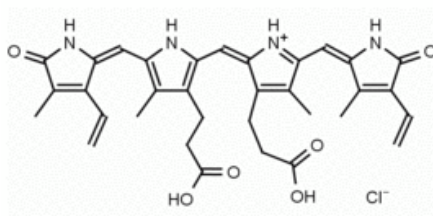
[sales@frontiersci.com](mailto:sales@frontiersci.com)

**For research use only**

Not intended or approved for  
diagnostic or therapeutic use.

**Product Name: Biliverdin hydrochloride**

**Catalog Number: B655-9**



**Sizes Available:** 100 mg, 250 mg, and larger sizes available

**Molecular weight:** 619.12 g/mol

**Molecular Formula:** C<sub>33</sub>H<sub>35</sub>ClN<sub>4</sub>O<sub>6</sub>

**CAS Number:** 55482-27-4

**Storage:** Store at room temperature, protect from light

**Synonyms:** biliverdin, biliverdine, Biliverdine Ix Alpha, Biliverdin IX alpha, uteroverdine, UNII-09MIA842K9, dehydrobilirubin, ChEMBL455477, SCHEMBL20503445

**Field of Interest:** Natural Products, Heme Oxygenase Catabolism, Carbon Monoxide, Anti-oxidant, Cell Protectant

**Background:** Biliverdin is a linear pyrrole based green bile natural product and a product of heme catabolism and the heme oxygenase system, and the product along with carbon monoxide

gases of physiological relevance.<sup>1,2</sup> Biliverdin is reduced to form bilirubin, a potent anti-oxidant and cell protectant.<sup>3,4</sup>

## References:

- 1) Maines, Mahin D., The heme oxygenase system: a regulator of second messenger gases, Annual Review of Pharmacology and Toxicology (1997), 37, 517-554, DOI:10.1146/annurev.pharmtox.37.1.517.
- 2) Otterbein, Leo E.; Soares, Miguel P.; Yamashita, Kenichiro; Bach, Fritz H., Heme oxygenase-1: unleashing the protective properties of heme, Trends in Immunology (2003), 24(8), 449-455. DOI:10.1016/S1471-4906(03)00181-9.
- 3) Stocker R; Yamamoto Y; McDonagh A F; Glazer A N; Ames B N, Bilirubin is an antioxidant of possible physiological importance, Science (New York, N.Y.) (1987), 235(4792), 1043-6.
- 4) Baranano, David E.; Rao, Mahil; Ferris, Christopher D.; Snyder, Solomon H, Biliverdin reductase: a major physiologic cytoprotectant, Proceedings of the National Academy of Sciences of the United States of America (2002), 99(25), 16093-16098. DOI:10.1073/pnas.252626999.

**Hazardous Properties and Cautions:** The toxicological and pharmacological properties of this compound are not fully known. For further information see the SDS on request. **Biliverdin hydrochloride** 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.