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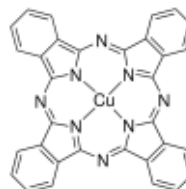
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## Certificate of Analysis

Product Name:

Copper(II) phthalocyanine - Dye content &gt;99 %

**Product Number:** 546682  
**Batch Number:** MKBS1617V  
**Brand:** ALDRICH  
**CAS Number:** 147-14-8  
**MDL Number:** MFCD00010719  
**Formula:** C<sub>32</sub>H<sub>16</sub>CuN<sub>8</sub>  
**Formula Weight:** 576.07 g/mol  
**Quality Release Date:** 22 JUL 2014



Test	Specification	Result
Appearance (Color)	Blue to Purple	Purple
Appearance (Form)	Conforms to Requirements	Powder
Powder, Needles or Crystals		
Infrared Spectrum	Conforms to Structure	Conforms
Wavelength	675 - 681 nm	678 nm
Extinction Coefficient	≥ 30000	46767
c = 0.005g/l, Chloronapthalene		
Carbon	65.7 - 68.4 %	67.7 %
Nitrogen	19.2 - 19.9 %	19.7 %
Water (by Karl Fischer)	≤ 1.0 %	< 1.0 %
ICP Major Analysis	Confirmed	Conforms
Confirms Copper Component		
Calcium (Ca)		9.3 ppm
Iron (Fe)		30.4 ppm
Magnesium (Mg)		28.4 ppm
Nickel (Ni)		11.4 ppm
Palladium (Pd)		13.1 ppm
Strontium (Sr)		0.1 ppm

Ali Ataei, Manager  
 Quality Control  
 Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.