Certificate of Analysis

SIGMA-ALDRICH'

Product Name Copper(II) phthalocyanine,

Dye content >99 %

Product Number 546682
Product Brand ALDRICH
CAS Number 147-14-8
Molecular Formula C₃₂H₁₆CuN₈

Molecular Weight 576.07
Storage Temp room temp

TEST SPECIFICATION LOT 43096LH RESULTS

BLUE TO PURPLE

APPEARANCE POWDER, NEEDLES OR PURPLE POWDER

CRYSTALS

INFRARED SPECTRUM CONFORMS TO CONFORMS TO

STRUCTURE. STRUCTURE.

UV-VISIBLE SPECTRUM

0.005 G/L,

0.005 G/L,

CHLORONAPTHALENE CHLORONAPTHALENE

E(678 + /-3)NM = 30,000

(MINIMUM)

ELEMENTAL ANALYSIS CARBON 66.0%-67.4% CARBON 66.57%

NITROGEN 19.2%-19.6% NITROGEN 19.59%

0.07% CL(WITH AGNO3

TITRATION AFTER OXYGEN

COMBUSTION)

E678NM=31.800

TITRATION 1.0% H2O (MAXIMUM) 0.09% H2O (WITH "KARL

FISCHER" REAGENT)

ICP ASSAY CONFIRMS CU CONFIRMS CU

COMPONENT COMPONENT

TRACE ANALYSIS, ICP

REPORT TRACE METALS

TRACE METAL

TRACE METAL

TRACE METAL

FOUND IMPURITIES IN PPM:

FE 34 NI 8.9

QC RELEASE DATE NOVEMBER 2007

Barbara Rajzer, Supervisor

Quality Control

Milwaukee, Wisconsin USA